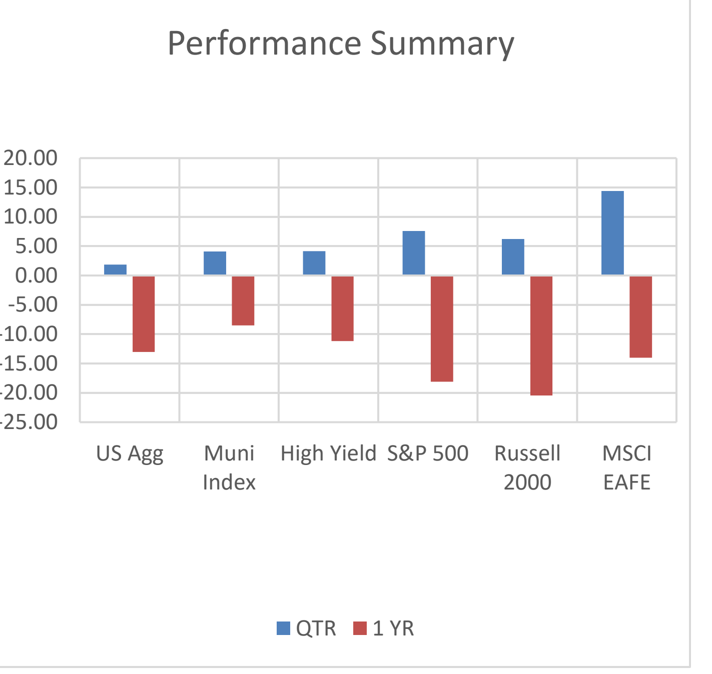
Despite a volatile December, most global stock and bond markets had strong returns in the fourth quarter. A catalyst for the end-of-year rally was an expectation that central banks would soon reverse course and stop raising interest rates. However, the fourth-quarter rebound was not enough to offset the year-to-date effects of high inflation, rising interest rates, geopolitical unrest, and growth uncertainty. Leaving most stock and bond indices with steep losses for the full year.



- Investors were optimistic in October and November, as inflation's pace eased and expectations for a Fed policy pivot mounted. Nevertheless, the Fed remained steadfast in its rate-hike outlook for 2023, and the market sold off in December.
- Gains in October and November led to a 7.6% return for the S&P 500 index for the full quarter. For the year, the S&P 500 lost more than 18%, its worst performance since 2008.
- Foreign developed market stocks rallied over 17% in the quarter, outperforming US stocks by a wide margin. Emerging market stocks also outperformed the U.S. with returns close to 10% for the quarter.
- Headline and core inflation in the US moderated in the quarter. Against this backdrop, the Fed raised rates by 75 bps in November and lowered to a 50 bps rate hike in December. Central banks in Europe and the U.K. also raised rates by 50 bps in December as annual inflation eased but still topped 10%.
- US Treasury yields rose slightly in the quarter, however, bonds were able to generate positive returns of 1.9% for the quarter.

In this quarter's commentary, we focus on: 2022-The Highlights and Lowlights; and some of the Themes that Will Impact Our Investment Decisions in 2023 and Beyond.

2022: The Highlights and Lowlights

Highlights in 2022 were hard to find but here are a few:

- Overall, the U.S. economy was fairly resilient, recovering from slightly negative GDP growth in Q1 and Q2, to notch a positive 3.2% growth rate in Q3. As of now, the Atlanta Fed's economic model is predicting GDP growth of 3.7% in Q4.
- Unemployment reached a 50-year low of 3.5% in July. It has since risen to 3.7%, which is still below the Fed's estimate of full employment.
- Commodities were one of the only asset classes with positive returns, finishing the year up over 16%.

- Energy stocks finished the year up over 50% and were the lone S&P sector with positive returns.
- Value stocks were down for the year (7.5%) but significantly outperformed the broader market and growth stocks (29%).
- The bear market has reduced the valuation of stocks around the world, which will lead to better returns in the future.
- The increase in interest rates has improved the available yield for savers. For example, the yield on some money market funds is close to 4% or higher, a level investors haven't seen in a long time.

The lowlights in 2022 were many, below we focus on some of the most relevant:

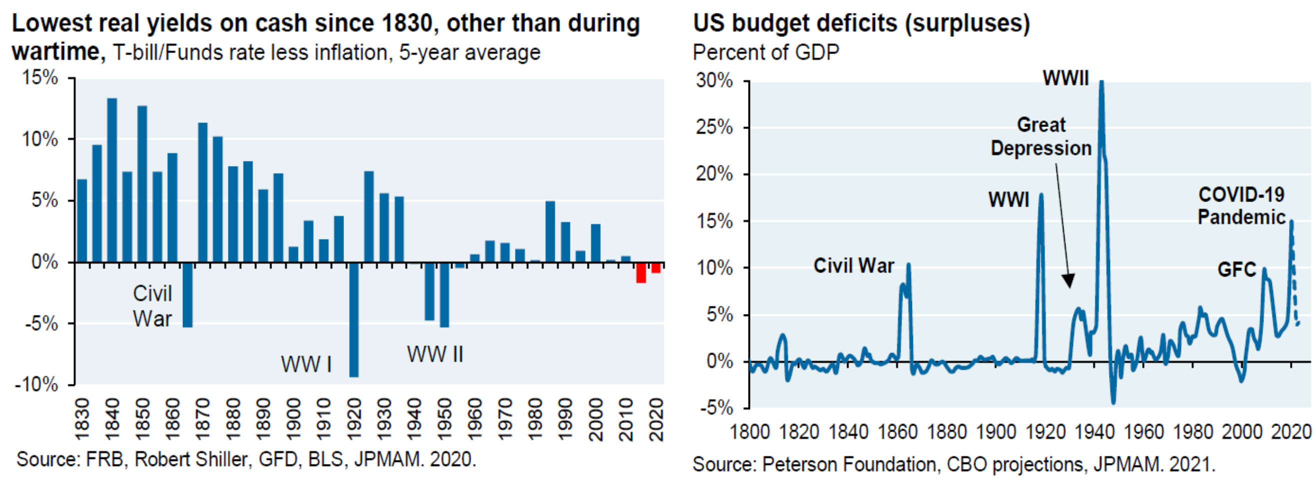
- Inflation reached its highest level in 40 years, leading to a historic selloff in bonds. Core bonds in the US were down (13.06%), one of the worst years in history for the bond market.
- Interest rates spiked higher. The 2-year Treasury Note yield started the year at 0.73% and jumped to 4.42% at year-end. The 10 Year Treasury Note yield started the year at 1.51% and rose to 3.88% at year-end. Higher interest rates were a contributing factor to lower valuations in most other asset classes.
- Mortgage rates increased to over 6% and estimates of annual mortgage costs as a percentage of household income reached 45%. The highest level since the early 1980s.
- Russia's invasion of Ukraine led to vast human tragedy. It also disrupted supply chains and contributed to higher energy costs.
- Global stock markets tanked: The US entered a bear market (down more than 20%); technology and growth stocks dropped over (30%); and unprofitable tech stocks cratered, down over (60%). Foreign developed market stocks held up a little better but were still down in the mid-teens and emerging market stocks were down even more.

Themes That Will Impact Our Investment Decisions In 2023 and Beyond:

The End of an Era

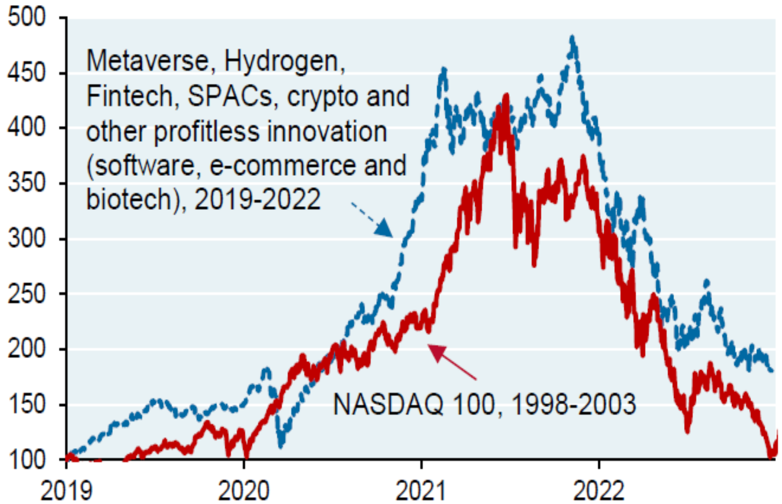
Since the Great Financial Crisis (GFC) of 2008-09 the US has been running the largest combined monetary and fiscal experiment in history. The chart to the right (left-hand side) shows that other than during periods of war the US has had the lowest real yields on cash investments on record. The recent period of negative real rates is reflected by the red bar charts, and was a result of the extreme Fed policy of zero

The end of an era: the largest peacetime monetary and fiscal experiment in US history is ending now



interest rates coming out of the GFC. The right-hand side of the above chart shows that while the Fed was manufacturing a zero-interest rate policy, the budget deficits were also the largest on record outside of wartime. In other words, government spending was at extremes at the same time Fed policy was at extremes. This double whammy resulted in an extended period of excess money creation and near-zero interest rates and led to overly aggressive risk-taking and extreme valuations in several asset classes (see Dumb and Dumber). It looks like this era of excess monetary and fiscal policy is coming to an end, and the implications for the financial markets will be significant. More on this is below.

Dumb and Dumber
Index (100 = Jan 2019)



Source: Bloomberg, JPMAM. December 27, 2022.

Dumb and Dumber

The ramifications of the excessive policy discussed above are illustrated in the chart to the left. The chart compares the speculative investments made in the 2019-2022 period to the technology bubble of the late 1990s. Clearly, both periods reflect a bubble mania in speculative investments that ran to crazy heights and ultimately burst. Basically, a lot of 'dumb and dumber' money chasing the dream of easy profits. Fortunately, our experience helped us avoid these speculative areas and the massive losses that took place. What we have learned from studying past bubble periods is that some companies will emerge from this crisis as big winners but most will not. We urge investors not to blindly and broadly buy securities just because they are down a lot, investors will need to be more discriminate this time around.

Does Recent Foreign Stock Outperformance Have Legs?

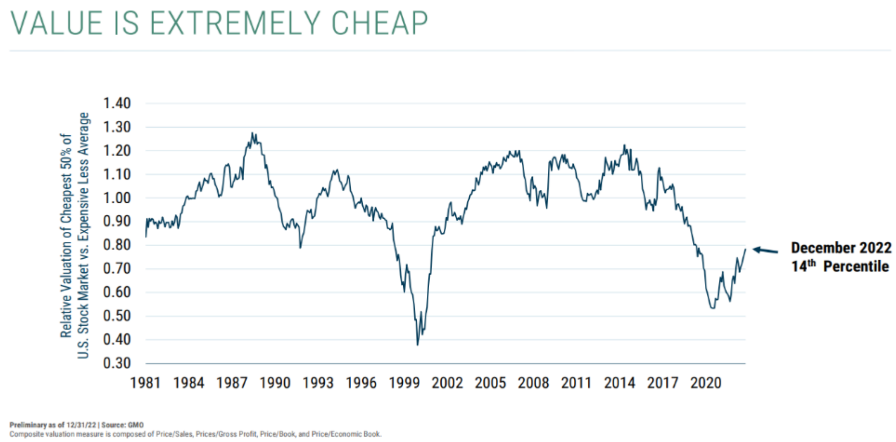
US stocks have had an epic run relative to foreign stocks over the past 15 years, the chart to the right shows how extreme the relative performance of US stocks has been compared to foreign stocks. We believe the excessive US monetary and fiscal policies contributed to this stretch of US outperformance. In 2022, foreign stocks started to outperform US stocks and we believe this trend will continue for a while. It will not be a straight line of outperformance but we are confident investors who stay the course on international investments will be well rewarded.

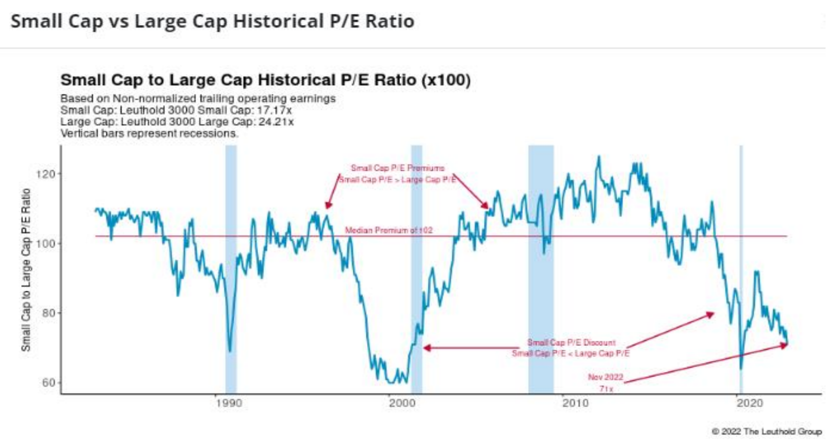
Chart 6: 15 year bull market of US over RoW likely reverses in '23
US vs RoW equities price relative

Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

Can Value Stocks Continue to Outperform?

Value stocks trounced growth stocks in 2022, and that trend is likely to continue with a couple of caveats. The chart below illustrates that value stocks still trade at a significant discount to growth stocks, which bodes well for the long-term relative performance of value stocks. However, the research firm GMO looked deeper into the valuation comparison of growth and value and found that most of the valuation discount is in the very cheapest stocks. The implication being that investors will need to invest in value strategies that have exposure to the cheapest parts of the market to capture the full effect of the discount. In general, we expect that value stocks will continue to outperform and will factor that into our investment strategies. Similar to foreign stocks, the outperformance will not happen in a straight line so investors will need to be disciplined and stay the course.





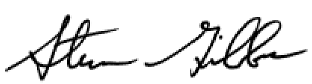
Small-Cap Stocks Are Trading Historically Cheap

The last theme we will touch on is U.S. small-cap stocks are trading historically cheap relative to large-cap stocks. Positioning them to outperform large-cap stocks over the next several years, see the chart to the left. Similar to foreign and value stocks discussed above, we do not expect this outperformance to be in a straight line, so investors will need to be patient and disciplined to capture the rewards.

If you have any questions about your portfolio or investment strategy don't hesitate to give us a call.

Best regards,

Steve Giacobbe, CFA, CFP®



Asset Class		* ↔ Neutral weight ↓ Underweight ↑ Overweight
Equities	***View****	***Comments***
U.S. Large Cap	↓	Valuations for large-cap stocks have fallen toward their long-term averages. However, in a global portfolio, we would remain slightly underweight due to better opportunities in other asset classes.
U.S. Small/Mid Cap	↑	Valuations for small-cap stocks relative to large-cap have fallen to historically low levels last seen in the early 2000s, the beginning of a very good run for small-cap stocks. In the short-term, there may be some additional downside, however, long-term investors should view this as an opportunity to overweight the asset class on a 3 to 5-year time horizon.
International Developed	↑	We believe the valuation of foreign stocks is attractive relative to US stocks and investors with a longer time horizon should be overweight. Foreign stocks outperformed US stocks in 2022 and we believe it may be the start of an outperformance cycle that may last several years. Keep in mind, relative performance is never a straight line so stay patient.
Emerging Markets	↑	Valuations are attractive for the long term. Emerging markets tend to be volatile and are always susceptible to further selloffs, but over a multi-year time frame, they should outperform. Stay disciplined and keep overweight positions.

Fixed Income		
Investment Grade	↔	Interest rates rose in 2022, making bonds a more attractive investment option relative to stocks. At current levels, bonds should provide decent risk protection, returns, and diversification in balanced portfolios.
High-Yield Bonds	↓	High-yield bonds were down in 2022, however, we don't believe they have priced in the risk of a potential recession in 2023. We would stay on the sidelines for now and look for opportunities to buy into this asset class on further sell-offs.
Municipal Bonds	↑	With higher yields, municipal bonds continue to be attractive, especially for high tax bracket investors.
TIPS	↔	TIPs are a hedge against higher inflation, we would hold positions in tax-deferred accounts as a long-term hedge against inflation hedge.
Floating-Rate Loans	↓	Similar to HY bonds, FRLs have a significant risk in a recessionary environment. We would move to the sidelines for this asset class for now and look for better opportunities down the road.
Emerging Markets	↔	EM bonds have sold off sharply in 2022 and appear attractive on a relative value basis to other global bonds. However, given the complexity of this asset class, our default is to leave it to the pros, as several of our bond managers have the flexibility to add to this asset class when attractive.

Alternatives		
Absolute-Return/Alternatives	↑	We like alternative funds as a way to hedge volatility, provide real returns, and improve the risk vs reward in portfolios. We favor simple and low-cost strategies like hedged equity, real return, clean energy transition, and global macro. Over a full market cycle, they should add value to portfolios. If traditional stocks and bonds become "cheap" we would reduce our weighting in this asset class.
REITs	↔	We remain neutral on REITs even though they declined over 26% in 2022. There are diversification benefits from owning REITs, however, we recognize REITs may be structurally impaired in the future as a result of secular trends and valuations are only fair. Small positions are appropriate for diversification in global portfolios.
Commodities/Gold	↔	We view exposure in this area as an effective way for long-term investors to diversify their portfolios and hedge against higher inflation. These positions can be volatile in performance but may provide some relief over a full market cycle.

U.S. Stocks

Market Performance, Fourth Quarter 2022

Index	Q4 2022	1 YR
S&P 500	7.56%	(18.11%)
Russell 1000	7.24%	(19.13%)
Russell 1000 Value	12.42%	(7.54%)
Russell 1000 Growth	2.20%	(29.14%)
Russell Midcap	9.18%	(17.32%)
Russell 2000	6.23%	(20.44%)

Source: Morningstar

- Stocks were broadly down for the year, however, there was a significant divergence in performance.
- Value stocks held up relatively well for the year and were only down (7.54%), while growth stocks were down over (29%).
- Small-cap stocks were down over (20%) for the year and are trading at historically low valuations relative to large-cap stocks. Making them an attractive option for long-term investors.

International Stocks

Market Performance, Fourth Quarter 2022

Index	Q4 2022	1 YR
MSCI EAFE	17.40%	(14.01%)
MCSI EME	9.79%	(19.74%)
MSCI BRIC	8.95%	(20.88%)

Source: Morningstar

- Foreign developed market stocks were down (14%) in 2022, and generally outperformed US stocks. Valuations are attractive for long-term investors.
- Emerging market stocks were down close to (20%), and similar to developed market stocks are attractively valued for long-term investors. We are confident emerging market stocks can outperform over the next 3 to 5 years. However, investors will need to be disciplined and patient.

Fixed Income

Market Performance, Fourth Quarter 2022

Index	Q4 2022	1 YR
Vanguard Total Bond Index	1.64%	(13.25%)
Bloomberg Muni Bond	4.10%	(8.53%)
Bloomberg US High-Yield	4.17%	(11.19%)
JPM GBI- EM Global Diversified	8.45%	(11.69%)
iShares TIPS Bond	1.81%	(12.13%)
BofA Merrill Lynch 3-month Treasury Note	0.82%	1.13%

Source: Morningstar

- The 10-year Treasury rate rose from 1.76% at the beginning of the year to 3.88%, leading to a strong sell-off in bonds across the board. The higher yields have made bonds more attractive relative to stocks as a long-term investment.
- High-yield bonds were down double digits for the year, however, we don't believe they have fully priced in recession risks. We would stay on the headlines for now.
- EM bonds have attractive yields relative to other global bond markets. However, given their volatility, we suggest leaving any direct investments to the pros.

Alternative Assets

Market Performance, Fourth Quarter 2022

Strategies	Q4 2022	1 YR
AQR Diversified Arbitrage	0.61%	(3.29%)
BNY Mellon Global Real Return	2.14%	(8.46%)
JPMorgan Hedged Equity	6.84%	(8.06%)
PIMCO All Asset	7.28%	(11.53%)
Vanguard REIT	4.32%	(26.20%)

Source: Morningstar

- We remain optimistic about alternative assets as a way to diversify portfolios and improve risk-adjusted returns. We believe alternatives can add value to portfolios over a full market cycle and are a nice complement to traditional asset classes.
- We view the real return, commodity, precious metal, and alternative strategies in general as an effective way to hedge against higher inflation.

Appendix:

Benchmark Definitions

U.S. Equity		Description
S&P 500	Index	The index includes 500 leading US companies and captures approximately 80% coverage of available market capitalization.
Russell 1000	Index	The Russell 1000 Index measures the performance of the large-cap segment of the U.S. equity universe and includes approximately 1000 of the largest securities. The Russell 1000 represents approximately 92% of the U.S. market.
Russell 1000 Value	Index	The Russell 1000 Value Index measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower expected growth values.
Russell 1000 Growth	Index	The Russell 1000 Growth Index measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.
Russell Midcap	Index	The Russell Midcap Index measures the performance of the mid-cap segment of the U.S. equity universe. It includes approximately 800 of the smallest securities based on a combination of their market cap and current index membership.
Russell 2000	Index	The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership.
International Equity		**Description**
MSCI EAFE	Index	The EAFE (Europe, Australasia, Far East) index consists of 21 developed market country indexes, excluding the US & Canada. It is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets.
MCSI EME	Index	The index is a free float-adjusted market capitalization index that is designed to measure the equity market performance of emerging markets and includes 23 emerging market countries in the index.
MSCI BRIC	Index	The index is a free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of the following four emerging market country indexes: Brazil, Russia, India, and China.

Fixed Income		Description
Vanguard Total Bond Index	Index Fund	This index measures a wide spectrum of public, investment-grade, taxable, fixed income securities in the United States—including government, corporate, and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities, all with maturities of more than 1 year.
Bloomberg Aggregate Bond	Index	The U.S. Aggregate Index covers the USD-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities. The index includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM pass-through bonds), ABS, and CMBS sectors.
Bloomberg Muni Bond	Index	The U.S. Municipal Indices cover the USD-denominated long-term tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds.
Bloomberg US Corp High-Yield	Index	The index covers the USD-denominated, non-investment grade, fixed-rate, taxable corporate bond market and excludes Emerging Markets debt.
JPM GBI- EM Global Divers	Index	The index tracks returns for actively traded external debt instruments in emerging markets. Included in the index are US-dollar-denominated Brady bonds, Eurobonds, and traded loans issued by sovereign entities.
iShares TIPS Bond	ETF	The iShares TIPS Bond ETF seeks to track the investment results of an index composed of inflation-protected U.S. Treasury bonds.
BofA Merrill Lynch 3-month Treasury Note	Index	The 3-month US Treasury Note Index is comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month, that issue is sold and rolled into a newly selected issue.
Alternative Assets		**Description**
PIMCO All Asset All Authority	Mutual Fund	The investment seeks a maximum real return, consistent with the preservation of real capital and prudent investment management. The primary benchmark for the fund is the S&P 500, with a secondary objective of the Consumer Price Index +650 basis points.
AQR Diversified Arbitrage	Mutual Fund	The investment seeks long-term absolute (positive) returns. It invests in a diversified portfolio of instruments, including equities, convertible securities, debt securities, loans, warrants, options, and other types of derivative instruments.
JPMorgan Hedged Equity	Mutual Fund	The investment seeks to capture the majority of the returns associated with equity market investments while exposing investors to less risk than other equity investments. The fund invests in a broadly diversified portfolio of common stocks, while also selling index call options and purchasing index put options.

Alternative Assets		Description
Vanguard REIT	ETF	The investment seeks to provide a high level of income and moderate long-term capital appreciation by tracking the performance of a benchmark index that measures the performance of publicly traded equity REITs.
BNY Mellon Global Real Return	Mutual Fund	The fund allocates its investments among global equities, bonds, and cash; and generally, to a lesser extent, other asset classes, including real estate, commodities, currencies, and alternative or non-traditional asset classes and strategies, primarily those accessed through derivative instruments.