BNY MELLON

INVESTMENT INSIGHTS

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Sfumato and Soft Landings: Economic Edges of Shade and Smoke

OCTOBER 2023

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Sfumato and Soft Landings: Economic Edges of Shade and Smoke

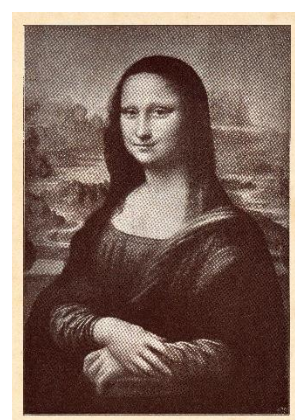
Do you ever find yourself distracted by the edges of your colleagues faces on a video conference call? This blurring occurs when your coworker uses a digital background instead of their natural surroundings. As the processor tries to keep up with head movements, the edges of their face blur and pixelate. That is, the image loses resolution and pixels appear. The image on the screen may be partially truncated. Sometime in the future, we might look back and consider blurry face edges a defining characteristic of the COVID-19 pandemic, work-from-home era. Won't artificial intelligence and machine learning algorithms solve the blurry edges problem sometime soon?

Market Overview
Index Returns (%) as of September 30, 2023

Index	3Q 2023	1 Yr.	3 Yr. ^	5 Yr. ^	2022	2021	2020	2019
S&P 500	(3.3)	21.6	10.2	9.9	(18.1)	28.7	18.4	31.5
MSCI USA Small Cap	(4.9)	12.4	9.9	4.8	(17.2)	19.6	18.9	27.4
MSCI EAFE (net of taxes)	(4.1)	25.6	5.8	3.2	(14.5)	11.3	7.8	22.0
MSCI Emerging Markets (net of taxes)	(2.9)	11.7	(1.7)	0.6	(20.1)	(2.5)	18.3	18.4
Bloomberg US Aggregate Bond	(3.2)	0.6	(5.2)	0.1	(13.0)	(1.5)	7.5	8.7
Bloomberg Global Aggregate ex-US	(4.0)	3.4	(8.4)	(3.1)	(18.7)	(7.0)	10.1	5.1
S&P GSCI Crude Oil (Spot)	28.5	14.2	31.2	4.4	6.7	55.0	(20.5)	34.5
S&P GSCI Gold	(3.9)	10.9	(1.4)	8.1	(0.7)	(4.3)	20.9	18.0
Bloomberg Commodity	4.7	(1.3)	16.2	6.1	16.1	27.1	(3.1)	7.7
Bloomberg US Treasury Bill 6-9 Month	1.2	3.6	1.1	1.5	0.2	0.0	1.2	2.6
Inflation §	1.0	3.7	6.0	4.3	6.4	7.1	1.3	2.3

^3-year and 5-year returns are annualized

Sources: MSCI; Bloomberg; Standard and Poor's (©2023, S&P Dow Jones Indices LLC. All rights reserved); Bureau of Labor Statistics. § Inflation data through August 2023. Visual created by BNY Mellon Advisors, Inc. For additional information regarding the indices shown, please refer to the Important Disclosures at the end of this document. Indices are unmanaged and are not available for direct investment. **Past performance is not a guarantee of future results.**



Imagine, though, if your colleague is the Mona Lisa. Her inscrutable smile is set against a mountainous Italian landscape.[1] Look closely at the painting of the Mona Lisa and the edges of her face and around the eyes have no sharp lines that demark edges. As you might expect, a painting from Leonardo di ser Piero da Vinci (1452-1519) is not a coloring book. There are no sharp lines that create divisions between subjects of the painting. The transition from the background to her face, from dark to light, is soft and hazy.

Da Vinci uses a technique called sfumato, one of four prominent artistic techniques of the Renaissance painters, (along with cangiante, chiaroscuro and unione). Sfumato means shaded, from the Italian "sfumare" or "shade." "Fumare" is Italian for smoke. Sfumato describes the gradation of tones and colors that separate the edges of any subject. It's achieved by using many small brushstrokes to achieve a more realistic effect. Da Vinci once wrote that "light and shade should blend without lines or borders in the manner of smoke." [2]

[1] In 2013, two researchers from the University of Urbino, geomorphologist Olivia Nesci and artist-photographer Rosetta Borchia, claimed to have identified the landscape behind the Mona Lisa. They claim that the landscape is the hills of Montefeltro, seen from the cliffs of Valmarecchia in northern Italy in what was once the Duchy of Urbino. Today, that region would overlap with Marche, Emilia-Romagna and Tuscany. See https://www.italymagazine.com/featured-story/location-mona-lisa-background

[2] Further reading: Hall, Marcia B., *Color and Meaning: Practice and Theory in Renaissance Painting*, Cambridge University Press (1992).

Hazy Economic Transitions

Like Da Vinci, capital markets are looking for a "soft landing." Some might say that the sfumato technique creates a gloomy visual effect. Gloom might summarize the current outlook for economic growth in upcoming quarters. Our contention is that the dividing lines between present and likely future states of the economy are similar to sfumato. From our viewpoint today, the economic outlook is shaded, smoky and hazy. Strong economic demarcation lines may not exist. We may only observe the present economic state we're in once time has elapsed. We observe from a distance just like the National Bureau of Economic Research (NBER)—the official arbiter of cyclical downturns in the United States—does when it determines a "recession" state in retrospect, only after the data has been posted.

Investors, struggling for clarity in a murky environment, are fixated on the possibility of a recession versus a soft landing, as though a switch turns on and off and you are in one state or another. Investors are also concerned with the timing and depth of a potential recession should it arise. Markets, especially equities, have largely convinced themselves (perhaps unrealistically) that recession may not be forthcoming. Since there is uncertainty around the macroeconomic outlook, strategists and economists may find the term "soft landing" appealing at the moment. The term itself is a little fuzzy and vague, drawn from avionics. Generally, to economists a soft-landing means the economy experiences a moderate slowdown, not a deep contraction, after a period of growth. The widely accepted definition of recession is defined as a period of two or more negative quarterly readings on output (gross domestic product) growth. Zero, as in zero percent growth, provides a solid line of demarcation that gives clarity in defining a recessionary state. While the Federal Reserve has had a mixed track record of engineering soft landings, officials point to 1965, 1984, 1994-95 (during the Greenspan era) as examples of periods when soft landing conditions prevailed.

For markets, the yearning for a soft landing is easy to understand. In a typical recession, corporate earnings typically decline on the order of 16%. Even a mild recession can take earnings down approximately 10%. Anything less than that would be welcome news for stock investors. Even though the equity market has generally held up for 2023, consider that earnings estimates[3] for the S&P 500® Index for the 2023 calendar year were $246.06 at the beginning of 2022. Now, earnings are $221.39 as we close out the year. That's a 10% decline. The estimate for 2024 is currently $246.01, so we've come full circle and pushed the growth we expected in 2023 into 2024. Clearly, the Ukraine conflict, resultant supply shock and input cost inflation surge are generally to blame for the reduction in 2023 earnings expectations from early 2022. Because we have not yet experienced the brunt of cyclical pressure, the earnings estimate reduction for 2024 and beyond may still be ahead of us. If this is the case, how does the S&P 500 Index continue to sport relatively high valuations such as price/earnings (P/E) multiples[4] (almost 20x on current earnings, 18.6x on 12 month-ahead estimates)? Corporations have done an admirable job of maintaining profit margins, the path looks rougher from here. Future earnings growth expectations look blurry.

In 2023, because of the generally strong stock market coupled with a flat to declining earnings forecast, we have had a large dose of multiple expansion (valuation increase). The P/E multiple on those 2023 earnings is 19.5x, coming off a 21 multiple when the S&P 500 Index was near the year-to-date (YTD) peak of 4607 in late July. Some point out that the S&P 500 Index does not look as expensive if you exclude a small group of fast-growing technology stocks. Maybe, but those earnings, like housing and manufacturing and other capital-intensive cyclical industries, are very sensitive to the discount rate we use to evaluate them in the present state. Increases in interest rates discount future earnings more heavily. We've had a 3.79% to 4.59% move (80 basis points) in the 10-year U.S. Treasury from the beginning of the year to the end of the third quarter. Higher interest rates make the overall market multiples look even higher. As a reminder about the impact of a handful of technology stocks, we discussed artificial intelligence and machine learning in last quarter's commentary.

Some of the multiple expansion came from the market's belief that the Federal Reserve will soon be forced to abandon interest rate hikes. In our view, it's unlikely the stock market will be able to repeat a multiple expansion of this magnitude on the basis of a Federal Reserve pause or pivot going forward. We believe we won't elevate multiples because of a Federal Reserve pause or pivot a second time. Moreover, we disagree with a benevolent interpretation of a Federal Reserve interest rate cut, should it occur relatively soon. If the Federal Reserve will be cutting interest rates in the near-term, it's likely that substantial cyclical pressures have actually arrived.

[3] Macrobond, FactSet
[4] Macrobond, FactSet

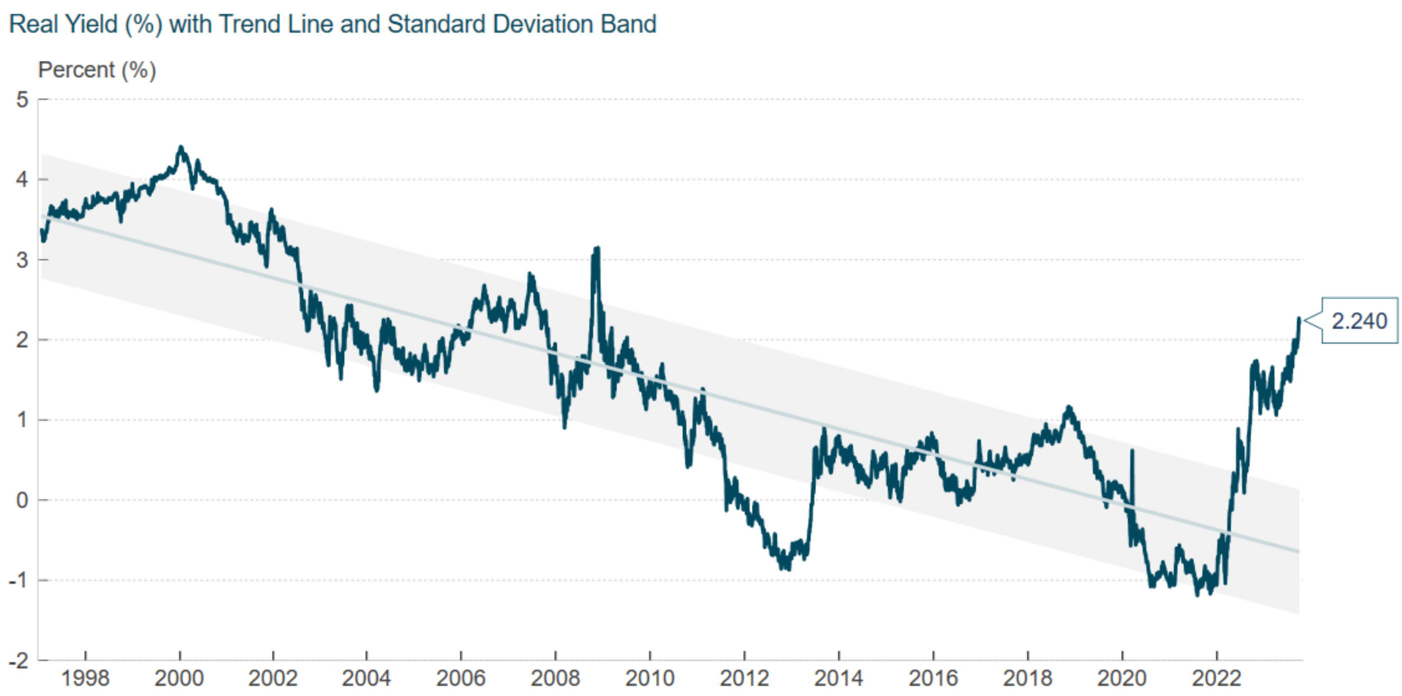
Layers and Layers of Risk

Da Vinci used the most advanced technology of his time to create his desired visual effects. More than a decade ago, scientists at the European Synchrotron Radiation Facility (ESRF) along with collaborators within the French government and at the Louvre found that Da Vinci used 20 to 40 layers of fine glazes and paints to achieve the sfumato effect.[5] Many of these layers were only several micrometers thick. Da Vinci used novel techniques to create the visual effect of "softening."

In the markets today, like a Da Vinci painting, many layers of risk exist between current conditions and the desired outcome of a "soft landing." Bulls would note that the layers of risk are setting up the rungs on the ladder for the market to climb. Markets could climb the wall of worry through the risk layers, as risks diminish or evaporate. This is a possibility, but there are now a large host of concerns that show little signs of diminishing. It's also hard to argue that the market reflects many of those concerns because markets generally have priced in a soft landing. We've already discussed a major risk to the outlook, high valuations.

At the moment, investors have been digesting the latest Federal Open Market Committee (FOMC) meeting and the release of the Summary of Economic projections (SEP). These show the Federal Reserve's intentions to keep interest rates "higher for longer." Voting participants of the SEP have slashed expectations for near and intermediate term interest rate cuts. In fact, they point to expectations for one or two more rate hikes. Markets were disappointed, somewhat surprising given that "higher for longer" appears to be a consensus opinion. The SEP has simply codified the expectations.

United States TIPS 10-Year Yield (%)



Source: BNY Mellon Advisors, Inc., Macrobond; U.S. Department of the Treasury. Data as of September 29, 2023
Treasury Inflation-Protected Securities, or TIPS, are securities whose principal is tied to the Consumer Price Index (CPI). The principal increases with inflation and decreases with deflation. When the security matures, the U.S. Treasury pays the original or adjusted principal, whichever is greater.

[5] https://phys.org/news/2010-07-leonardo-da-vinci.html

"Higher for longer" has implications for real bond yields (i.e., adjusted for inflation), which are already up substantially from several years ago. If the Federal Reserve maintains higher policy rates while a general disinflationary trend prevails, we believe real interest rates are likely to continue to curb economic activity and weigh on stock valuations. On a real interest rate basis, stock market multiples look several points too rich relative to history. "Higher for longer" also has been feeding into the foreign exchange markets as the U.S. dollar, measured by the U.S. Dollar Index (DXY), has been performing quite well versus the rest of the world, up over 6% through the end of the third quarter since an annual low (99.578 intraday on July 14, 2023). While the greenback is still well-off intraday highs recorded in late 2022 (114.778 on September 28, 2022), recent strength shows the market is beginning to believe higher interest rates will prevail in the U.S. for longer.

In the near term, a trio of meaningful shorter-term concerns weigh on market consensus. We have a strike in the automobile industry, pitting the United Auto Workers (UAW) against the Big Three automakers, including Stellantis, who owns Chrysler, Jeep and Ram brands. The former contract expired September 14, 2023. The automotive manufacturing industry is still a relatively large part of gross domestic product (GDP). Any escalation in the duration and/or scope of the dispute could easily damage overall U.S. economic output. Automakers ramped up production ahead of a potential strike. Inventories of cars and light trucks currently are 30-50% higher than year ago levels. While this provides a cushion of inventories, it may also have influenced economists to extrapolate past production growth and pick up expectations for overall economic growth in the next several quarters.

Student Loan Repayment Worries by Household Income

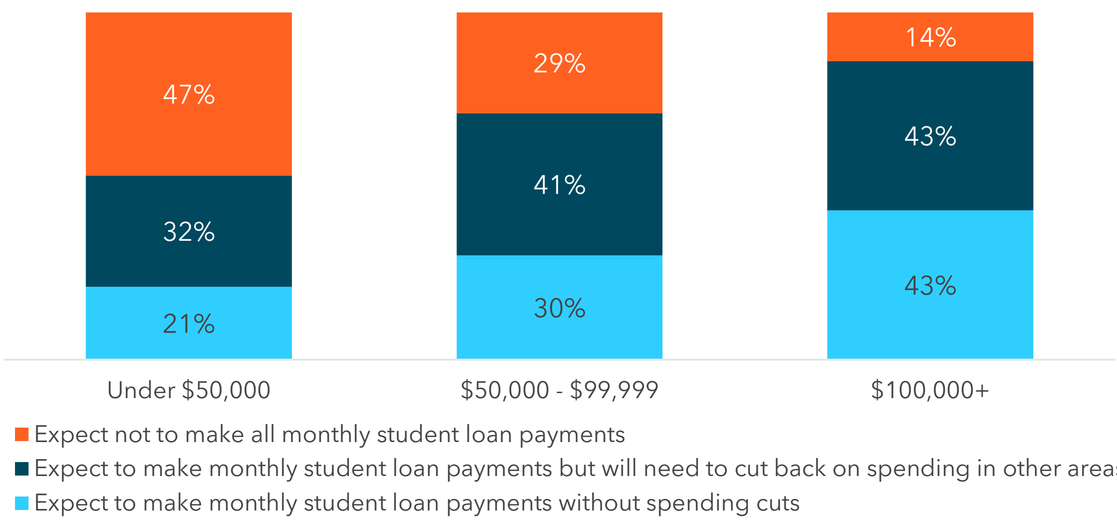


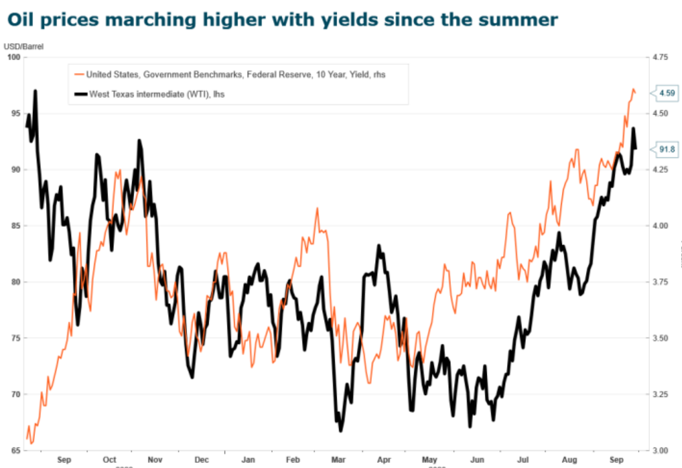
Chart shows impact of federal student loan payment freeze ending by household income (among federal student loan holders)
Source: BNY Mellon Advisors, Inc., Morgan Stanley Research. June 2023 survey.

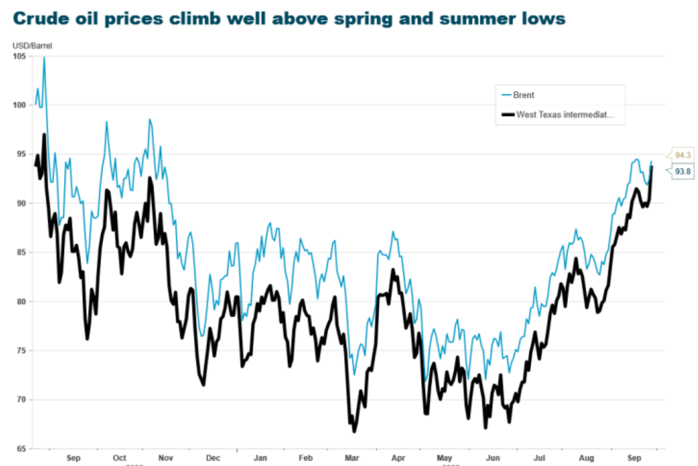
We also have the resumption of student loan payments. Many of these loans have been in forbearance for over forty months. These payments will have a material impact on the cash flows for many in the segment of the younger U.S. population who carry educational loans. According to Pulsenomics LLC, 70% of student loan borrowers are 25-49 years of age (although, 8% of loans are to students over 60). Many of the younger set may also be considering the purchase of homes. The resumption of payments will likely impact home purchases negatively at a time when mortgage rates sit at multiyear highs. Higher rates are already severely impacting the housing market. Come October, borrowers with student debt will have to resume loan payments.

Even with the temporary continuing resolution (CR) to fund the government, we still have a looming U.S. government shutdown by November 17. If a shutdown were to occur, many government offices and services would get shuttered, federal employees would get furloughed, transportation would get snarled. In addition, reams of economic data—data the Federal Reserve uses to determine its interest rate decisions—would not get produced just when we need it most to pierce the macro haze and determine the status of a "soft landing." The longest shutdown occurred in 2018-19 for 35 days, according to Bloomberg, over President Trump's plan to build a border wall.

Lawmakers have trained voters and investors to expect last minute dealmaking during the 14 times government has been shut down since 1981, making it hard to evaluate economic or market impacts. A November 2015 report from the Joint Economic Committee of Congress, found that shutdowns directly lower GDP growth, negatively impact jobs, reduce business and consumer confidence, deprive us of timely macroeconomic data, harm Americans who rely on federal programs and reduce confidence in Congress. Moreover, major credit ratings agencies, already somewhat alarmed over giant and persistent fiscal deficits, worry about the U.S. governance and may downgrade U.S. debt ratings. The Congressional Budget Office (CBO) estimated the five-week partial government shutdown in 2018-2019 reduced economic output by $11 billion in the following two quarters—including $3 billion the U.S. economy never regained.[6]

Fluctuations in Crude Oil Prices





Source: BNY Mellon Advisors, Inc., Macrobond; Data as of September 28, 2023, and September 27, 2023.

Markets and the economy have been exhibiting typical late-cycle characteristics. Energy prices have surged 10-15% on supply concerns. Both Brent (closed $94.31 per barrel on 9/27) and West Texas Intermediate (WTI) (closed $93.68 per barrel on 9/27) crude oil prices have moved quite substantially above their summer levels. While energy prices have not yet surged to levels that might tip over the economy on their own, they add to general cyclical risks. Interest rates, for example, seem to be following oil prices in lockstep higher this summer. Oil prices have shown reluctance to climb over $100 a barrel, a price where demand has tended to falter. In the past, surging energy prices have frequently been a recession trigger as they pushed a stressed U.S. consumer to change behavior and rein in spending elsewhere (i.e., energy demand is relatively price inelastic).

Meanwhile, the Federal Reserve is maintaining quantitative tightening, shrinking the balance sheet as part of an overall plan to tighten credit conditions. Usage of the Bank Term Funding Program to lend against bona fide collateral remains at all-time highs over $107 billion. This shows some level of pressure on bank balance sheets, as the industry continues to feel the impact of higher interest rates on mortgage and Treasury bonds. Other industries are also affected by tighter credit. According to Game of Trades (market analysis) and Apollo Global Management, U.S. bankruptcy filings among corporations with more than $50 million in liabilities (four-week moving average) are now back at levels not seen since the 2008-09 financial crisis and the 2020 COVID-19 period. The credit cycle has not been repealed, and we expect tighter credit conditions to have a negative impact on refinancing in many sectors.

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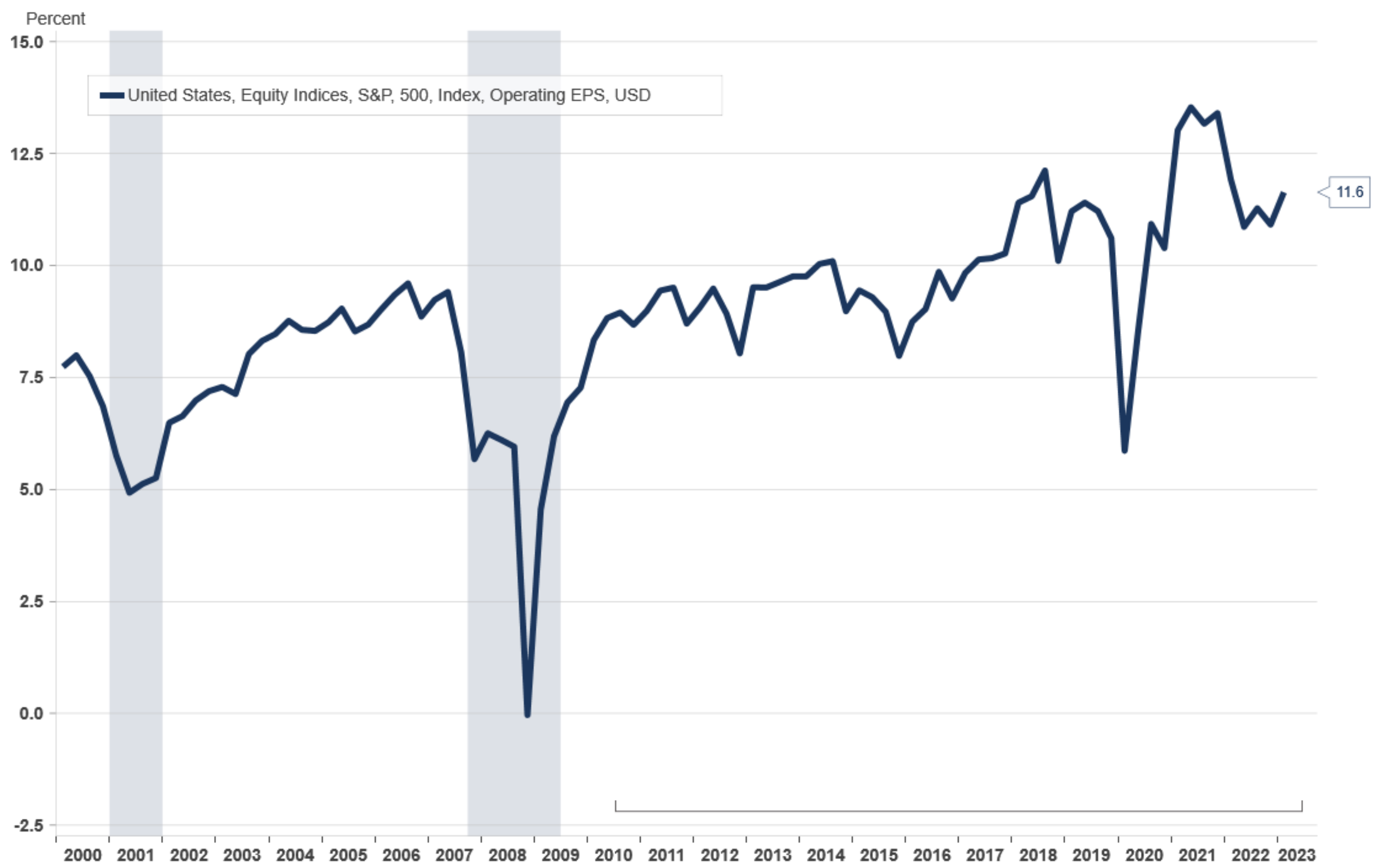
[6] Congressional Budget Office, *The Effects of the Partial Shutdown Ending in January 2019*, January 28, 2019.

One complicating factor for all macroeconomic and market data is that we're still adjusting to post-COVID-19 patterns. Large fiscal measures enacted to extract us from the COVID-19 period have been expiring and "excess" savings are being depleted. Many workers no longer work on premise, take mass transit or other transportation options. The labor force has been disrupted, perhaps permanently, by both COVID-19 and the rapid demographic transformation of the workforce as approximately 11,500 to 12,000 people in the U.S. turn 65 every day.[7] According to the St. Louis Federal Reserve, we are at about the peak pace for members of the population turning 65 on a daily basis. As we've frequently commentated, many factors — demographics, elder care, childcare, disability, opioids and substance abuse, prison and arrest records, suicides — all have worked to suppress labor supply. The burden has fallen on the remaining workers. It is not too surprising to see labor unrest like we see in automobiles (although it appears we have a breakthrough in the Hollywood writers' strike). Many expect us to go back to the 2019 economy (pre-COVID-19), but that may not look realistic given changing secular and cultural behavior from workers. At the margin, the labor supply factor could raise wages and increase the likelihood of management and labor conflicts.

S&P 500 Profit Margins: Sustainable?

Earnings per share (EPS) divided by sales per share



Source: BNY Mellon Advisors, Inc. Macrobond; Data as of 1Q:2023. Shaded areas represent recessions as defined by the National Bureau of Economic Research (NBER).

[7] U.S. Department of Health and Human Services, U.S. Census Bureau, Federal Reserve Bank of St. Lous

Labor data has been a source of strength for the U.S. economy. Companies appear to have worked hard to find the right fit with U.S. employees. In the face of general labor tightness, companies may be reluctant to lay them off if cyclical pressures prevail. Only time will tell on this score, but it is a potential bright spot and makes sense against a backdrop of labor tightness. In general, though, anemic worker productivity does little to support the demand for increased wages. Recent minor gains in productivity appear mostly attributable to slower labor growth. That is, output grew slightly faster than hires. Overall, though, the U.S. labor market may help to shallow out a potential recession.

The Global Canvas

We repeat our quarterly reminder that our outlook is painted on a global canvas where geopolitical risk is very high. Geopolitical risks might force an investor to consider direct or indirect hedges against escalation of fighting in Ukraine, or rising tensions in the Middle East, Iran, Taiwan Strait, North Korea, the Caucasus. Increased competition for energy and water resources exacerbates these risks. For global asset allocators, there exists a greater than zero probability that geopolitics will negatively affect capital markets in the future. Consider the surprise invasion of Ukraine in early 2022. There is always the possibility that events will turn out better than expected. That is, peace breaks out.

European economic data like purchasing managers indices already look severely weak in Europe. China continues to suffer with a massive real estate oversupply. Their housing credit issues show no sign of abating. Japan has actually welcomed recent inflation and has begun nascent steps to tighten monetary policy. The yen remains dramatically undervalued relative to global foreign currencies. Japan makes an interesting investment case because of the yen. Japan also tends to serve as a haven during risk-off periods. The large valuation discounts of most foreign markets relative to the U.S. has not changed much.

Seeking Artful Landings

We've never gotten an economic hard landing without going through a soft landing first, or at least a period where risks were downplayed or ignored altogether. At turning points in the cycle, we usually get a period where a smoky, hazy outlook clouds our perspective, like Da Vinci's sfumato. Markets have had some jitters here in mid- to late-September, but so far have maintained a prospect for relatively optimistic economic outcomes. Those rosy forecasts may jar with likely realities as the long and variable lags in monetary policy influence economic activity. It's a fairly weak argument to downplay cyclical risks just because they haven't taken effect yet. We're hopeful that Federal Reserve Chair Jay Powell may yet channel his inner Leonardo da Vinci and pull off a "soft landing," but the balance of risks forces us to position for the potential of less sanguine outcomes. We likely have to see the sfumato, smoke and haze clear to get a more realistic picture of the economy in the coming quarters.

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Diversification and strategic asset allocation do not guarantee a profit or protect against a loss in declining markets. **All investments are subject to risk, including the loss of principal.**

Foreign investments are subject to risks not ordinarily associated with domestic investments, such as currency, economic and political risks, and may follow different accounting standards than domestic investments.

Investments in emerging or developing markets involve exposure to economic structures that are generally less diverse and mature, and to political systems that can be expected to have less stability than those of more developed countries. These securities may be less liquid and more volatile than investments in US and longer established non-US markets.

Investments in fixed income securities are subject to several general risks, including interest rate risk, credit risk, the risk of issuer default, liquidity risk and market risk. These risks can affect a security's price and yield to varying degrees, depending upon the nature of the instrument, and may occur from fluctuations in interest rates, a change to an issuer’s individual situation or industry, or events in the financial markets. In general, a bond's yield is inversely rated to its price. Bonds can lose their value as interest rates rise and an investor can lose principal. If sold prior to maturity, fixed income securities are subject to gains/losses based on the level of interest rates, market conditions and the credit quality of the issuer.

Liquidity risk increases when particular investments are difficult to purchase or sell. A lack of liquidity also may cause the value of investments to decline. Illiquid investments may be harder to value, especially in changing markets. Typically, liquid investments may become illiquid, particularly during periods of market turmoil. When illiquid assets must be sold in such market conditions (to meet redemption requests or other cash needs for example), it may be necessary to sell such assets at a loss.

Investments in small/mid-capitalization companies involve greater risk and price volatility than an investment in securities of larger capitalization, more established companies. Such securities may have more limited marketability and the firms may have limited product lines, markets and financial resources than larger, more established companies.

Investments in gold bullion come with additional risks. The price of gold has fluctuated widely over the past several years. Several factors affect the price of gold, including global supply and demand; global or regional political, economic or financial events and situations, investors’ expectations with respect to the rate of inflation; currency exchange rates and interest rates. There is no assurance that gold will maintain its long-term value in terms of purchasing power in the future.

Investments in natural resources-related companies may be negatively impacted by variations, often rapid, in the commodities markets, the supply of and demand for specific products and services, the supply of and demand for oil and gas, changes in energy prices, exploration and production spending, government regulation, economic conditions, events relating to international political developments, environmental and safety regulations, energy conservation, the success of exploration projects and environmental incidents. As a result, the securities of natural resources companies may experience more price volatility than securities of companies in other industries.

Past performance is not a guarantee of future results. Current performance may be lower or higher than the performance data quoted. The investment return and principal value of an investment will fluctuate, so that an investor's assets, when sold, may be worth more or less than their original cost.

Inflation is the rate at which the general level of prices for goods and services is rising and, consequently, the purchasing power of currency is falling.

The information on indices is presented for illustrative purposes only and is not intended to imply the potential performance of any fund or investment. Index performance assumes the reinvestment of all distributions but does not assume any transaction costs, taxes, management fees or other expenses, which would reduce the performance shown. Indices unmanaged and are not available for direct investment.

Bloomberg Global Aggregate ex-US Bond Index: The Bloomberg Global Aggregate ex-US Bond Index is designed to be a broad-based measure of the global investment-grade, fixed rate, fixed income corporate markets outside the United States.

Bloomberg US Aggregate Bond Index: The Bloomberg US Aggregate Bond Index represents securities that are SEC registered, taxable and dollar denominated. The index covers the US investment-grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis. Securities must have at least one year to final maturity regardless of call features and must have at least $250 million par amount outstanding.

Bloomberg US Treasury Bill 6–9 Month Index: The Bloomberg US Treasury Bill 6–9 Month Index represents United States-issued government debt with a bond maturity between six months and nine months.

Bloomberg Commodity Index: The Bloomberg Commodity Index is designed to be a highly liquid and diversified benchmark for the commodity futures market. The index is composed of exchange-traded futures and represents 20 physical commodities, which are weighted to account for economic significance and market liquidity (subject to weighting restrictions). On July 1, 2014, the Dow Jones UBS Commodity Index rebranded as the Bloomberg Commodity Index.

Consumer Price Index (CPI): The Consumer Price Index (CPI), as measured by the U.S. Bureau of Labor Statistics, represents changes in prices of all goods and services purchased for consumption by urban households.

MSCI EAFE (Europe, Australasia and the Far East) Index (net of taxes): The MSCI EAFE (Europe, Australasia and the Far East) Index (net of taxes) is a free-float-adjusted market-capitalization index that is designed to measure developed market equity performance, excluding the United States and Canada. As of June 30, 2022, the MSCI EAFE Index consisted of the following 21 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom. The index is net because dividends are reinvested after deducting a withholding tax from dividend distributions. Since taxes are withheld from the MSCI EAFE Index (net of taxes), the performance of the MSCI EAFE Index (net of taxes) will generally be lower than that of the MSCI EAFE Index (gross of taxes).

MSCI Emerging Markets Index (net of taxes): The MSCI Emerging Markets Index (net of taxes) is a free-float adjusted, market-capitalization index that is designed to measure equity market performance of emerging markets. As of June 30, 2022, the MSCI Emerging Markets Index consisted of the following 24 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates. The index is net because dividends are reinvested after deducting a withholding tax from dividend distributions. Since taxes are withheld from the MSCI Emerging Markets Index (net of taxes), the performance of the MSCI Emerging Markets Index (net of taxes) will generally be lower than that of the MSCI Emerging Markets Index (gross of taxes).

MSCI USA Small Cap Index: The MSCI USA Small Cap Index is an unmanaged index designed to measure the performance of the small-cap segment of the US equity market. The index represents approximately 14% of the free float-adjusted market capitalization in the US.

S&P GSCI Gold Index: The S&P GSCI Gold Index, a subindex of the S&P GSCI Index, provides investors with a reliable and publicly available benchmark for investment performance in the gold commodity markets. The index is designed to be tradable, readily accessible to market participants and cost efficient to implement. The S&P GSCI Index is widely recognized as the leading measure of general commodity price movements and inflation in the world economy.

S&P GSCI Crude Oil Index (Spot): The S&P GSCI Crude Oil Index, a sub-index of the S&P GSCI, provides investors with a reliable and publicly available benchmark for investment performance in the crude oil commodity markets. The index is designed to be tradable, readily accessible to market participants and cost efficient to implement. The S&P GSCI is widely recognized as the leading measure of general commodity price movements and inflation in the world economy. Spot price in the S&P GSCI means the price of the S&P GSCI futures holdings.

S&P 500 Index: The S&P 500 Index, an unmanaged index, includes 500 of the largest stocks (in terms of stock market value) in the United States; prior to March 1957, it consisted of 90 of the largest stocks. Although the S&P 500 focuses on the large-cap segment of the market, with approximately 80% coverage of US equities, it is also used as a proxy for the total US equity market.

Securities are not bank deposits. They are not insured or guaranteed by BNY Mellon Advisors, its affiliates or its parent companies.

All performance is expressed in US dollars. Sources: Federal Reserve; MSCI; Standard & Poor's Dow Jones Indices; U.S. Census Bureau; Macrobond; U.S. Department of the Treasury; U.S. Department of Health and Human Services; Congressional Budget Office; Joint Economic Committee of Congress; Pulsenomics LLC; Morgan Stanley Research; Phys.org; https://www.italymagazine.com/featured-story/location-mona-lisa-background; Hall, Marcia B., Color and Meaning: Practice and Theory in Renaissance Painting, Cambridge University Press (1992).