CANVAS®
An investment service of O'Shaughnessy Asset Management, LLC

Q4 2022 Commentary

Index	Q4 2022	2022
MSCI All Country World	9.94%	-17.68%
Russell 1000	7.24%	-19.14%
MSCI World Ex-US	14.52%	-14.73%
MSCI Emerging Markets	11.25%	-19.89%
Russell 2500	6.61%	-19.01%
Barclays Aggregate	2.19%	-12.51%

Key Points:

- 2022 was a poor year for markets, but a great one for factors. Most factors posted outperformance in their respective universes.
- Investors favored discounted valuation, strong shareholder yield, quality, and high fundamental stability. Stocks with high dividend yield and consistent dividend growth also outperformed. Investors generally shunned dilutive, expensive stocks with poor financial strength.
- We expect monetary and macro developments will continue to generate higher than normal market volatility in the coming quarters, but think the emphasis may move away from inflation and towards growth.
- In our Outlook section we review three historical types of bear markets, the battle for inflation, and some scenarios for 2023.

Q4 Developments

2022 was a pivotal year for the global economy and capital markets. Looking back in a decade, 2022 will bookmark the end of the post-GFC era. This era was shaped by ample liquidity, low discount rates, globalization, and disinflation. Fundamentals had little bearing on stock portfolio performance and allocators struggled to generate value without moving out on the risk spectrum. Passive investing was king as the tide of multiple expansion lifted all boats.

Yet, a great investing mistake over the next decade may be using the previous decade's playbook. 2022 marked the beginning of a new paradigm with an actual cost of capital, above-trend inflation, and de-globalization. The watershed event was the Fed's dispensing with the word "transitory" in late 2021. Features of the current regime argue for greater uncertainty, corporate earnings headwinds, and higher capital market volatility moving forward.

Market sentiment broadly falls into two polarizing camps:

- **Inflationistas**: Raging inflation will overtake an under-aggressive Fed, crushing equity markets in a never-before-seen catastrophe.
- **Deflationistas**: An over-aggressive Fed will continue to tighten into a deflationary price spiral that will crush equity markets in a never-before-seen catastrophe.

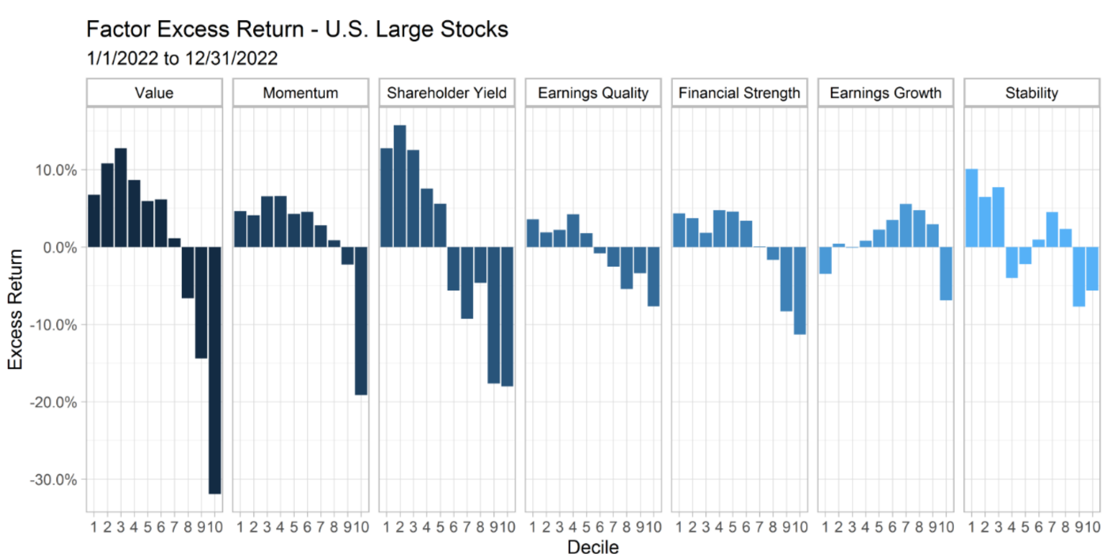
That might be a particularly enticing cocktail party conversation, but we view current market activity as a reversion to what is historically more "normal". The post-GFC monetary experiment was an aberration, not the historical norm, and the idea of a new regime excites us. We have always believed that fundamentals are rewarded in the long-term, while accepting short-term volatility as the cost of meeting clients' ultimate objectives. While we don't know which camp will win, if either, we look forward to a spirited debate in the coming quarters.

Markets tend to do what hurts the largest number of short-term participants. There is a logic in this adage. "Weak hands" is a reference to market participants that either lack conviction or the resources to maintain positions, but can also be tied to levered price agnostic participants—market makers, CTAs, and volatility control funds. The influence of weak hands is dependent on ample liquidity and leverage in the system. As trillions of dollars flew into capital markets through monetary and fiscal stimulus during COVID, leverage and liquidity reigned supreme. While these flows can dominate in the short-term, underlying cash flows and fundamentals should dominate in the long term.

Factor Trends

There is no better embodiment of this adage than the decimation of the high-flying growth stocks of the post-GFC era. Not believing that the Fed would follow through on its newfound inflation fighting mantra, participants bid up growth stocks to dizzying multiples. At year-end 2021, the Russell 1000® Growth Index trailing price-to-earnings (PE) ratio was 39.3x, a 41% premium to the broad market.

All this changed in 2022. Based on our own factor definitions, the performance spread between the cheapest and most expensive stocks was nearly 40% on the year! Stocks that were returning capital to shareholders through dividends and buybacks (strong Shareholder Yield) outperformed their counterparts not paying dividends and diluting shareholders by about 30%.



Source: Compustat, OSAM Research

Early in the year, a contrarian may have believed that elevated inflation could cause the Federal Open Market Committee (FOMC) to take a more hawkish stance than was priced in at the time. Such a view would have dramatic implications for what was to come. We know from previous inflationary bouts that multiple compression is a key feature of high inflation regimes. The table below buckets observations of trailing 12-month inflation observations and shows the associated earnings multiple compression.

Trailing 12-month Inflation Observations (1926-2021)

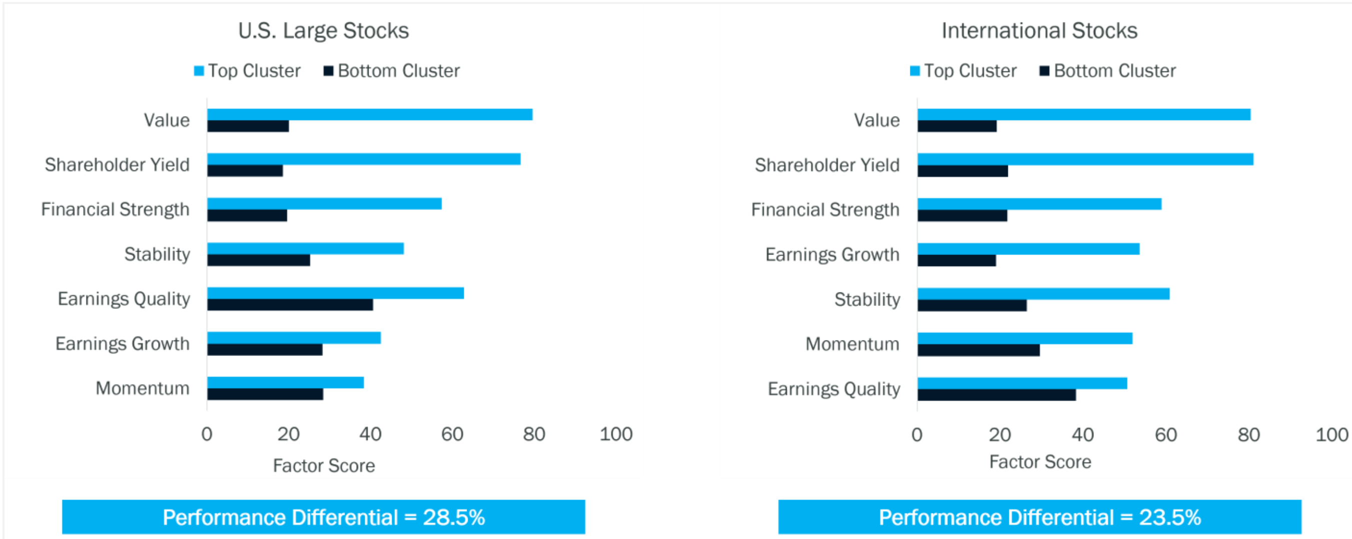
	Inflation	Average Equity Earnings Multiple	% Change
1	-3.9%	19.8	32%
2	0.4%	19.0	17%
3	1.3%	19.6	4%
4	1.8%	20.8	6%
5	2.3%	19.3	4%
6	2.9%	19.0	0%
7	3.5%	17.8	3%
8	4.4%	15.6	3%
9	6.3%	13.5	-1%
10	11.1%	9.4	-10%

Source: Shiller Data, Compustat, OSAM Calculations

And we absolutely experienced that on the growth side of the ledger in 2022. Growth company earnings shrank 8% while multiples contracted 30%.

As we have done in the past, we armed a clustering algorithm with factor scores across the various universes we monitor and asked it to group stocks based only on their characteristics at the start of 2022. The algorithm created four groups for which we tracked returns throughout 2022. No rebalancing occurred. This analytical exercise helps us get a sense for complex combinations of factors that the market is emphasizing.

The figure below shows the factor scores for the top and bottom performing clusters of 2022 in domestic and international markets. For example, within U.S. Large Stocks, the top performing cluster had a value factor score of about 80, which signifies it was on average *cheaper* than 80% of the market. The bottom cluster clocked in with a value score of about 20, signifying it was *more expensive* on average than 80% of the market. The top performing cluster outperformed the bottom one by 28.5% on the year.



Source: Compustat, OSAM Calculations

The interesting part is the interaction of factors in the top and bottom clusters and the consistency across global markets.

1. Top performing stocks were cheap, returning capital to shareholders, had strong balance sheets relative to peers, and on average had more stable underlying volatility of revenues and cash flows. Northrup Grumman, the defense contractor, is one such example in the U.S.

2. Bottom performing stocks were expensive and highly dilutive to shareholders. They were less financially stable than peers and had more volatile underlying business metrics. Carvana, the used car dealer, is a prime example.

Though dividend growth and dividend yield are not included in the analysis above, their return profile tends to be on par with our Stability theme, and they both generated substantial excess in 2022. The key takeaway here is that investors are keying in on multiple themes that tie back to the fundamentals of the company in a rising rate environment.

Outlook

As predominantly long-only equity investors, it's a hard pill to swallow, but history says that this bear market may have legs. Since 1835, the overall average duration for bear markets is about 24 months. We can break those down into three distinct types[1]:

- **Cyclical:** These are business cycle driven and usually triggered by monetary tightening (rising rates), fear of recession, and falling profits. They usually resolve with monetary easing (falling rates).
- **Event-driven:** A short-term rise in uncertainty is caused by an exogenous shock—war, price surges, pandemics.
- **Structural:** An unwind of imbalances that is preceded by unusual strength in the economy (bubble). Resolution occurs when the imbalances are unwound, not directly by monetary easing. This type of bear market is the longest in tenure, deepest, and most volatile.

[1] Oppenheimer, P. (2020) *The Long Good Buy*

The table below illustrates some key characteristics of the types of bear markets from 1926-2021. To be fair, 15 cycles a statistically robust analysis this does not make, but we do believe it can inform expectations.

	Observations	Avg Months *(Peak to Trough)*	CPI Change	EPS Change	PE Multiple Change	Nominal Stock Return	Nominal Bond Return
Bulls	15	60	3.4%	10.3%	8.3%	23.0%	4.8%
Cyclical Bear	4	16	2.8%	-2.0%	-26.0%	-9.3%	3.9%
Event Driven Bear	5	7	3.1%	2.1%	-17.6%	-14.7%	3.5%
Structural Bear	5	32	3.5%	-31.1%	-39.2%	-26.0%	6.3%

Source: Shiller Data, OSAM Calculations. Notes: 1926-2021. CPI and returns > 12 months are annualized. Cyclical Bear EPS Change excludes WWII recovery; Structural Bear PE Multiple Change excludes GFC

Given the post-GFC run-up in valuations, a marked shift in inflation dynamics, an aggressive Fed, and the strong potential for some form of de-globalization, we are most likely about halfway through a structural bear market that started in late 2021. Though certainly painful from an absolute return perspective, bears help the market clear on a long-term basis and are healthy in setting the stage for future growth. One could plausibly argue that the next true bull market will be generational in nature.

If we are, in fact, in a structural bear market, a natural question would be *what is the imbalance to unwind?* For this episode, it is likely some combination of valuations, leverage, and liquidity.

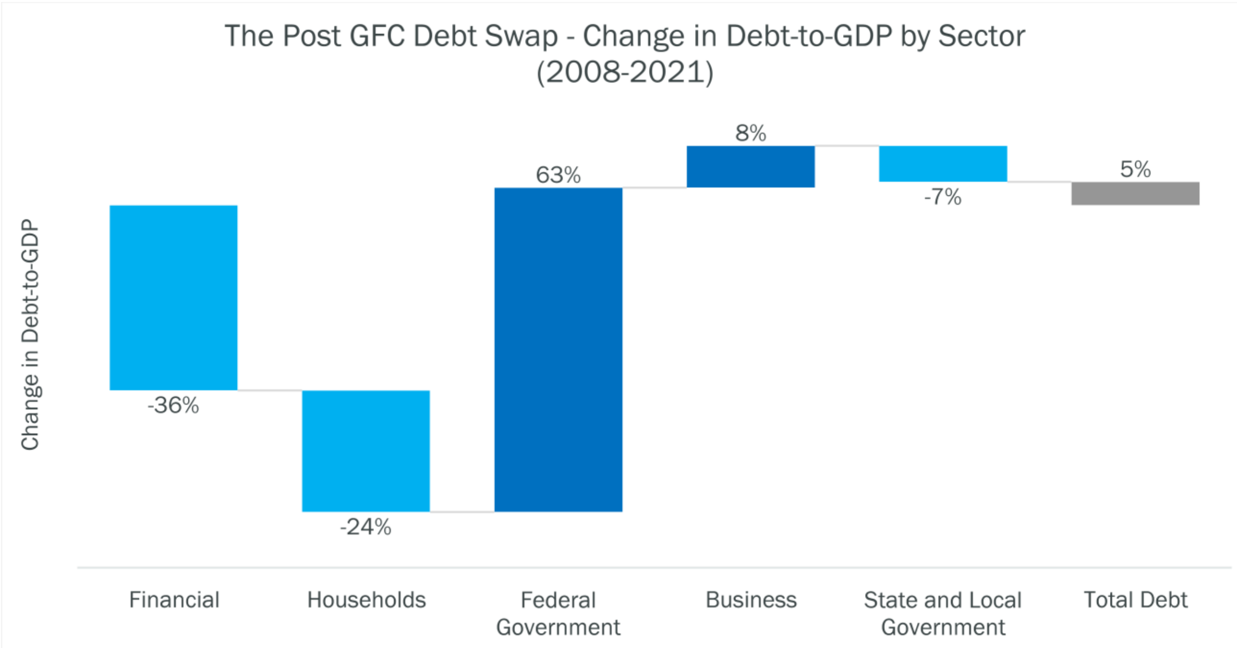
Valuations:

With CPI inflation currently at 7.1% over the trailing year, we sit at about the 9th decile for inflation back to 1926.[2] The average PE ratio across observations in the 9th decile is 13.5x, 30% lower than the current PE ratio of 19.5x. This suggests that continued multiple compression may be warranted if inflation persists above approximately 5%.

Leverage:

The final phases of the Great Moderation (2000-2007) resulted in a tremendous rise of leverage in the private sector. As can be seen in the chart below, since the GFC, and notably since COVID, we have undergone a massive private-to-public debt swap as the Federal government has absorbed private sector liabilities and distributed stimulus.

2 U.S. Bureau of Labor Statistics, November 2022



Source: Compustat, OSAM Calculations

Fortunately, the Federal government is a "Strong Hand" and has no need to mark its liabilities to market as the private sector does. Additionally, they have the envious ability to print money via the Federal Reserve to meet future commitments, spur inflation, and therefore, erode the value of those liabilities through inflation. As was the case following World War II, inflation was the tool that allowed the Federal government to de-lever over the ensuing decades.

Liquidity:

The public-for-private debt swap took place in reaction to the pandemic. COVID stimulus and economic relief packages amounted to 43% of GDP, rivalling only the New Deal in scale.[3] The stimulus filled the coffers of business and consumers, shoring up balance sheets at a time when needed most. At some point, the excess needs to be worked off. For all intents and purposes, the Fed balance sheet is a decent proxy for liquidity in the system.

The current path of quantitative tightening of $95 billion per month suggests the Fed balance sheet will decline to its pre-COVID level in early 2027. While not an immediate concern, retirement of that debt could cause a persistent headwind to financial conditions as it reduces the amount of available collateral in the system, removes support from housing (MBS run off), and potentially puts a ceiling on the amount of Treasury issuance should foreigners not be willing to step up in Treasury auctions.

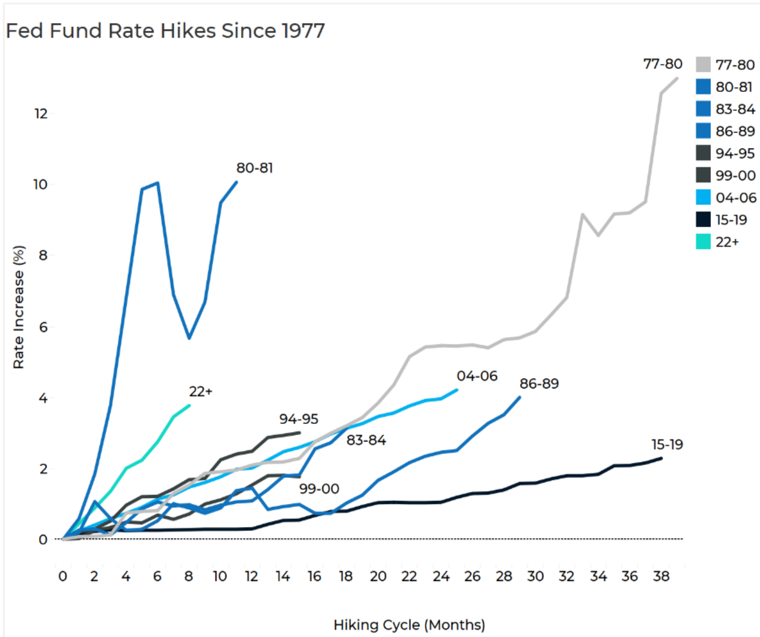
Any sort of hiccup in this plan of balance sheet reduction (a la 2018/2019) could result in a new paradigm of quantitative easing or yield curve control even though interest rates are above the 0% bound.

The Battle for Inflation

At the end of 2021, the median FOMC projection for the December 2022 Fed Funds rate was 1.0%, well off the current 4.25%-4.5% target (see figure below). As inflation morphed from transitory "cost-push" (supply-shortage driven) to "demand pull" (re-opening demand, generous fiscal and monetary stimulus, and increased inflation expectations), the Fed leaned into demand destruction as a blunt force instrument to tame inflation.

3 Federal Reserve Bank of St. Louis

They've now front-loaded rate hikes at a more aggressive pace than all but the Volker hikes of the early 1980s (see figure below) and are likely shift to a more measured approach as the ramifications of those hikes play out. Given that the early 1980's hiking cycle commenced with Fed Funds at 9.0%, 2022's hiking campaign is arguably the most aggressive in 50 years.



Source: Compustat, OSAM Calculations

As of this writing, futures markets are still pricing in a December 2023 Fed Funds rate that is below the Fed's most recent projections despite Fed rhetoric and the fact that no inflationary episode has come under control without the real rate rising above core inflation.

This is notable given that the yield curve, as measured by the spread between 10-Year and 3-Month Treasury yields, is -0.6%. The average spread is 1.44% over the last 70 years, suggesting a 10-Year Treasury yield target of around 6.0% once the yield curve starts to steepen. Note that yield curve steepening usually occurs *in advance of* an actual recession. If the steepening plays out as it historically has, it would favor tilts to value and shareholder yield.

What Now?

Though much of this commentary has focused on seemingly negative aspects of the current situation, it should be noted that despite all the difficulty experienced this year—the highest inflation in decades, an aggressive Fed, a European Energy crisis, FX market intervention from the Bank of Japan, a 20% spike in the U.S. dollar, and a war in Eastern Europe—equity markets are "only" down ~20% on the year. That's incredible resilience given what has occurred!

The next bull market will come, we just don't know when. Until that time, monetary policy will continue to drive increased volatility—the four-decade trend of disinflation, lower rates, and higher debt will take time to unwind. Higher-for-longer-rates and contracting liquidity could keep a lid on equity markets until some sort of monetary policy resolution. Inflation will likely drift to lower levels, which will shift investor attention to a potential recession, its depth and length. Below are a few scenarios for the year ahead and how they might impact stocks.

Worst Case

A worst-case scenario would involve a reacceleration in inflation as growth slows. This could invite the Fed to be more aggressive and the dollar to strengthen. Higher inflation could be driven by a rapid China re-opening, or a Russia-supplied commodity shock, which would extend the declines in stocks and bonds. On the equity side, this scenario would favor an allocation bias to the U.S., shareholder yield, higher quality, and fundamental stability.

Base Case

A base case would be the Fed actually doing what it has stated it will do—maintaining policy rates for longer than the market is currently pricing. The real Fed funds rate is not even in positive territory and liquidity, as proxied by the amount of cash in reverse repo ($2.2T), is not restrictive. Consumer balance sheets are strong and the recent decline in oil prices has been a boon to the consumer. This situation points to two-way action throughout the year as market sentiment swings between extremes. Within equities, this base case would favor a bias to value, shareholder yield, high quality, dividends, and fundamental stability.

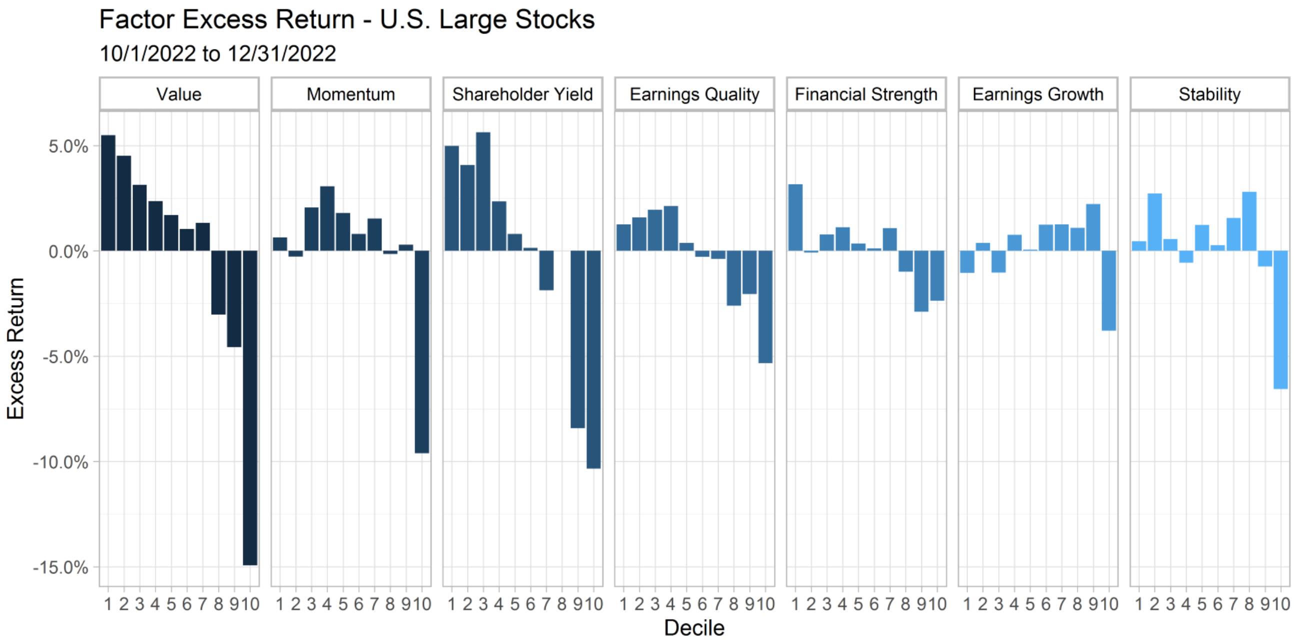
Best Case

Employment teeters in 2023 but does not tumble. Corporate earnings grow at reasonable rates as China's re-opening helps reinvigorate global growth and S&P 500 profits. The Russia-Ukraine situation resolves and strains on global supply chains ease, which helps corporate margins to deal with increased interest costs. The Fed begins to telegraph the possibility of rate cuts at some point in mid-2023 as inflation settles in around 3%, which eases dollar strength and global liquidity pressures. This scenario would likely result in a new bull market in equities that favors the most beaten down names of 2022 and general categories that have lagged the post-COVID U.S. rebound—mega cap tech, momentum, and developed and emerging markets.

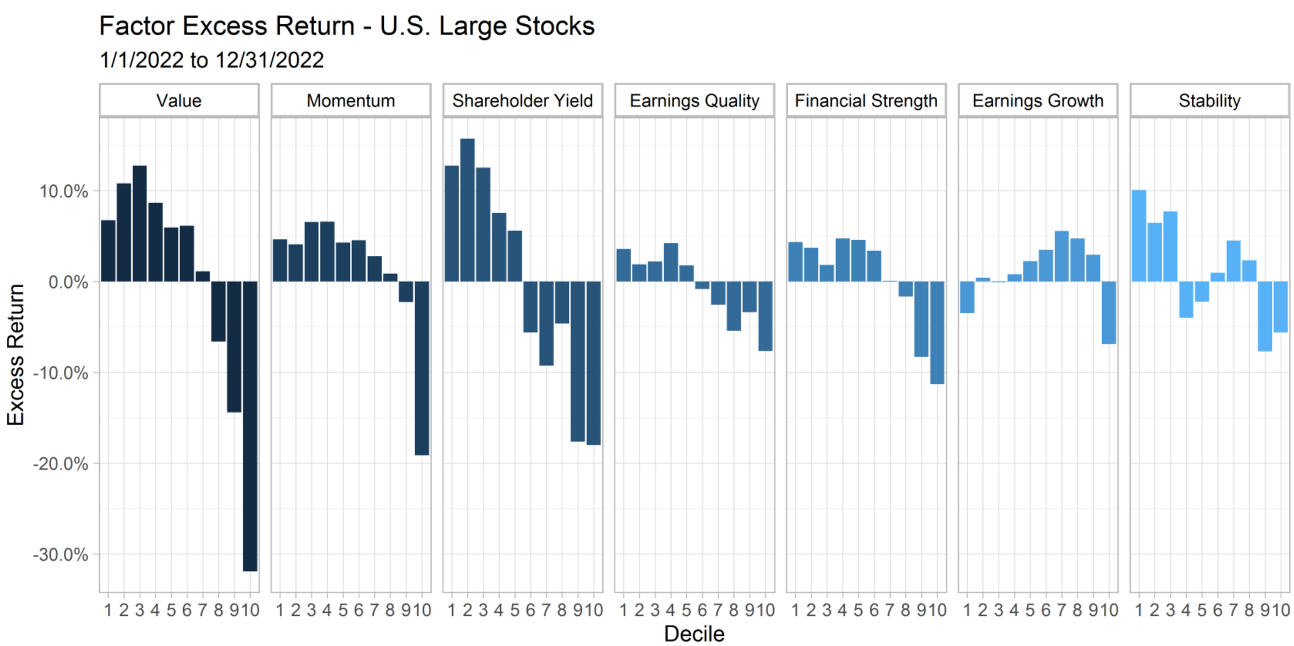
Factor Performance

The charts below show the excess performance of the factor themes we monitor within each of our stock universes. We think of Value, Momentum, and Shareholder Yield as selection factors—helping identify stocks we want to own and overweight for generating total return. Earnings Quality, Financial Strength, and Earnings Growth are quality factors that allow us to avoid stocks with non-cash driven earnings, weak balance sheets, and questionable underlying businesses. Stability is a selection factor for identifying stocks that tend to exhibit lower volatility and historically provide improved downside capture during market drawdowns. Column 1 for each of the panels represents the highest-ranking stocks on each factor while column 10 shows the lowest ranking. Historically, owning the highest ranked stocks and avoiding the lowest ranked stocks has resulted in successful investment outcomes.

U.S. Large Stocks



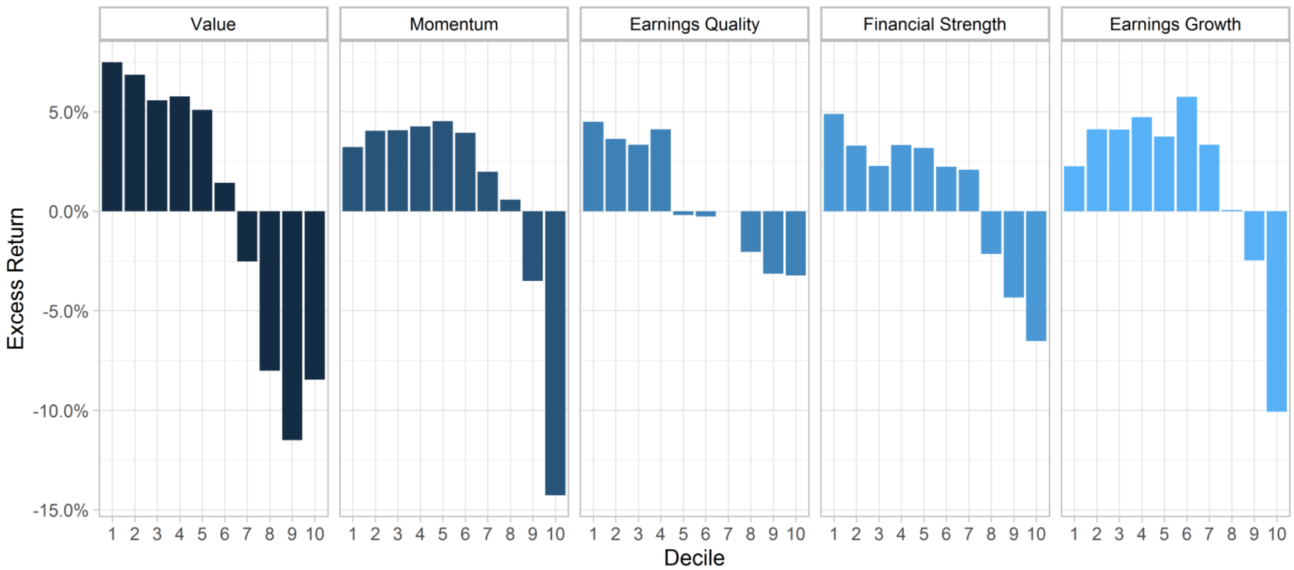
Source: Compustat, OSAM Research



Source: Compustat, OSAM Research

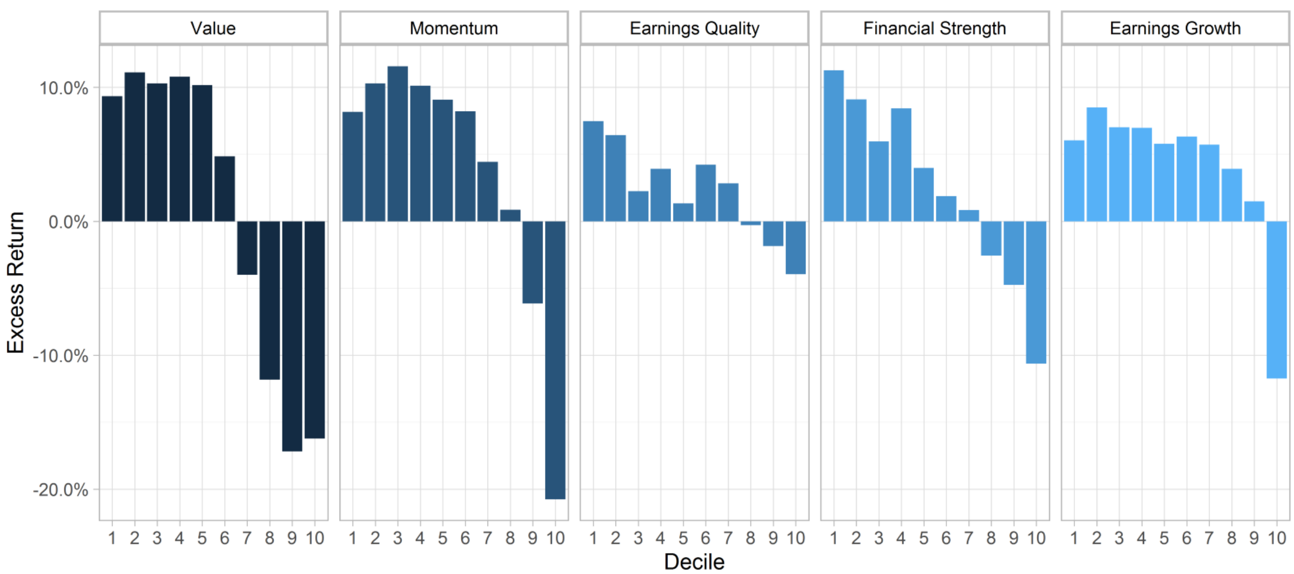
U.S. Small-Mid Stocks

Factor Excess Return - U.S. Small-Mid Stocks
10/1/2022 to 12/31/2022



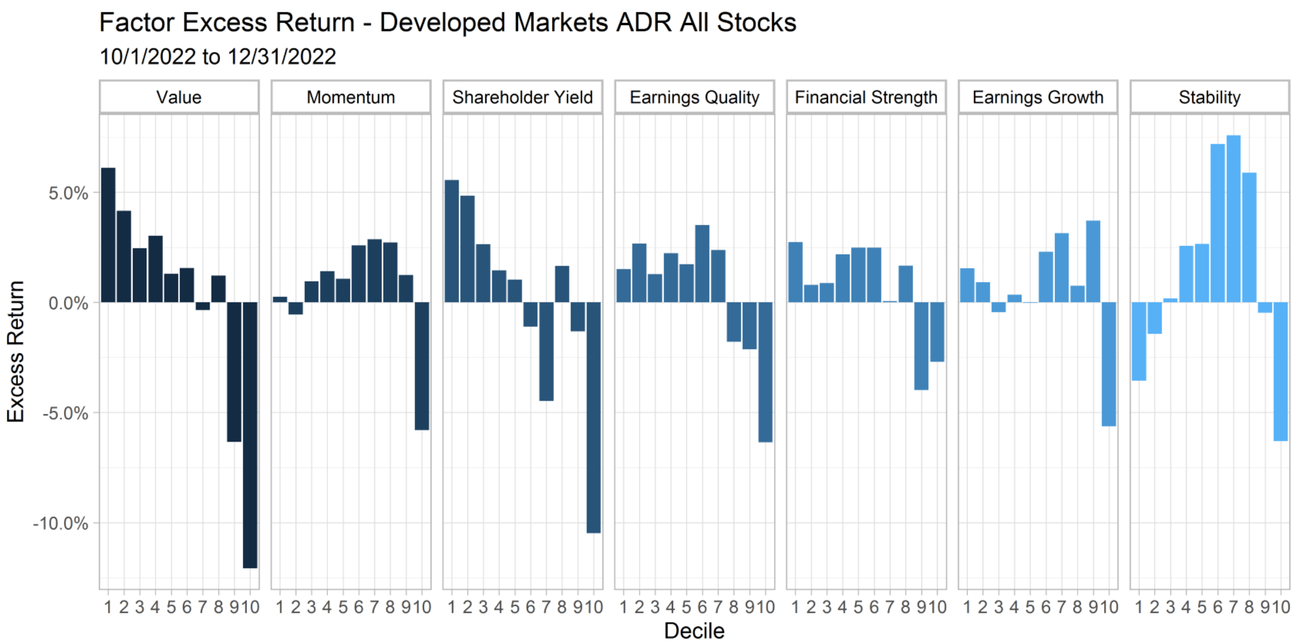
Source: Compustat, OSAM Research

Factor Excess Return - U.S. Small-Mid Stocks
1/1/2022 to 12/31/2022

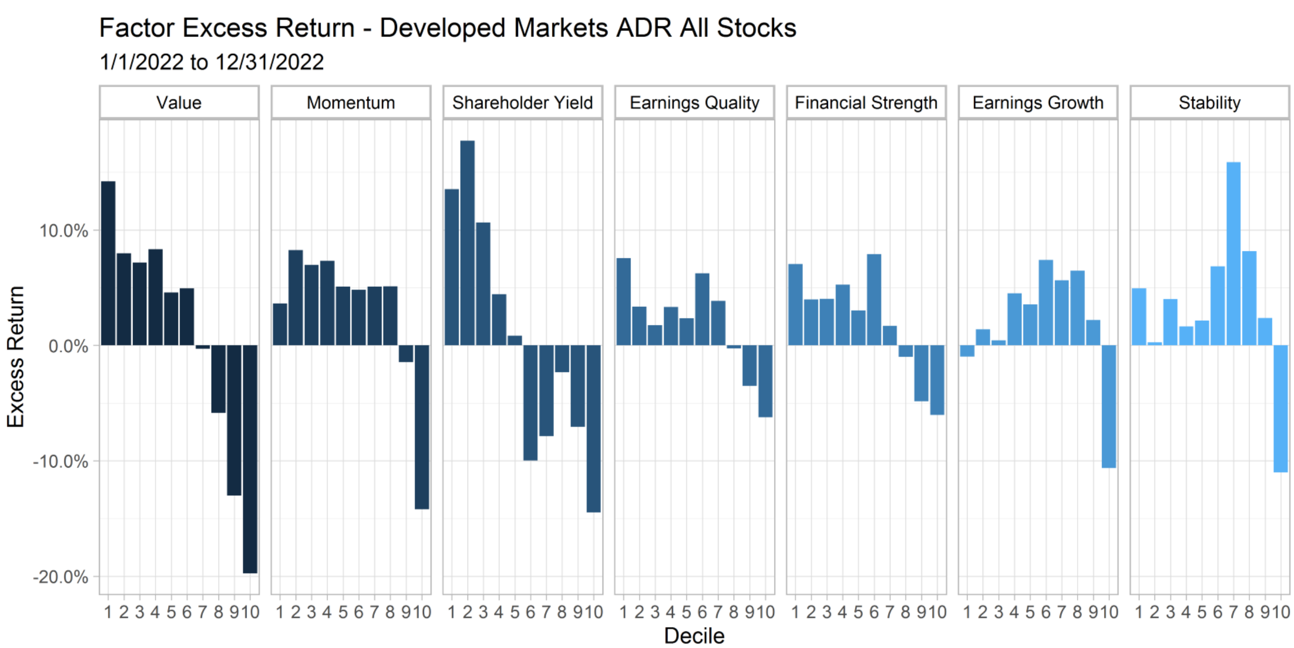


Source: Compustat, OSAM Research

Developed Markets ADR All Stocks

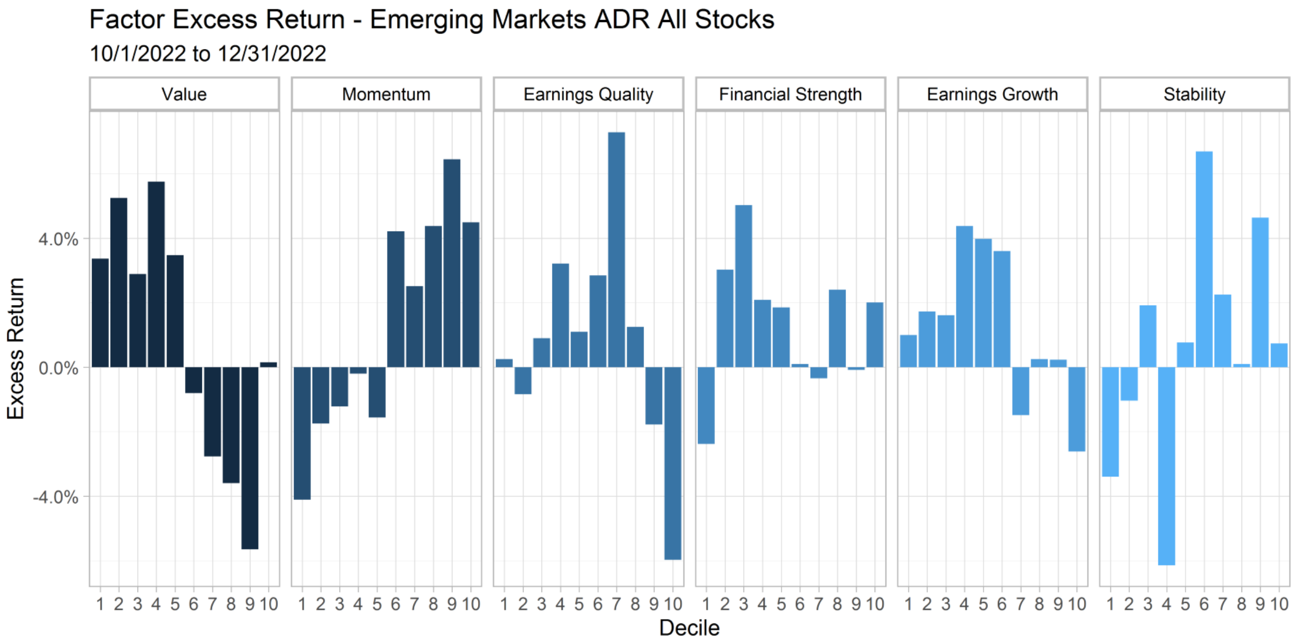


Source: Compustat, OSAM Research



Source: Compustat, OSAM Research

Emerging Markets ADR All Stocks



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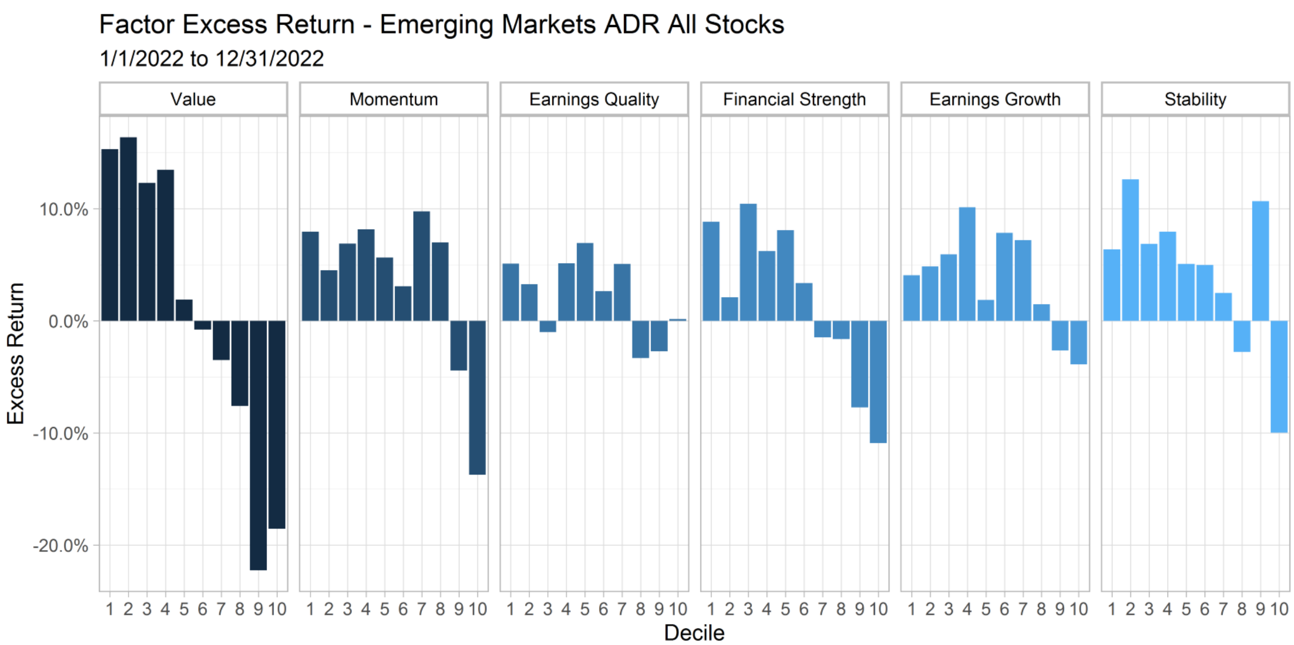
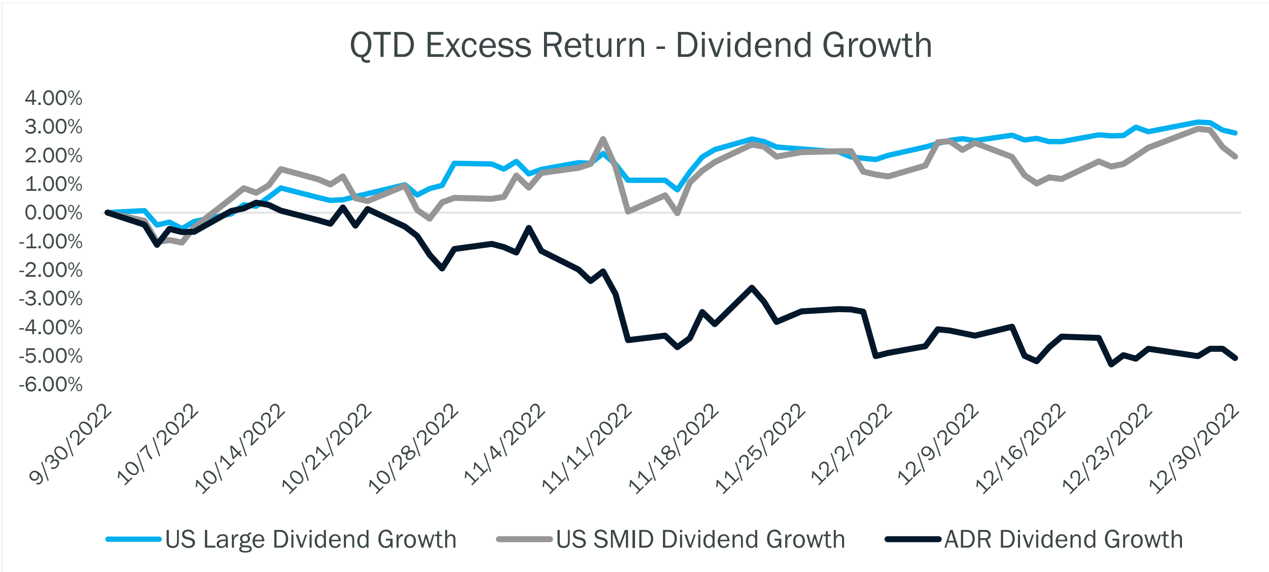
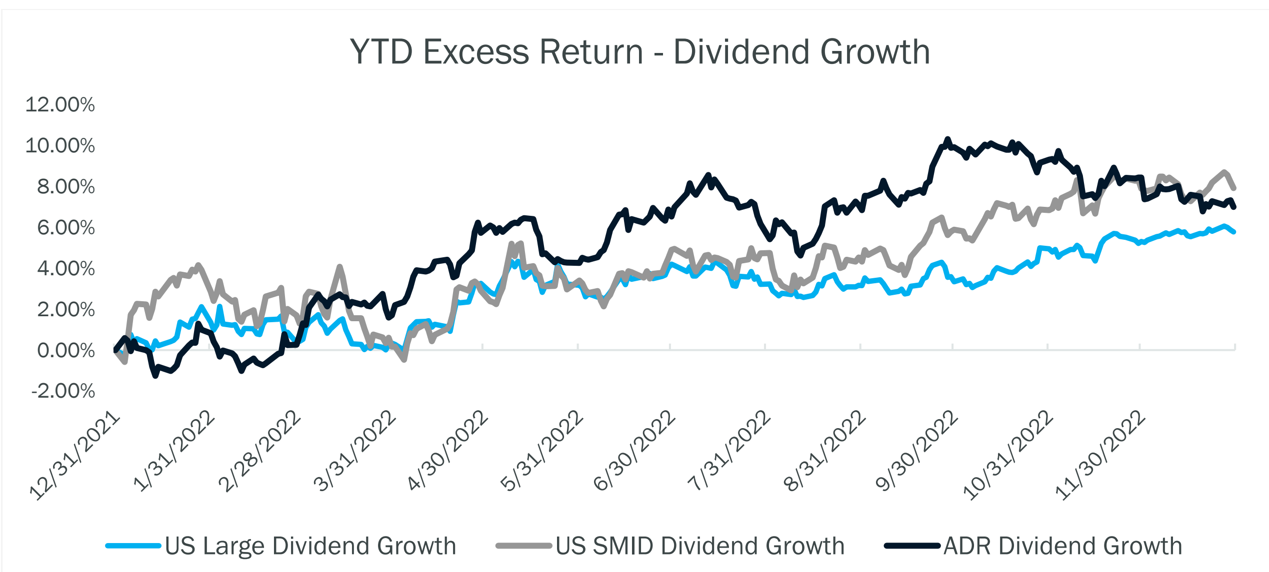


Source: Compustat, OSAM Research

Dividend Growth



Source: Compustat, OSAM Research



Source: Compustat, OSAM Research

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OSAM CONTACT INFORMATION:

O'Shaughnessy Asset Management, LLC ▪ Six Suburban Avenue ▪ Stamford, CT 06901 ▪ 203.975.3333 Tel ▪ 203.975.3310 Fax

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OSAM does not maintain actual historical performance results for the Models. In order to help assist the investment professional in determining whether a Model is appropriate for the professional's client, OSAM has provided **back-tested hypothetical (i.e., not actual)** performance for the Model. OSAM, with minor deviations that it does not consider to be material*, currently uses the Models **(i.e., live models vs. the reflected back-tested versions thereof)** to manage actual client portfolios (**see Model Deviations below**). The performance reflects the current Model holdings, which are subject to ongoing change.

Material Limitations: The Performance is subject to material limitations. **Please see Hypothetical/Material Limitations below.** During any specific point in time or time-period, the Models, as currently comprised, performed better or worse, with more or less volatility, than corresponding recognized comparative indices, benchmarks or blends thereof.

Past performance may not be indicative of future results. Therefore, it should not be assumed that future performance of any specific investment or investment strategy (including the Models), will be profitable, equal any historical index or blended index performance level(s), or prove successful. Historical index results do not reflect the deduction of transaction and custodial charges, or the deduction of an investment management fee, the incurrence of which would have the effect of decreasing indicated historical performance results. The Russell 3000 is a market capitalization-weighted index of 3000 widely held large, mid, and small cap stocks. Russell chooses the member companies for the Russell 3000 based on market size and liquidity. The MSCI All Country World Index is a market capitalization weighted index designed to provide a broad measure of equity-market performance throughout the world. The MSCI is maintained by Morgan Stanley Capital International and is comprised of stocks from 23 developed countries and 24 emerging markets. The Barclays Capital Aggregate Bond Index is a market capitalization-weighted index, meaning the securities in the index are weighted according to the market size of each bond type. Most U.S. traded investment grade bonds are represented. Municipal bonds and Treasury Inflation-Protected Securities are excluded, due to tax treatment issues. The index includes Treasury securities, Government agency bonds, Mortgage-backed bonds, corporate bonds, and a small amount of foreign bonds traded in U.S. The historical performance results for the Russell 3000, MSCI and Barclays are provided exclusively for comparison purposes only, to provide general comparative information to help assist in determining whether a Model or other type strategy (relative to the reflected indices) is appropriate for his/her investment objective and risk tolerance. **Please Also Note**: (1) Performance does not reflect the impact of client-incurred taxes; (2) Neither Model or the selected strategy holdings correspond directly to any such comparative index; and (3) comparative indices may be more or less volatile than the Model or selected strategy.

Hypothetical/Material Limitations-performance reflects hypothetical back-tested results that were achieved by means of the retroactive application of a back-tested portfolio and, as such, the corresponding results have inherent limitations, including: (a) the performance results do not reflect the results of actual trading using investor assets, but were achieved by means of the retroactive application of the Model or strategy (as currently comprised), aspects of which may have been designed with the benefit of hindsight; (b) back tested performance may not reflect the impact that any material market or economic factors might have had on OSAM's (or the investment professional's) investment decisions for the Model or the strategy; and, correspondingly; (c) had OSAM used the Model to manage actual client assets (or had the investment professional used the selected strategy to manage actual client assets) during the corresponding time periods, actual performance results could have been materially different for various reasons including variances in the investment management fee incurred, transaction dates, rebalancing dates (increases account turnover), market fluctuation, tax considerations (including tax-loss harvesting-increases account turnover), and the date on which a client engaged OSAM's investment management services.

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- determining the initial and ongoing suitability of the Strategy for the client;
- devising or determining the specific initial and ongoing desired Strategy;
- monitoring performance of the Strategy; and,
- modifying and/or terminating the management of the client's account using the Strategy.

Hypothetical Limitations: To the extent that the investment professional seeks for CANVAS to provide hypothetical back-tested performance, material limitations apply-***See above***.

Model Deviations: As indicated above, OSAM, with minor deviations that it does not consider to be material*, currently use the Models to manage actual client portfolios (i.e., the live Models). The deviations include:

- the use of proxies if and when an ETF used in the back-test was not available*. While the back-tested and live strategies both utilize the same investment themes, back-tested proxies can deviate from live models based on limitations of historical information;
- back-tested data presented utilizes a month-end rebalance while actual live model performance reflects intra-month rebalances;
- OSAM, as a discretionary manager, can update its live models as determined necessary. These changes will then be applied retroactively to back-tested models, the resulting performance of which would be different than that of the actual historical models-***see*** Hypothetical/Material Limitations above; and,
- Financial statement information may be restated over time, which information was not reflected in the historical back-tested models. Companies will also have mergers and acquisitions or other corporate events that can retrospectively affect the names and corporate identities of organizations in the historical back-tests. Data providers providing pricing and return information may update historical data upon discovering deficiencies or omissions.

Strategy Sampling Impact: The implementation of OSAM strategies utilize a sampling of the underlying individual Strategy positions, and, as the result thereof, the underlying securities' weighting could unintentionally deviate +/- the Strategy allocation target OSAM calculates the CANVAS fees based on the mix of strategies that are utilized at the establishment of the account. Therefore, the sampling approach can cause deviations between the Canvas strategy allocation establishment (and its corresponding fee) and the implementation of that CANVAS strategy.

ESG Portfolios/Socially Responsible Investing Limitations. To the extent applicable to the strategy chosen by the investment professional, Socially Responsible Investing involves the incorporation of Environmental, Social and Governance considerations into the investment due diligence process ("ESG). There are potential limitations associated with allocating a portion of an investment portfolio in ESG securities (i.e., securities that have a mandate to avoid, when possible, investments in such products as alcohol, tobacco, firearms, oil drilling, gambling, etc.). The number of these securities may be limited when compared to those that do not maintain such a mandate. ESG securities could underperform broad market indices. Investors must accept these limitations, including potential for underperformance. Correspondingly, the number of ESG mutual funds and exchange-traded funds are few when compared to those that do not maintain such a mandate. As with any type of investment (including any investment and/or investment strategies recommended and/or undertaken by OSAM), there can be no assurance that investment in ESG securities or funds will be profitable or prove successful.

Tax Management Function: When requested by the investment professional, OSAM will use best efforts to work within Onboarding Budgets, Annual Tax Budgets, and Tracking Error Budgets. However, market and/or specific stock price fluctuations can occur quickly and can correspondingly adversely affect our ability to manage to specified budgets. Additionally, changes to tax budgets, cash flows in and out of an account, mandatory corporate actions, and funding with securities can also impact preciseness. The investment professional must accept this risk. In addition:

- OSAM has not, and will not, verify the accuracy of any tax-related information provided;
- In the event that any such information provided is inaccurate or incomplete, the corresponding results will be inaccurate or incomplete;
- Tracking Error Budgets are relative to the Model, not the benchmark;
- OSAM is not a CPA and this is not tax advice;
- Tax laws and rates change;
- While we seek to follow the investment professional prescribed target models, ranges, timeframes, tax budgets, and seek not to create wash sales or exceed expected tax budgets, there can be no assurance that the CANVAS tool will be able to accurately do so;; and,
- For specific personalized tax-related advice, consult with a CPA or other tax professional.

Fixed Income ETF Model-The models are constructed using passive fixed income ETFs. The models attempt to target varying levels of duration and credit exposure relative to the Barclays Aggregate Index. The expense ratios of the underlying ETF's are born by the investor and are separate and apart from CANVAS related fees.

Miscellaneous Limitations/Issues:

- Results in the Transition Portal reflect expense ratios corresponding to the specific funds indicated/provided by the investment professional. Expense ratios are provided by an unaffiliated database. Results also reflect projected future yields corresponding to such current indicated funds. Such data may not be precise;
- The risk-free rate used in the calculation of Sortino, Sharpe, and Treynor ratios is 5%, consistently applied across time;
- OSAM did not begin to offer CANVAS until April 2019. Prior to 2007, OSAM did not manage client assets; and,
- A copy of OSAM's written disclosure Brochure, Form CRS and Privacy Notice remains available on this CANVAS website or at www.osam.com.

Release and Hold Harmless

The professional, to the fullest extent permitted under applicable law, agrees to release, defend, indemnify and hold OSAM (including its officers, directors, members, owners, employees, agents, and affiliates) harmless from any and all adverse consequences, financial or otherwise, of any type or nature arising from or attributable to the professional's access to, and use of, CANVAS, including, but not limited to, any claims for alleged or actual client losses or damages of any kind or nature whatsoever (including without limitation, the reimbursement of reasonable attorney's fees, costs and expenses incurred by OSAM relating to investigating or defending any such claims and/or demands), except to the extent that actual losses are the direct result of an act or omission by OSAM that constitutes willful misfeasance, bad faith or gross negligence as adjudged by a court of final jurisdiction.

*except in the unlikely event that the performance of the proxy used in lieu of the actual ETF was materially different (positive or negative)

Lastly, please be advised, without limitation, OSAM shall not be liable for Losses resulting from or in any way arising out of (i) any action of the investor or its previous advisers or other agents, (ii) force majeure or other events beyond the control of OSAM, including without limitation any failure, default or delay in performance resulting from computer or other electronic or mechanical equipment failure, unauthorized access, strikes, failure of common carrier or utility systems, severe weather or breakdown in communications not reasonably within the control of OSAM, inaccuracy or incompleteness of any third-party data, or other causes commonly known as "acts of God," or (iii) general market conditions. Under no circumstances shall OSAM be liable for consequential, special, incidental or indirect damages, punitive damages, or lost profits or reputational harm. Additionally, the responsibility solely rests on the "master user" of CANVAS at each independent firm, and NOT OSAM, to close out any associated users who may terminate at any time.

O'Shaughnessy Asset Management, LLC (OSAM) is a wholly owned subsidiary of Franklin Resources Inc./(Franklin Templeton).

Composite Performance Summary

For the full composite performance summary of this strategy. please follow this link: http://www.osam.com

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