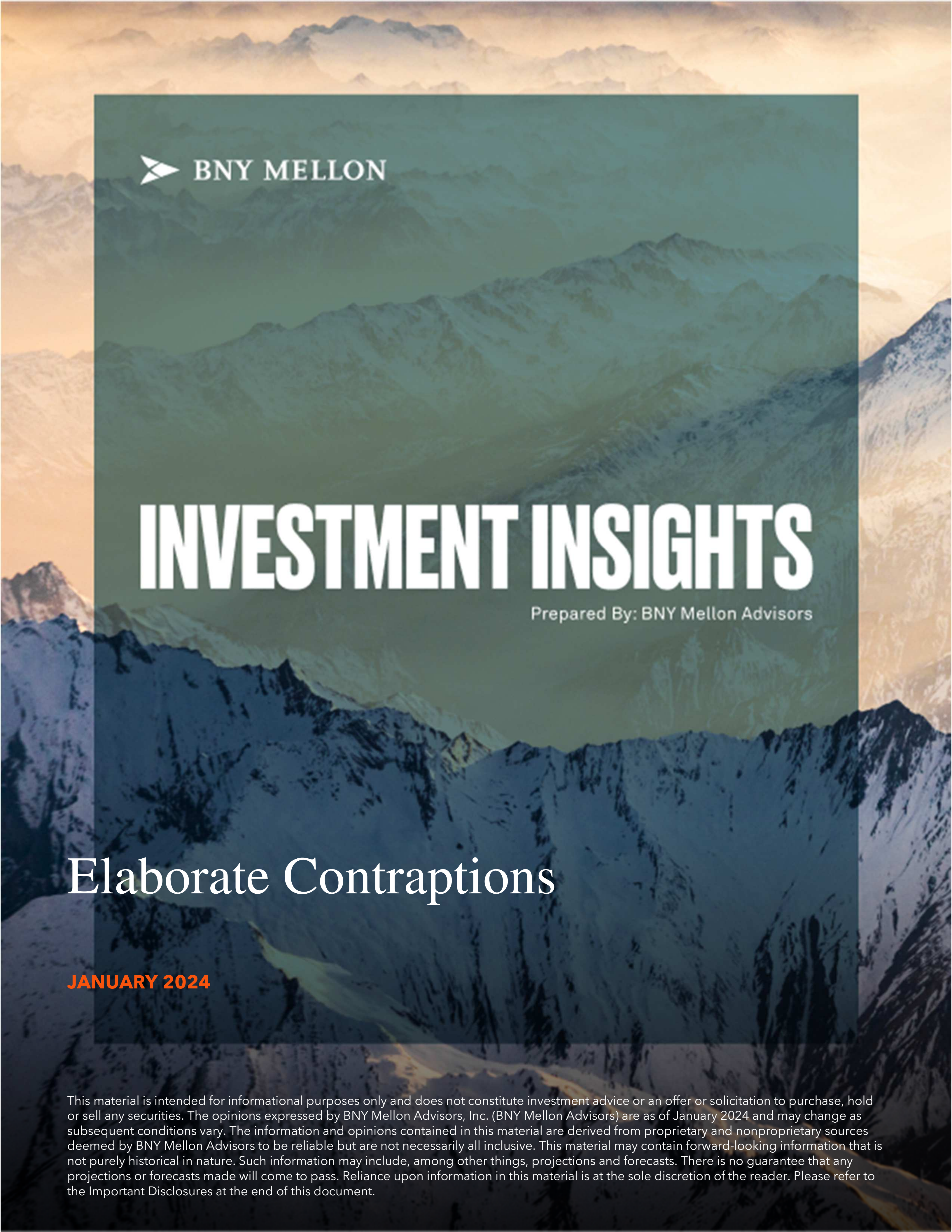

BNY MELLON

INVESTMENT INSIGHTS

Prepared By: BNY Mellon Advisors

Elaborate Contraptions

JANUARY 2024

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   Ultimately, 2023 turned out generally better than most analysts had expected. So, let's count our blessings and enjoy the benevolent outcomes of the whirligigs, thingamajigs and the whimsically elaborate contraptions that operate all around us in the myriad of federal systems working to bolster macroeconomic outcomes.

Elaborate Contraptions

Why complete a task in one easy step when twenty-seven steps will do? Cartoonists W. Heath Robinson (1872-1944) and Reuben "Rube" G.L. Goldberg (1883-1970) designed elaborate contraptions that deliberately twisted and transformed simple tasks. Roughly contemporaneous, both delighted their fans with their whimsically complicated and outlandish machines. A simple act of opening a door could require chickens, tape, scissors, string, balloons, levers, pulleys, cats and a tea kettle. Both comics were extremely popular during World War I (WWI), the Great Depression and World War II (WWII), by lifting the spirits of their readers. Comedy provides a welcome refuge at any time but particularly during wartime and economic hardship. Widely published in the United Kingdom, Robinson's work was so celebrated that the Oxford English Dictionary added the phrase "Heath Robinson device" as an entry in 1917, defined as "any absurdly ingenious and impracticable device of the kind illustrated by this artist." In the United States, even today, you can occasionally hear a reference to a "Rube Goldberg" machine. Robinson drew up outrageous plans for allied weaponry, poking fun at the zeal and ambition of military weapons labs. Goldberg chronicled the crazed inventions of a fictional Professor Butts. He claimed to have found inspiration for his wacky creations from actual schematics filed with the U.S. Patent Office.

In a similar way, Leroy Anderson (1908-1975)[1], the creator of light orchestral works, wrote some unorthodox compositions that were either simple or complicated contraptions. In 1950, he created "The Typewriter." In effect, it's a concerto for typewriter and orchestra, where the percussive strokes of the keys and the whir of the carriage return act as a soloist. In several other compositions, the string section plays only pizzicato (plucking). Even if you've never heard of his name, you have heard his music. He wrote the holiday classic "Sleigh Ride" in 1948. (The vocal track wasn't added until 1950.) It's a staple of seasonal holiday playlists, ubiquitous and oddly timeless 75 years later. His music can act as a whimsical ear worm, hard to dislodge. Anderson's light-hearted musical works found popularity after the ravages of WWII. Given the heavily Germanic classical tradition (Bach, Beethoven, Brahms, Mahler, Mozart, Wagner), Americans' musical tastes generally ran to less weighty and ponderous tunes like big band and jazz during and after WWII.

Market Overview
Index Returns (%) as of December 31, 2023

Index	4Q 2023	1 Yr.	3 Yr. ^	5 Yr. ^	2022	2021	2020	2019
S&P 500	11.7	26.3	10.0	15.7	(18.1)	28.7	18.4	31.5
MSCI USA Small Cap	13.9	18.4	5.5	12.2	(17.2)	19.6	18.9	27.4
MSCI EAFE (net of taxes)	10.4	18.2	4.0	8.2	(14.5)	11.3	7.8	22.0
MSCI Emerging Markets (net of taxes)	7.9	9.8	(5.1)	3.7	(20.1)	(2.5)	18.3	18.4
Bloomberg US Aggregate Bond	6.8	5.5	(3.3)	1.1	(13.0)	(1.5)	7.5	8.7
Bloomberg Global Aggregate ex-US	9.2	5.7	(7.2)	(1.6)	(18.7)	(7.0)	10.1	5.1
S&P GSCI Crude Oil (Spot)	(21.1)	(10.7)	13.9	9.6	6.7	55.0	(20.5)	34.5
S&P GSCI Gold	11.4	12.8	2.3	8.9	(0.7)	(4.3)	20.9	18.0
Bloomberg Commodity	(4.6)	(7.9)	10.8	7.2	16.1	27.1	(3.1)	7.7
Bloomberg US Treasury Bill 6-9 Month	1.6	4.6	1.6	1.7	0.2	0.0	1.2	2.6
Inflation §	0.5	3.1	6.0	4.4	6.4	7.1	1.3	2.3

^3-year and 5-year returns are annualized

Sources: MSCI; Bloomberg; Standard and Poor's (©2024, S&P Dow Jones Indices LLC. All rights reserved); Bureau of Labor Statistics. § Inflation data through November 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.**

[1] As an aside, Anderson was multilingual and became Chief of the Scandinavian Department of Military Intelligence at the Pentagon in 1943.

Like the works of the cartoonists and unusual musical compositions, the global economy and capital markets may also behave like complicated and complex contraptions. The global economy and capital markets are more practical and less whimsical (mostly), but they're complicated in the sense that they have many moving parts. They're complex because inputs may have varied effects at different times. Similar macroeconomic, fiscal or monetary policies may not create the same outcome compared with comparisons to historical analogues.

Today, we're trying to understand how consumers, investors and workers will behave since we've absorbed several shocks. Their behavior appears complicated, complex and sometimes contradictory. At this moment, the COVID-19 pandemic has mostly retreated despite lingering derivative variants like the JN.1 variant. Before COVID-19 hit, we knew relatively little about how workers, consumers and investors might react to rampant disease. Despite serious influenza outbreaks in the 1950s and 1960s, we hadn't experienced anything like COVID-19 since the Spanish Flu (1918–1920 flu pandemic). We had few historical models to rely on to guide us. In retrospect, there were some heavy-handed policy mistakes in response to COVID-19: in our view, too much stimulus and too many stringent restrictions on the economy.

COVID-19 has left an enduring mark upon the U.S. workplace. With the post-COVID-19 rise in remote or hybrid work activity, demand for commercial office and retail real estate as well as urban transport systems has been dramatically reduced. According to the MSCI Real Capital Analytics (RCA) Commercial Property Price Index, the value of urban commercial office buildings was down 26% in November 2023 from the prior year[2]. There was roughly $6 trillion tied up in commercial real estate (CRE) loans as of the second quarter 2023[3]. Further price declines in CRE may be ahead of us. Actual office door key-swipes from firms like Kastle show that we are at about 50% occupancy on average from pre-COVID-19 levels across metropolitan areas in the U.S., as of December 13, 2023. In our view, the fallout from this dramatic behavioral change called hybrid work or work from home has not been fully reckoned with. We will likely face stronger headwinds from the real estate and public transit sectors in 2024.

The combination of massive stimulus and supply challenges ignited inflation post-COVID-19, but the situation improved in 2023. Having receded dramatically during 2023, inflation is still above pre-COVID-19 levels and has further to fall to reach the Federal Reserve's 2% stated annual target. The November Consumer Price Index (CPI) came in at 3.1% year over year, and strategists worry about how much economic pain we will need to endure to bring inflation back down to the 2% target. The journey from 3.1% to the 2% target has been labeled the "last mile" on inflation. Historically, most major declines in inflation have been accompanied by recession.

Geopolitical Complications

Geopolitical risks may still hamper consumer sentiment. While the situations in Ukraine and the Middle East are still hazardous, the direct effects are distant, except for impacts on agriculture and prices at the gas pump. In 2024, we will face the continuation of the Ukraine and Middle East tensions and there are large risks of challenges with Iran in the Red Sea and other areas. We're thankful that these clashes have not yet escalated into broader conflicts, but they will still impact global logistics, energy security and agriculture. Taiwan will hold elections in January, often an event that stokes regional tensions. Geopolitical risks appear unusually high, so we may be likely to see enduring anxieties spill over into global consumer and investor activity.

It's unclear whether U.S. consumers and investors are behaving as though these pandemic, macroeconomic and geopolitical risks have passed. A survey of 2,000 "hardworking" middle-income Americans released by investing app Stash on December 19, 2023, listed money and personal wealth as their top concern, as cited by 39% of respondents. The survey consisted of Americans with incomes between $50,000 and $150,000 annually, that worked a minimum of 30-hours a week and self-identified with terms like "hardworking." The survey showed that inflation, higher interest rates and an unaffordable housing market have impacted consumer sentiment. Even if the inflation rate has subsided, there has been a large rise in the average price level over the past several years. For example, let's look at the prices of childcare. According to Bloomberg and Care.com, full-time, in-home infant care currently is over $39,000 a year and can reach to $56,000 per year in expensive urban areas. These statistics reveal threats to household formation and female labor participation rates in the U.S.

[2] Office-building prices dropped 26% in November from a year ago for properties built in the financial core of U.S. cities.

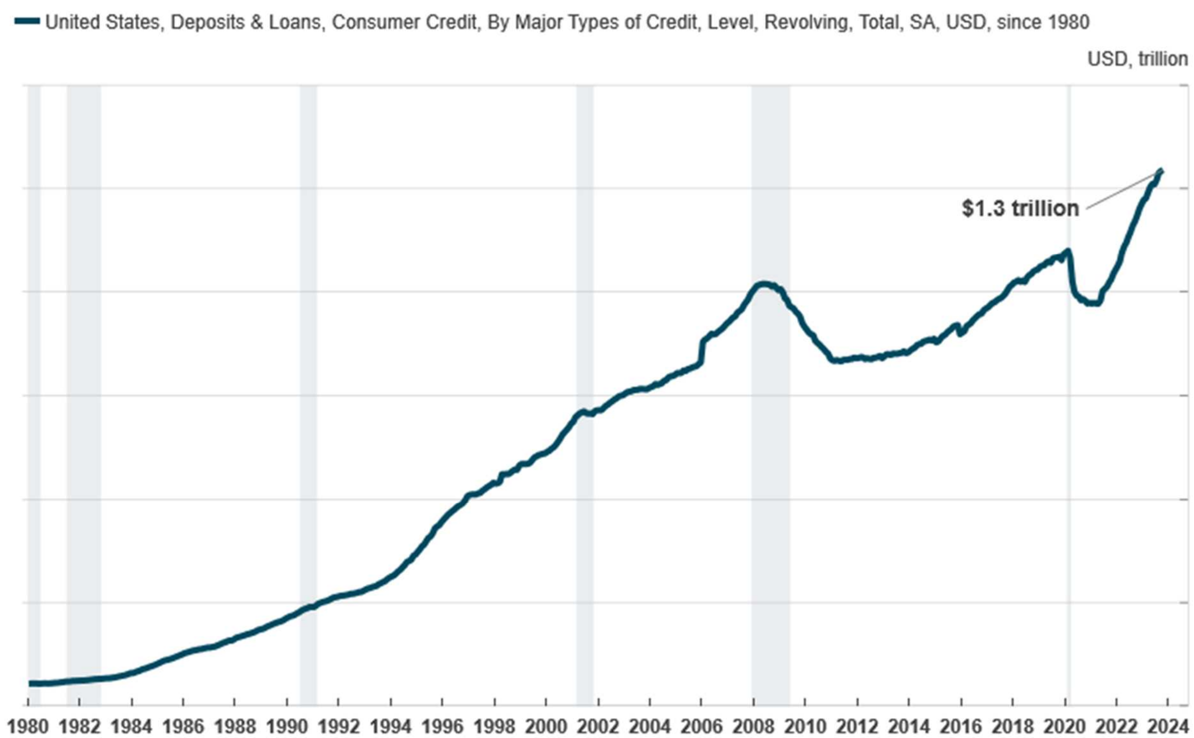
[3] Financial Stability Oversight Council *Annual Report 2023* released December 14, 2023 (U.S. Treasury Department).

Generational Contradictions

Generation X (born 1965–1980) and Generation Y (born 1981–1996, aka Millennials) respondents were especially gloomy in the Stash survey. Generation X (71%) and Generation Y (57%) both were pessimistic about the economy improving in the coming months. Americans seem to disbelieve, or are unaware of, some of the very positive data points on the U.S. economy (e.g., relatively low broad U-6 unemployment rate thus far in 2023 and Q3 2023 per capita Gross Domestic Product growing at the fastest annualized pace of expansion since the fourth quarter of 2021). So, even though the Stash survey indicated middle-income "hardworking" Americans are not very concerned about political issues (4%), other polls show that their views on the economy are heavily skewed by their political affiliation. Republicans (72%) and Independents (58%) were more likely to view the economy as getting worse than Democrats (32%). These data points came from a Harris Poll online survey of 2,055 U.S. adults conducted for *The Guardian* (U.K.) news outlet in early September 2023.

The labor market currently remains strong. At least some portion of the workforce currently feels comfortable that there are high levels of job availability, confirmed by the latest Job Opening and Labor Turnover Survey (JOLTS). The myriad factors operating on suppressing labor supply appear to be an almost permanent part of the labor picture. Labor remains a potential counter cyclical force if we experience a more "jobfull" growth downturn. That is, corporations may continue to attempt to hoard labor to meet output targets or simply to reduce headcount turnover.

Americans Running Up the Credit Card Balances



Source: BNY Mellon Advisors, Inc., Macrobond; Federal Reserve. Data as of October 2023. Gray bands represent recessions.

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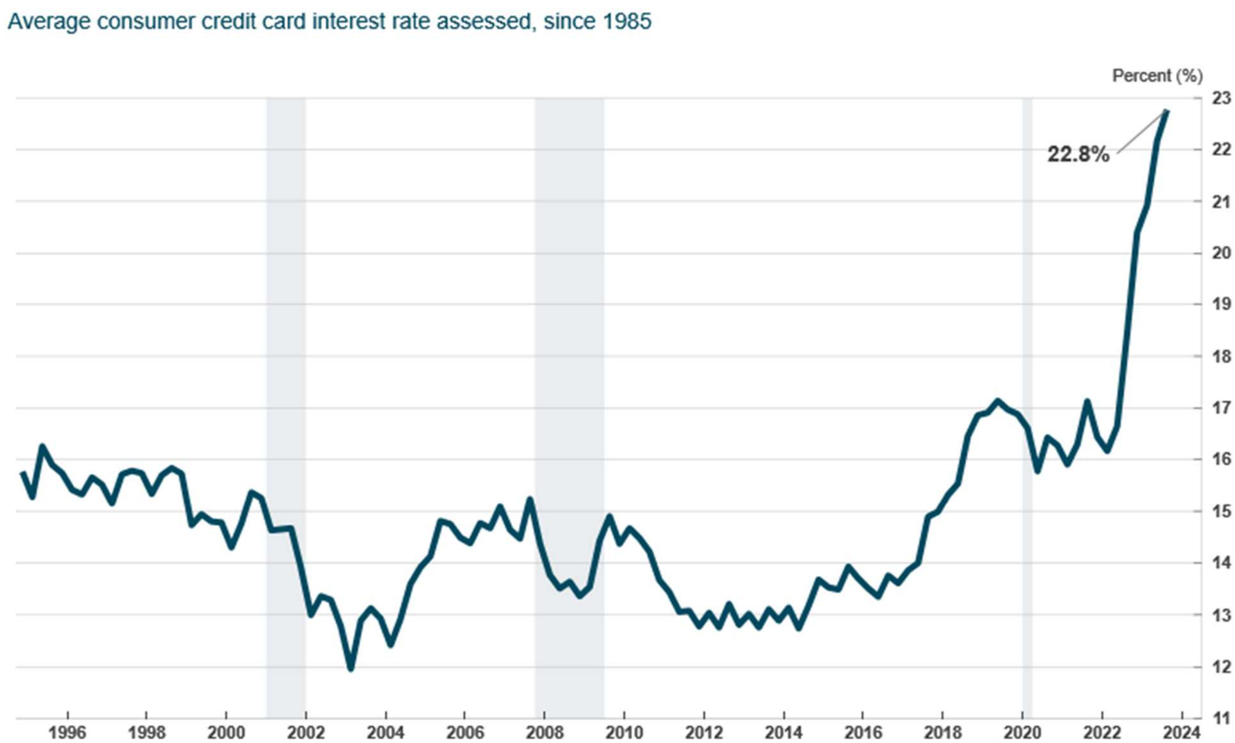
We put more weight on what consumers actually do rather than what they say in surveys. This is a preference for hard over soft economic data. Not only are consumers running up giant credit card bills, the Federal Reserve's G.19 (Consumer Credit) release for October shows $1.295 trillion on outstanding revolving credit arrangements, but as the average cost of that revolving credit has reached record highs (see chart below). Moreover, other deferred payment schemes like buy now, pay later (BNPL) are growing at exponential rates, not just in the U.S. but around the world. At one major "big box" store today, you can buy your staple goods on a BNPL plan. In October, the Office of the Comptroller of the Currency (OCC), sounded the alarm on the rapid growth of BNPL schemes. These debts could constitute headwinds for growth in 2024. Consumers are purchasing a lot of personal electronics on BNPL, not unlike the 1920s when "layaways" were used to help Americans finance elaborate contraptions like transistor radios. During the COVID-19 pandemic, there was "doom-spending," as some shoppers figured they might as well spend it if they couldn't take it with them. Now, with social media dominant, some consumers and investors appear concerned with the sentiment of fear of missing out (FOMO). The flaunting of wealth by means of omnipresent advertising images has induced envy. Regardless of why, American consumers' behavior is somewhat at odds with their survey responses.

Interest Rate on Consumer Revolving Credit Climbs



Source: BNY Mellon Advisors, Inc., Macrobond; Federal Reserve. Data as of July 2023. Gray bands represent recessions.

Happy 110th Birthday to the Federal Reserve

Since its creation 110 years ago on December 23, 1913, the Federal Reserve System has been a large institution, a complicated and complex contraption. On the surface, the Federal Reserve has two simple and statutory mandates: 1) promote maximum employment and 2) maintain stable prices and moderate long-term interest rates. It has additional objectives such as promoting the stability of the financial system, both at home and abroad, as well as monitoring and regulating member banks and payment systems.

The Federal Reserve implements its goals through a comprehensive set, a gallimaufry of policy tools. Those tools are open market operations, the discount window and discount rate, reserve requirements, interest on reserves balances, the term deposit facility, central bank liquidity swaps, foreign and international monetary authorities

(FIMA) repo facility, and the standing overnight repurchase agreement facility. These tools act in various ways, often to raise or lower market interest rates, or to raise or lower market liquidity.

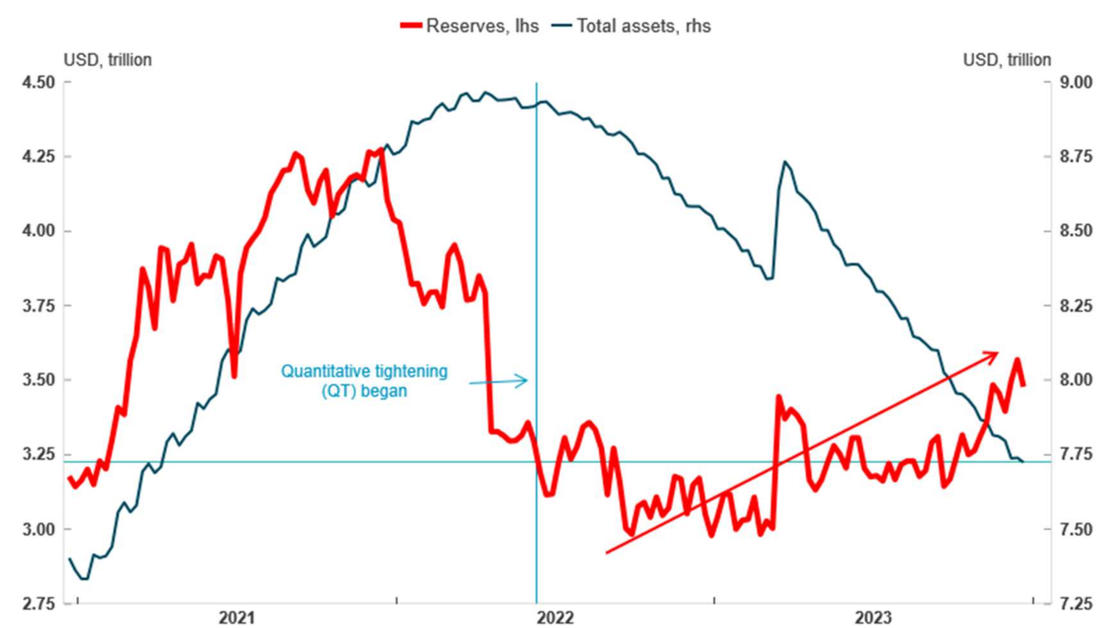
[For more information on the Federal Reserve's "pivot" and communication policy in the last press conference, see Vincent Reinhart's *Fed Thoughts: The Gravitational Pull on Monetary Policy*.]

Suffice to say that, like any contraption, these tools and levers work in strange and mysterious and sometimes contradictory ways. For example, we all know the Federal Reserve has raised the federal funds overnight policy rate between member banks of the Federal Reserve system to 5.25-5.50% since early 2022. Since many other consumer and commercial interest rates key off the policy rate, this raises borrowing rates on credit for many parts of the economy. The raising of the policy rate is intended to slow economic activity, curtail borrowing and slow inflation. Since June of 2022, the Federal Reserve has also "drained" liquidity at around $95 billion a month from the system via quantitative tightening (QT). At the same time, the Federal Reserve also has been selectively targeting liquidity "injections" into the banking system via the Bank Term Funding Program (BTFP), introduced after the brief bank sector turmoil in March 2023 to provide "emergency" liquidity. This program is designed to help the troubled banks holding underwater (i.e., below par) Treasurys and mortgage-based securities (MBS) on their balance sheets. The BTFP held $131.335 billion as of December 18, 2023, indicating that some bank stress still exists months after the headlines have abated. The BTFP enabled banks to post those securities trading below par as collateral and get loans at full value (par). This program is scheduled to expire in March 2024.

Quantitative tightening has lowered the Federal Reserve balance sheet, known as the System Open Market Account (SOMA), by about $1.3 trillion from the $8.4 trillion peak in April of 2022. QT is designed to allow maturing Treasurys and MBS to run off the balance sheet every month. A large part of that $1.3 trillion reduction has been due to the Federal Reserve lowering usage, by making it less attractive, of the Overnight Reverse Repurchase (ON RRP) facility. The Federal Reserve uses the overnight RRP to keep the federal funds rate "corralled" within the policy range, currently 5.25-5.5%. The Federal Reserve has conceived the overnight RRP facility as a temporary measure. From the Federal Reserve, "When the Federal Reserve conducts an overnight RRP, it sells a security to an eligible counterparty and simultaneously agrees to buy the security back the next day."

[For more analysis of QT, see BNY Mellon iFlow *Short Thoughts: Checking In On The Federal Reserve's QT*, December 19, 2023.]

Bank Reserves Growing Despite Quantitative Tightening



Source: BNY Mellon Advisors, Inc., Macrobond; Data as of December 18, 2023

An average investor might expect that with the Federal Reserve raising interest rates, draining liquidity via QT and with a sharp focus on reducing inflation, liquidity at the banks would fall. However, the opposite has happened. Bank reserves generally have continued to grow. Like we've said, it's a complex elaborate contraption.

Before we go any further, we should explain that bank reserves are liquid cash minimums that depository institutions must maintain to meet central bank requirements. They are the core building blocks of a fractional reserve banking system. Along with cash in circulation, bank reserves are literally high-powered money, meaning that they form the base from which the multiplier effects of the fractional reserve banking system can use to multiply resources in the real economy. When bank reserves are rising, that money can find its way into equity and bond markets. This appears to be at least a partial explanation of the buoyant markets we've witnessed in the back half of 2023.

Keep in mind that these Federal Reserve monetary policy tools have run during a period, since early June 2023, when fiscal policy has been dramatically expanded. The debt ceiling on federal debt was suspended in June until at least until January 1, 2025. As a result of the suspension, the Treasury has been busy refilling its coffers.

Money Market Funds Gaining Assets

Weekly U.S. Money Market Fund Assets Since 2011

Source: BNY Mellon Advisors, Inc. Macrobond; Investment Company Institute (ICI). Weekly data as of Monday, December 20, 2023. Gray bands indicate recession. https://www.ici.org/research/stats/mmf

When the federal government runs relatively large and persistent annual deficits, the Treasury must also issue relatively large amounts of bills, notes and bonds to the public via public auction. In this case, the higher short-term interest rates brought about by higher federal funds rates have been stoking demand for money market funds – funds that have been "vacuuming" up short-term notes. The Treasury has chosen to finance the relatively large deficit with a high proportion of short-term debt, at a time when the federal funds policy rate is higher than it's been in a long time. Moreover, the Federal Reserve, by raising federal funds rate, has pushed the rate on short-term Treasury bills higher than the overnight RRP rate, creating an incentive for money market funds to buy the bills rather than overnight RRPs. So, effectively, these large fiscal deficits have been funded by money market demand. If another sector had purchased the short-term Treasury bills, e.g., a household or an industrial corporation, the purchase would have come directly out of bank reserves because those sectors don't have access to the same set of options a banking depository institution or money market funds would have to purchase short-term securities.

Complex Liquidity Contraption

Why does this contraption matter? Well, it may be a powerful driving force behind stock and bond market momentum of late. In other words, liquidity has been behaving very differently in the second half of 2023 than most market players would have expected, given the goal of tightening monetary policy. Moreover, with the wind down of the Federal Reserve's overnight RRP facility, this fountain of liquidity might dry up sometime in the first half of 2024, unless other rate or policy changes alter the "game." Once the overnight RRP facility has been used up, bank reserves should be expected to fall, putting pressure back on overall banking liquidity and thus the overall capital markets. Perhaps the Federal Reserve will abandon QT sometime during 2024, easing pressure on reserves.[4]

We hesitate to single out an individual factor to explain a system as complex as U.S. capital markets. After all, it's quite the contraption. Still, high-powered money growth finds its way into all the nooks and crannies of the economy and markets. It may be a key reason why many stock market bulls got the call wrong in 2023 and why the outlook for 2024 may not look as good as many expect.

Many fundamental analysts and economists have been stumped by 2023. A hodgepodge of indicators go one way while a potpourri of other indicators go the other. We didn't get the recession that many economists had expected. Ukraine and the Middle East conflicts appear contained, at least for now. A more substantial banking crisis was short circuited by Federal Reserve intervention. The brewing real estate crisis in China and developed markets commercial real estate did not spill over much into the general economy. But corporate earnings currently are generally lackluster, if not down, even though forecasts have recovered. While the labor market has remained healthy, other forward-looking indicators like the Leading Economic Indicators (LEI) have dragged for 20 consecutive months through November 2023. Equity markets are back at very expensive levels, approximately 20X price to forward earnings. Small capitalization stocks though, are as inexpensive as they have been since 2005. [For more on the global outlook and possible scenarios for the global economy, see BNY Mellon Investment Management's Q1 2024 *Vantage Point: Shifting Tides*.]

Even if one got some of the trades wrong in 2023, it worked out pretty well for most, even the much-maligned 60% stock/40% bond portfolio. The 60/40 portfolio worked out much better than most analysts had expected, due to the surge in both equity and bond markets in the fourth quarter. Most bulls didn't expect the kind of rally we've seen in the past few months of 2023. Bond market bulls, too, have gotten better results than almost anyone expected, with the Bloomberg U.S. Aggregate Index gaining 5.5% for the full year. So, let's count our blessings. The cartoons of Robinson and Goldberg as well as the compositions of Anderson made many in the U.S. and U.K. laugh decades ago. In 2024, we should enjoy the benevolent outcomes of the whirligigs, thingamajigs and the whimsically elaborate contraptions that operate all around us.

[4] Some economists, such as Benn Steil and Elisabeth Harding, argued in Barron's (November 29, 2023) that the existence of QT adds additional tightening and thus understates the policy rate. They forecast that QT will continue to exacerbate the effects of tightening policy as the balance sheet shrinks.

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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.

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All performance is expressed in US dollars. Sources: Federal Reserve; MSCI; Standard & Poor's Dow Jones Indices; Macrobond; Federal Reserve, U.S. Treasury Department; *The Guardian* (U.K.); Kastle; Investment Company Institute.