Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

MARCH 2022

Active Management Environment

Table of Contents

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The active management environment

Our work on active management addresses some shortfalls of the traditional analysis, which uses the median product to describe the active management universe as a whole.

These improvements and insights have allowed us to better understand product behavior and may allow for more informed selection in the future. For first time readers, an introduction to our active management research and methodological details can be accessed by visiting https://www.verusinvestments.com/active-management-environment-supporting-material-2/ . For those familiar with the new approach, please read on.

— Even without skilled selection there are many cases where active management may help investors achieve better portfolio outcomes in risk and return terms.

— Those better portfolio outcomes may come from additional return or lower risk. Not all investors have the same definition of better outcomes, and the risk/return trade-offs vary by universe.

— Adding skilled selection to the process may add additional value in portfolio construction.

— Fees remain an important part of the active management conversation. Fees and survivorship bias should be taken into account when analyzing active universes.

Using median product (median manager) performance to decide whether active management is beneficial can be misleading. This new tool can help investors make more informed decisions.

What changed for 2022?

— Global markets delivered a strong recovery in 2021, as economic activity expanded, corporate earnings grew considerably, and investor optimism pushed risk asset prices higher. There does seem to be light at the end of the tunnel, as vaccinations have proven effective and the economic effects of the pandemic have begun to subside. Furthermore, it seems many potential catastrophes have been avoided—a national wave of evictions/foreclosure did not come to fruition, the job market has strengthened considerably, and domestic airline businesses remain intact, to name a few. There is a growing desire to move back towards normal life, and to put the pandemic in the rearview mirror.

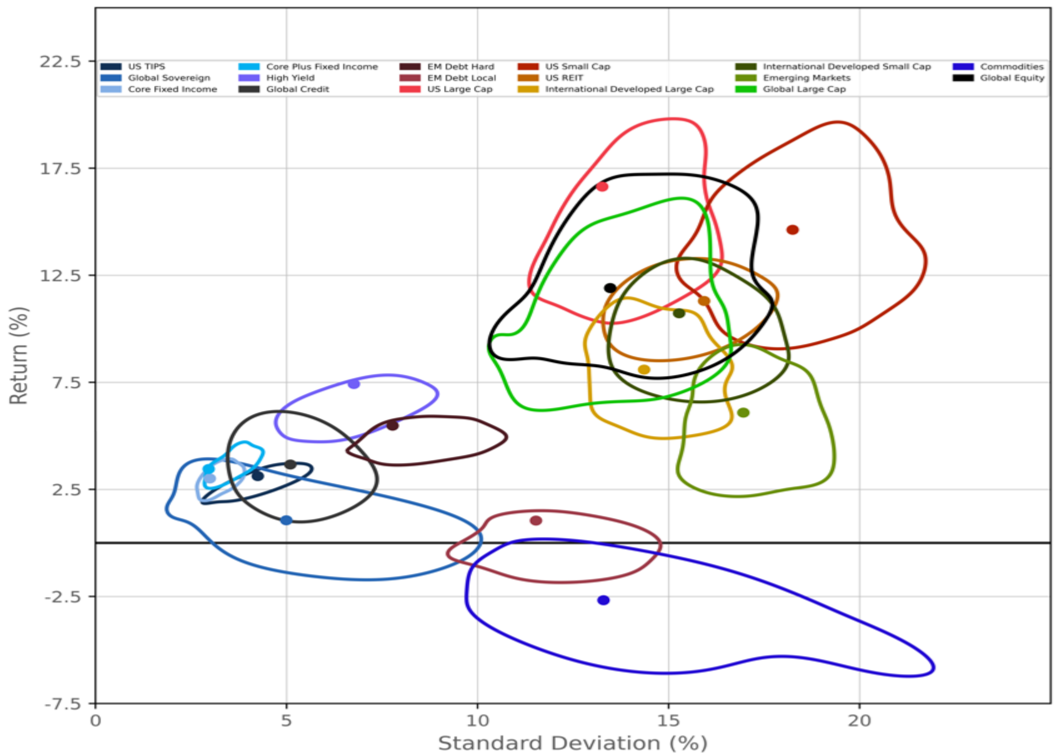
— Most active universe behavior in this analysis continues to suggest that managers who took more risk than the benchmark were not necessarily compensated with additional return. In fact, in many asset classes there has been a negative relationship between risk and return (i.e. managers who chose to take more risk than their benchmark underperformed that benchmark, on average). This risk-reward relationship may provide helpful context to investors throughout the manager selection process.

— Readers of our 2022 Active Management Environment may observe greater recent performance dispersion in many asset classes (compare 3-year to 7-year universe behavior, for example). Tumultuous market and economic activity has amplified the consequences of active manager bets, and has allowed skilled managers to stand out. In simple terms, the performance difference across active managers has been much wider recently, meaning greater payoff from successful active management.

The true investment opportunity set

Investors often think of the investment opportunity set as a risk-return chart, in the form of single-point (dot) benchmark risk and return, and possibly single-point median product to represent active management. However, active management universes in each asset class often have wide distributions and this traditional analysis misses the true universe characteristics. Much of the risk-return surface between -6% and 20% return and between 1% and 22% volatility is covered by various asset class options, and many parts of this space are covered by multiple active management universes.

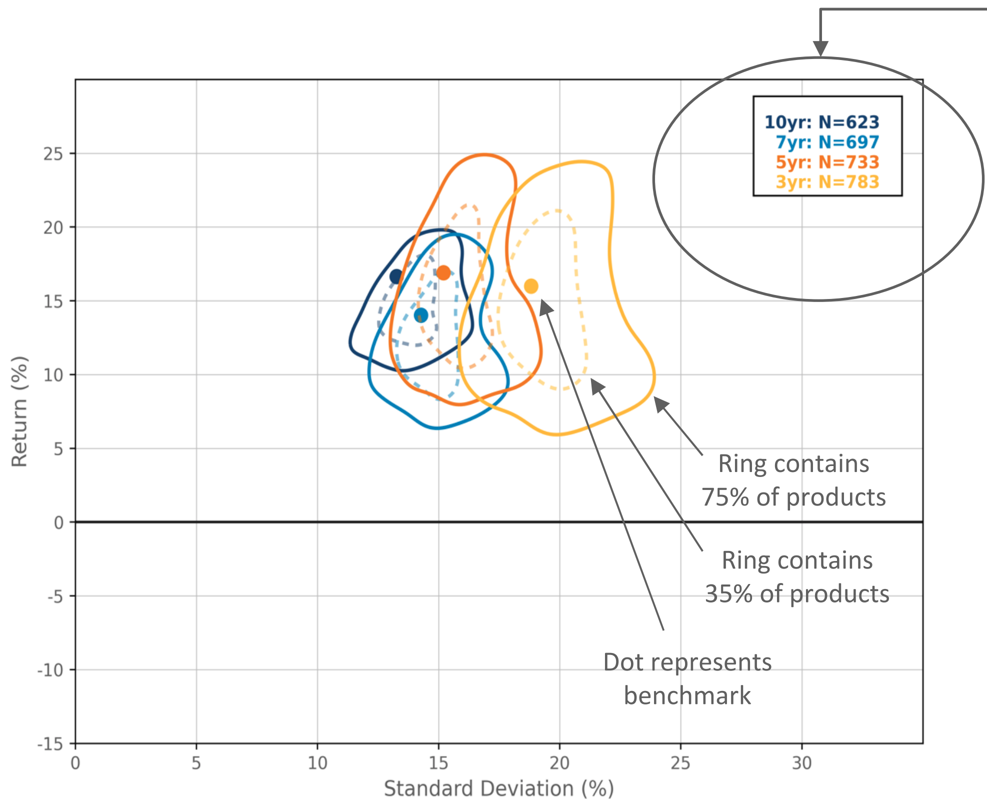
RISK-RETURN REGIONS ACROSS ASSET CLASSES: 10-YEAR RESULTS



This represents 10-year product performance data and 75% contour areas.
Source: eVestment, Verus, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias.

How to read a universe chart

The movement of the universe, the change in shape and of size all provide information about product behavior.



The number of products included in the analysis provides insight into the robustness of the analysis.

The position of the benchmark relative to the universe may also change through time, representing dynamic structure changes.

Throughout this report each asset class universe chart is placed at the same position on the page, at the same size and with the scales of the axes identical. This allows for easy comparison between universes.

Asset class environments

Note: *Universes are defined at the broadest level. Products vary in terms of style and/or treatment of currency exposure. Equity universe include both value and growth styles. International universes may include both products that hedge currency exposure and products that do not hedge currency exposure.*

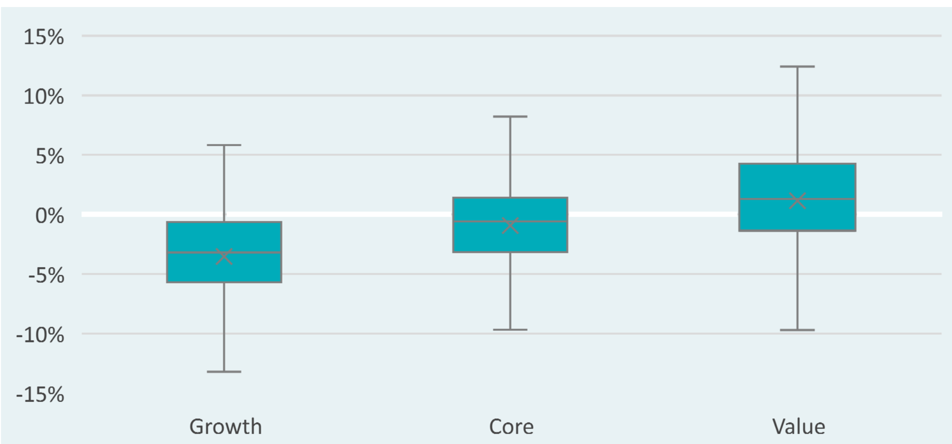
Equities – U.S. large cap

— Reviewing longer time periods, the data suggest that U.S. large cap equity has been a reasonably efficient asset class. That said, as we observed over the most recent trailing three-year time period, active managers have been able to generate more favorable results.

— Over three- and five-year trailing time periods, the data indicate that some managers have been able to generate superior risk-adjusted returns; however, most appear to have increased risk exposure in an effort to outperform their respective benchmarks. Looking at longer trailing time periods, the relationship between increased volatility and achieving additional return does not appear to be a strong one.

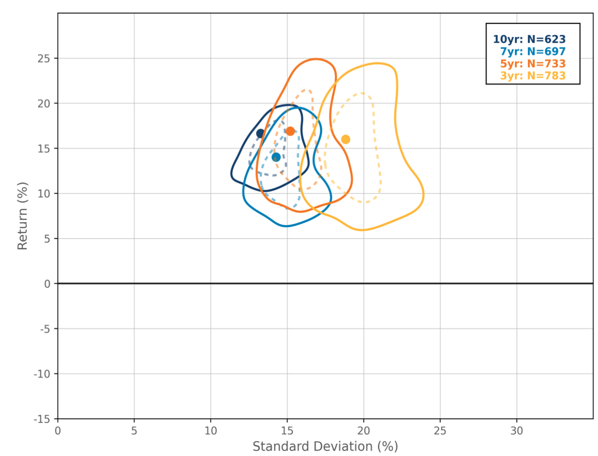
— The one-year period ending November 30th proved a challenging one for active large-cap managers, but particularly for growth managers. The median excess return for growth managers was -3.2%, and just 21% of the 326 managers in the space managed to post positive excess returns over the period. On the other hand, value managers posted a median excess return of +1.3%. While growth outperformed value by 8.5% over the one-year period, the active management environment appears to have remained more favorable for value managers.

U.S. LARGE CAP UNIVERSE - ONE YEAR EXCESS RETURNS



Source: eVestment, as of 11/30/21, gross of fees

U.S. LARGE



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the S&P 500 Index

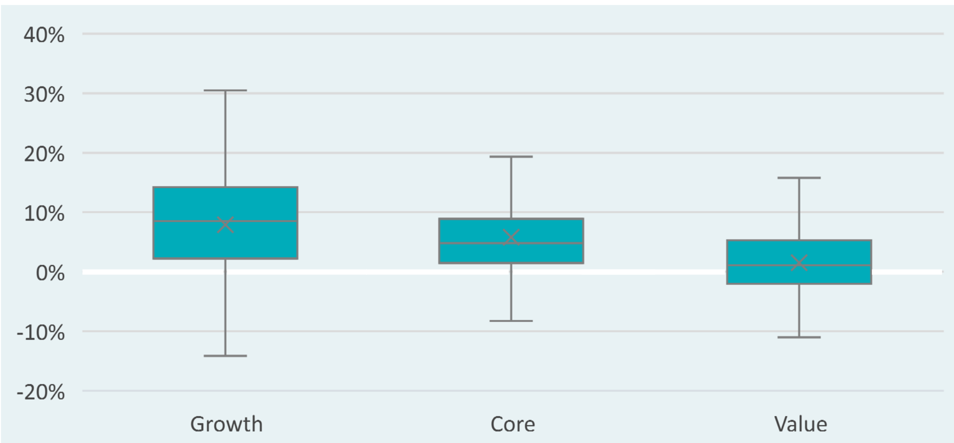
Equities – U.S. small cap

— Relative to their larger-cap counterparts and over most time periods, the evidence suggests that U.S. small cap managers have been more successful generating meaningful excess return. In addition, on a risk-adjusted basis, U.S. small cap managers appear to have done so more efficiently than their counterparts in the U.S. large cap space.

— Similar to large cap, the evidence suggests that more recent trailing time periods (i.e., three-year and five-year) have been more favorable to active small cap manager outperformance.

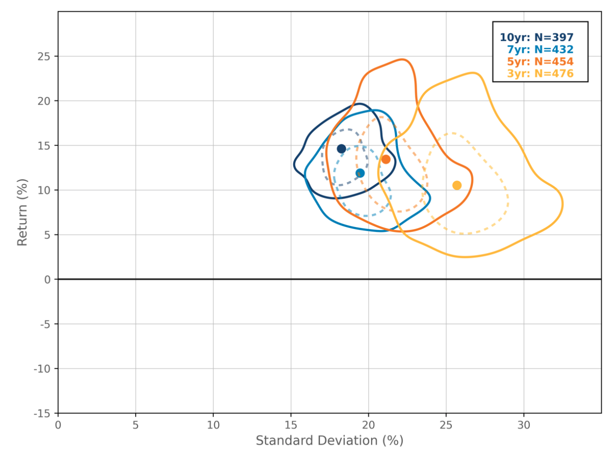
— Over the one-year period ending November 30, 2021, the active management environment for small-cap managers appears to have been quite favorable, with the median core, growth, and value managers outperforming their respective preferred benchmarks on a gross-of-fee basis. Unlike in the large-cap universe, growth managers generated much more attractive benchmark-relative returns as compared to value managers. In general, active management appears to have been more beneficial in this space, compared to the large cap universe.

U.S. SMALL CAP UNIVERSE - ONE YEAR EXCESS RETURNS



Source: eVestment, as of 11/30/21, gross of fees

U.S. SMALL



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the Russell 2000 Index

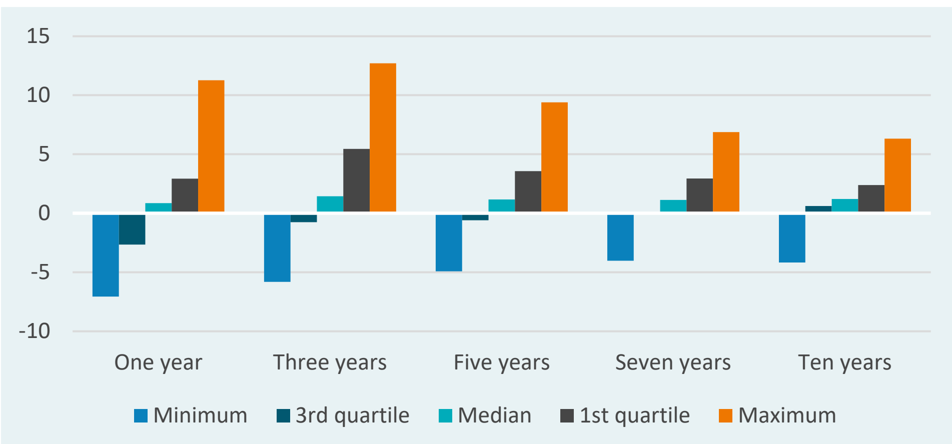
Equities – International developed

— Over most rolling periods, a significant portion of international developed managers have added value over the MSCI EAFE index. We observed the widest dispersion of returns during 2020, and a reversion to more normal dispersion year-to-date. Within this universe, many managers are likely to invest opportunistically in emerging markets, which may be responsible for some of the dispersion we see. In all time periods shown here, managers adhering to a growth style had an easier time beating the benchmark than those with a value style.

— The bottom right chart reflects a generally weak relationship between incremental risk-taking and incremental return among non-U.S. developed equity managers. The 3-year period reflects a much higher level and dispersion of risk among international developed equity managers due to the 2020 experience. The 3-year period also reflects a slightly stronger negative relationship between risk and return; among the underperforming portion of the universe, lower returning strategies tended to be associated with higher risk.

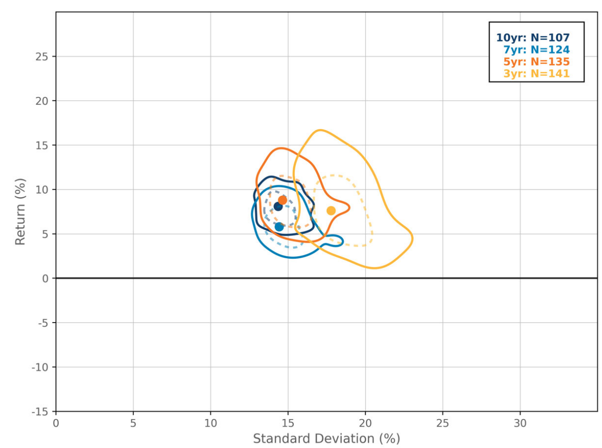
— From the set of active managers with at least a ten-year track record, the top 75% have managed to deliver positive alpha on an annualized basis. Of that same group of managers, the first quartile annualized alpha declines for each successive decline in time horizon from ten years. The wider range in alpha over shorter time periods aligns with the larger ovoid charts.

EAFE LARGE CAP UNIVERSE – ANNUALIZED ALPHA



Source: eVestment as of 11/30/21

INTERNATIONAL LARGE



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the MSCI EAFE Index

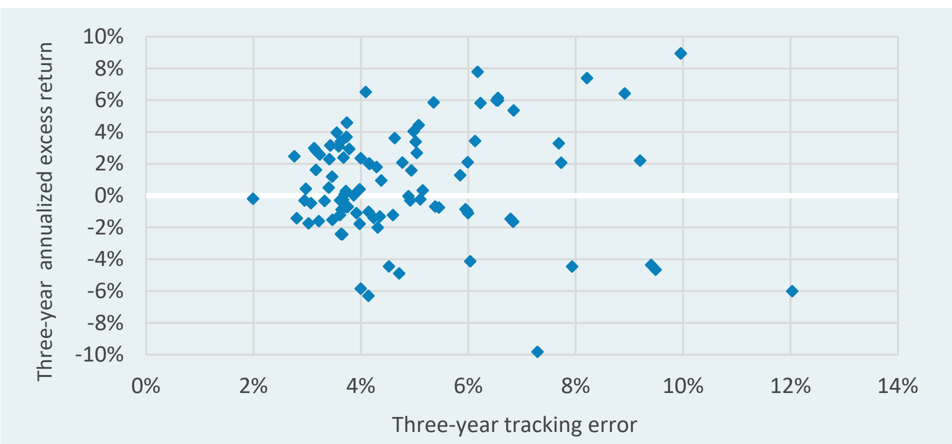
Equities – International developed small cap

— Over the past three years, the international developed small cap universe has experienced materially higher volatility than longer-dated trailing periods, with a wider distribution of outcomes. The 5-, 7-, and 10-year periods reflect lower volatility and similar levels of return.

— The distribution of outcomes over most trailing periods has been fairly normal, as demonstrated by the even, circular distributions shown in the bottom right chart. Additionally, the MSCI EAFE Small Cap benchmark does seem to be a reasonable representation of the universe, given its central location in each of the distributions. In each trailing period, while many managers demonstrated an ability to outperform, a slight majority of managers struggled to beat the index on a net-of-fee basis.

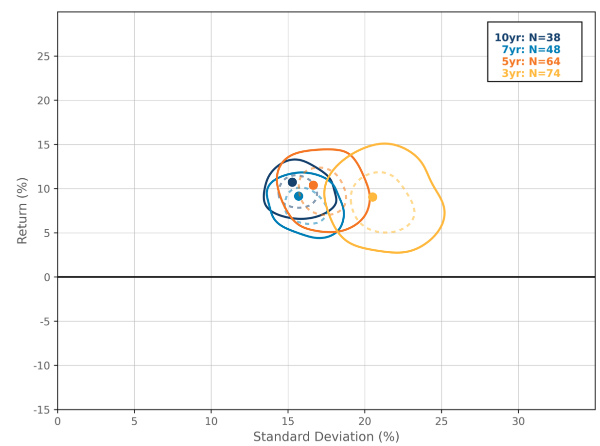
— Strategies in the international developed small-cap space seemed to exhibit a weak relationship between active return and active risk over the last three years, with the median strategy generating 0.14% in active return per 1% in active risk, or an information ratio of 0.14. Core strategies performed best with a median information ratio of 0.47, while growth (0.23) and value (-0.28) lagged.

EAFE SMALL CAP UNIVERSE – ACTIVE RETURN VS. ACTIVE RISK



Source: MSCI, eVestment, as of 9/30/21, gross of fees

INTERNATIONAL SMALL



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the MSCI EAFE Small Cap Index

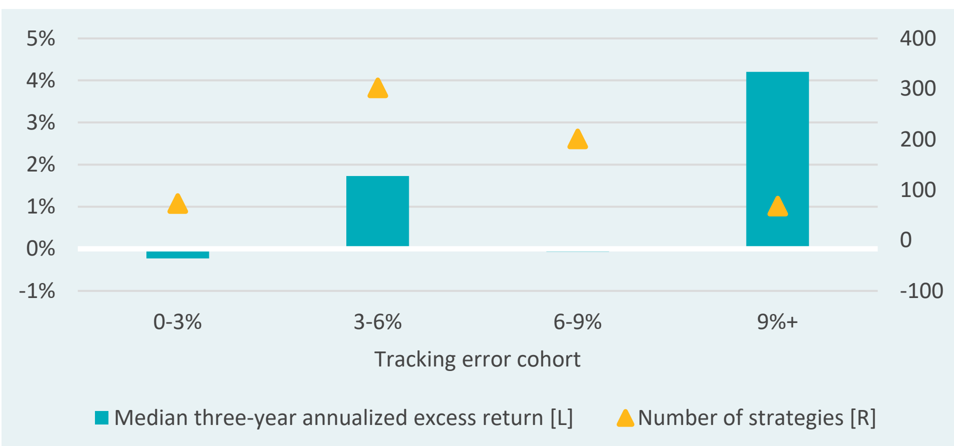
Equities – Emerging markets

— Over the trailing 3-year period, there was a wide non-normal distribution of emerging markets equity strategy returns, with the majority of managers outperforming the index. A smaller but significant cohort of the distribution outperformed the index materially (+5-10%) over this period, thanks in large part to the particularly volatile year of 2020 that saw high dispersion and strong equity returns.

— The bottom right chart demonstrates that in all trailing periods, most managers in the universe took more risk than the MSCI Emerging Markets Index. The increased volatility of returns has not hampered return generation over the 3- and 5-years periods, which reflect a slightly positive relationship between volatility and return. Over longer periods, however, there appears to be a weaker relationship, during which excess volatility was not compensated.

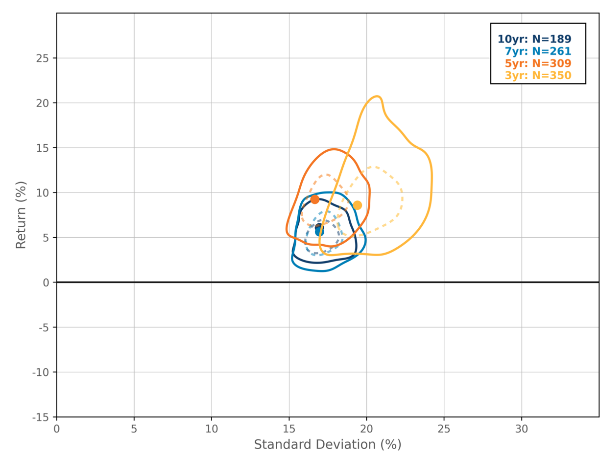
— Over the last three years, emerging market equity managers taking on 3-6% tracking error have in general outperformed those taking on a little (0-3%), or a lot (6-9%) of tracking error. Interestingly, of the 68 strategies in the 9% or more tracking error cohort in the chart on the bottom-right, the median excess annualized return came out to 4.2%, and only 13 strategies delivered negative annualized excess returns. It is worth noting that in this subset of the universe, strategies were extremely concentrated, and therefore taking much higher levels of risk.

MEDIAN THREE-YEAR ANNUALIZED EXCESS RETURN BY TRACKING ERROR



Source: eVestment as of 9/30/21

EMERGING MARKETS



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the MSCI Emerging Markets Index

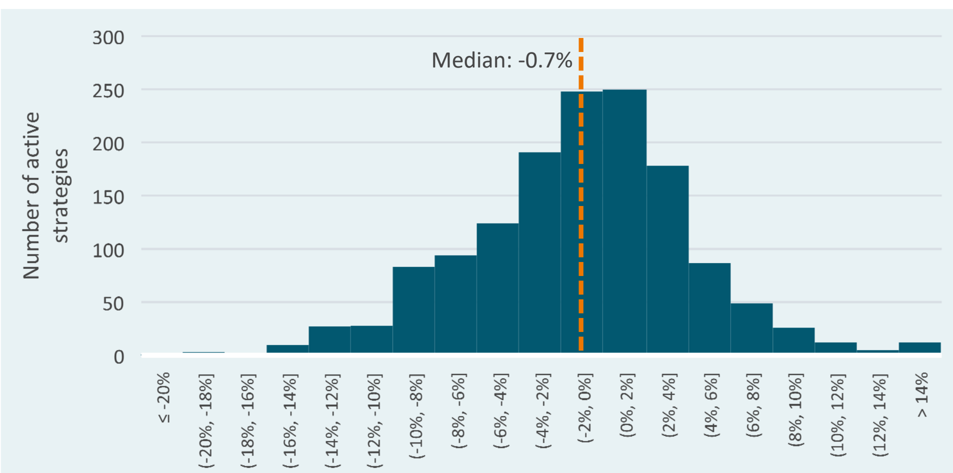
Equities – Global

— During short and long time periods, the proportion of active managers adding value over the MSCI ACWI Index has been roughly equivalent to the proportion falling short. Underlying this pattern is a wide return dispersion between the U.S. and the rest of the world. U.S. markets far outperformed non-US markets, and global equity managers with an overweight to the U.S. enjoyed a performance tailwind. That said, some skilled global equity managers with an underweight to the U.S. have outperformed the benchmark through strong stock selection, although this is a small subset of the total manager universe.

— The relationship between risk and return appears negligible during both shorter and longer periods, and the percentage of outperforming managers taking greater risk is no larger than those taking less. The 2020 experience is manifest in higher risk of active managers, but this behavior reverted to more normal levels in 2021. Allocation to emerging markets within global mandates appears to be associated with a higher level of risk, particularly within the 7- and 10-year periods when commodity-oriented countries had a greater influence than they do now.

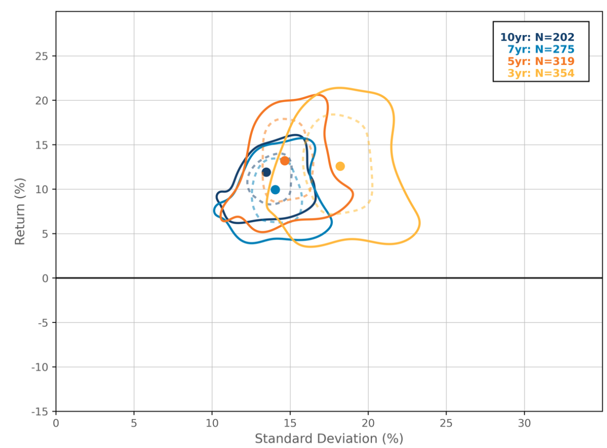
— Global equity is the broadest traditional equity mandate and allows active managers multiple levers to pull to add value. The relatively wide range of excess return reflects multiple inefficiencies that can be exploited. Over the last year, the median manager generated an excess return of -0.7% relative to its preferred benchmark, with 619 managers generating positive excess returns and 810 managers generating negative excess returns.

GLOBAL EQUITY MANAGER ONE YEAR EXCESS RETURN DISTRIBUTION



Source: Style Analytics, eVestment as of 11/30/21, gross of fees

GLOBAL EQUITY



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the MSCI ACWI Index

Verus

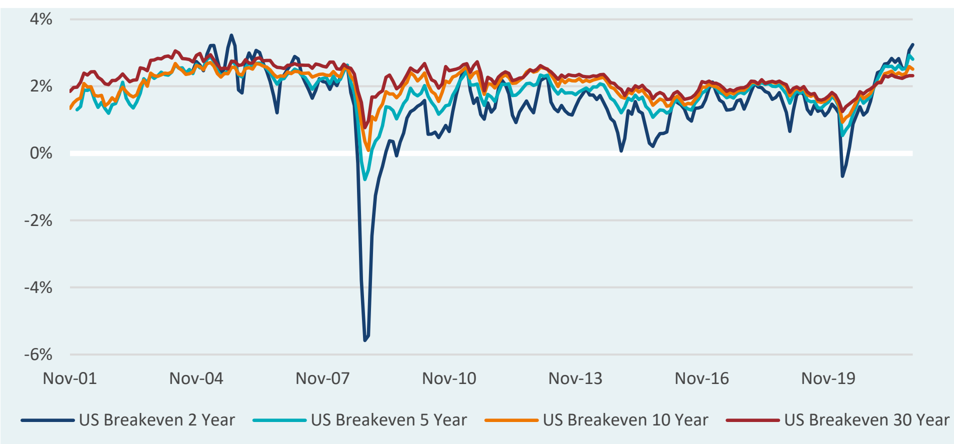
Fixed income – U.S. TIPS

— Given that the U.S. TIPS market has a relatively small opportunity set consisting of ~40 securities, there has historically been modest differentiation among active managers. The tight distribution of outcomes relative to the benchmark, particularly over longer-term periods, is reflected in the graph on the bottom right of the page. Across all time periods, there was a modest upward tilt to the universe which suggests managers were compensated for taking extra risk relative to the benchmark. Notably, the shorter three-year period has seen greater dispersion and steeper upward tilt, indicating even greater payoff for taking on more risk.

— During the past two years, volatility within the TIPS market has increased significantly, driven particularly by breakeven inflation rates. This facilitated a more supportive environment for active management. Five-year breakevens hit a post-Global Financial Crisis low of 0.14% in the first quarter of 2020, then reached a high of 3.17% in the middle of November 2021.

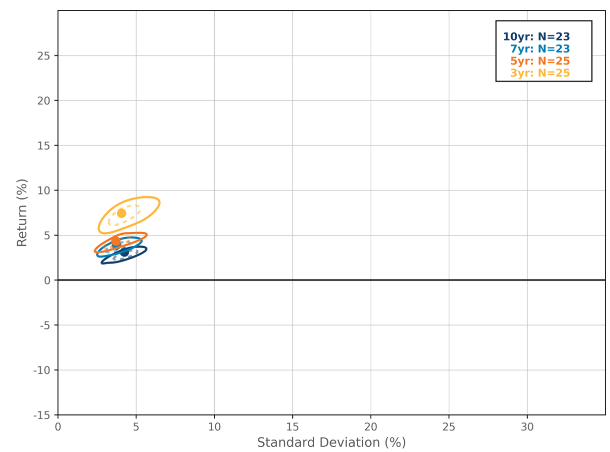
— U.S. TIPS breakevens continued to fluctuate over the past year, as domestic inflation jumped along with demand for inflation protection. Interestingly, towards the end of the year breakevens fell despite rising inflation, possibly due to the expectation that Federal Reserve purchases of TIPS would soon slow along with broader Fed plans to taper asset purchases.

U.S. BREAKEVEN INFLATION RATES



Source: Bloomberg, as of 11/30/21

U.S. TIPS

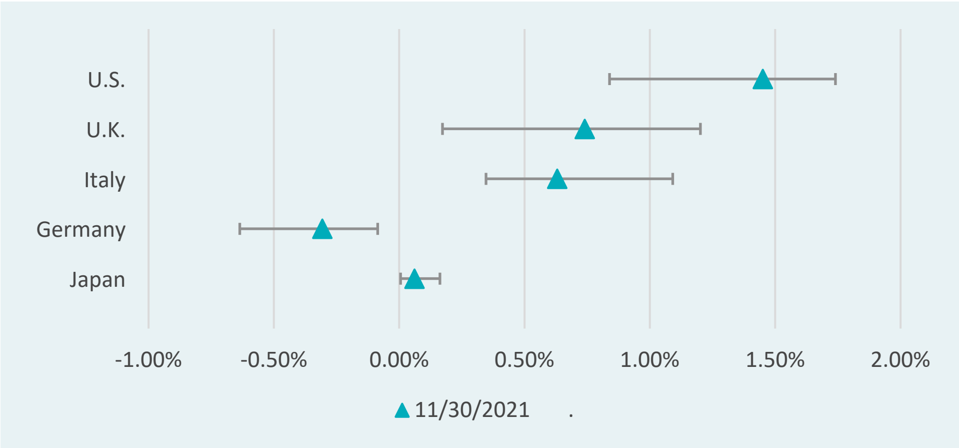


Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the BBgBarc U.S. TIPS Index

Fixed income – Global sovereign

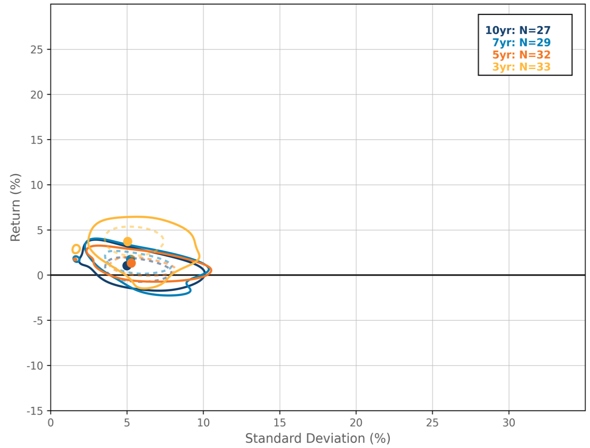
- The chart at the bottom right demonstrates that active managers tended to take on slightly more risk than the benchmark during all time periods. During longer five-, seven- and ten-year periods there has been a slight downward tilt to the universe, indicating lower risk products have tended to outperform the benchmark while higher risk products have generally underperformed. During the shorter three-year period, dispersion of outcomes within the universe was much wider but with little apparent relationship between risk and return.
- The global sovereign universe is relatively heterogenous, with varying exposure to global credit and currencies among managers. Since the beginning of 2020, this diversity, along with higher market volatility driven by less transparent central bank policies, has led to a wider range of outcomes among active products.
- At the beginning of 2021, global yields broadly moved higher along with the global recovery. However, yields then fell and remained rangebound throughout the year. Perhaps to the surprise of some, yields have not been particularly pressured upward by rising inflation thus far.

10-YEAR SOVEREIGN BOND YIELD RANGE – ONE YEAR ENDING 11/30/21



Source: Bloomberg, as of 11/30/21

GLOBAL SOVEREIGN



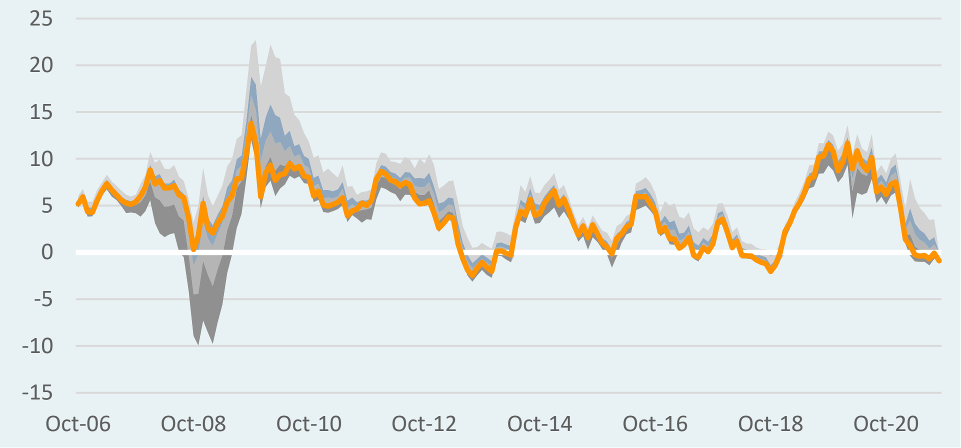
Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the FTSE WGBI

Fixed income – U.S. core

— The U.S. core universe has historically exhibited very low dispersion among active managers with little differentiation from the benchmark in terms of both risk and return. While there is limited performance differentiation exhibited across all lookback periods, a slight upward slope to the data across each rolling period indicates active managers were compensated for taking additional risk. In addition, in all periods, the active manager universe tends to take on more risk than the benchmark as a larger portion of the ovoid charts falls to the right of the benchmark. However, this may be a reflection of the fact that many U.S. core strategies seek to add value by investing in higher risk, off-benchmark exposures. This was illustrated during the Global Financial Crisis, when most managers underperformed the benchmark—some dramatically so. Investors who allocate to core fixed income for diversification and safety may wish to select strategies that align with the intended role of this asset class in their portfolio.

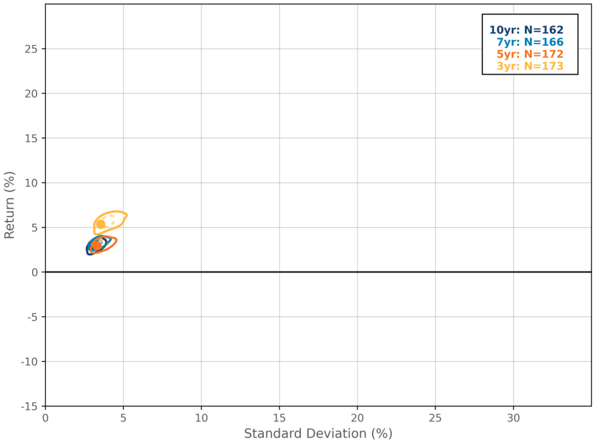
— Fed actions during the pandemic as well as uncertainty around the eventual unwinding of asset purchase programs and possible rate hikes has contributed to increased alpha opportunities for active products over the past two years. While volatility within the investable core universe has increased since the onset of the pandemic, the core fixed income asset class has shown to be relatively efficient.

CORE FIXED ACTIVE MANAGER UNIVERSE PERFORMANCE



Source: Verus, eVestment, as of 9/30/21 – 5th, 25th, 50th, 75th and 95th percentile active manager universe

U.S. CORE



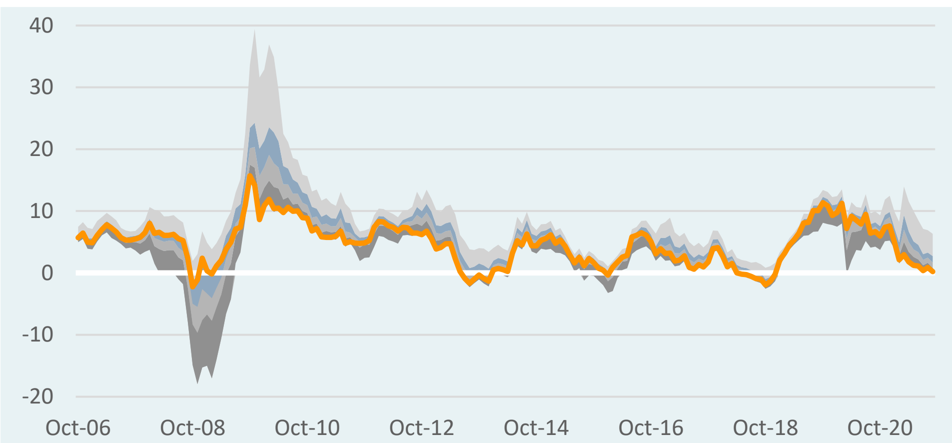
Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the BBgBarc U.S. Aggregate Index

Fixed income – U.S. core plus

— Similar to core fixed income, the U.S. core plus universe is characterized by very low dispersion among active managers with nearly the entire manager universe taking on more risk than the benchmark across all lookback periods. Over the five-, seven- and ten-year period, there was an upward tilt to the ovoid charts, demonstrating that managers were generally compensated for taking on additional risk. Over the three-year period, the relationship between greater risk and greater return was less obvious, and the dispersion of manager performance was wider.

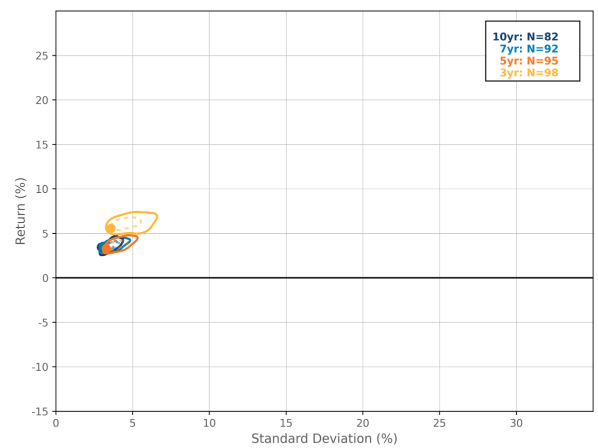
— Traditionally, core plus active managers are underweight U.S. Treasury and government bonds relative to the benchmark and have overweight exposures to both investment grade and high yield credit and non-U.S. dollar-denominated bonds. Similar to core fixed income, this can be observed during the Global Financial Crisis, when most active managers significantly underperformed the benchmark. Given that most bonds are at or near historically low spread levels, many core plus managers de-risked portfolios in the latter half of 2021, thus reducing allocations to lower quality credits and non-U.S. dollar denominated bonds.

CORE PLUS ACTIVE MANAGER UNIVERSE PERFORMANCE



Source: Verus, eVestment, as of 9/30/21 – 5th, 25th, 50th, 75th and 95th percentile active manager universe

CORE PLUS



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the BBgBarc U.S. Universal Index

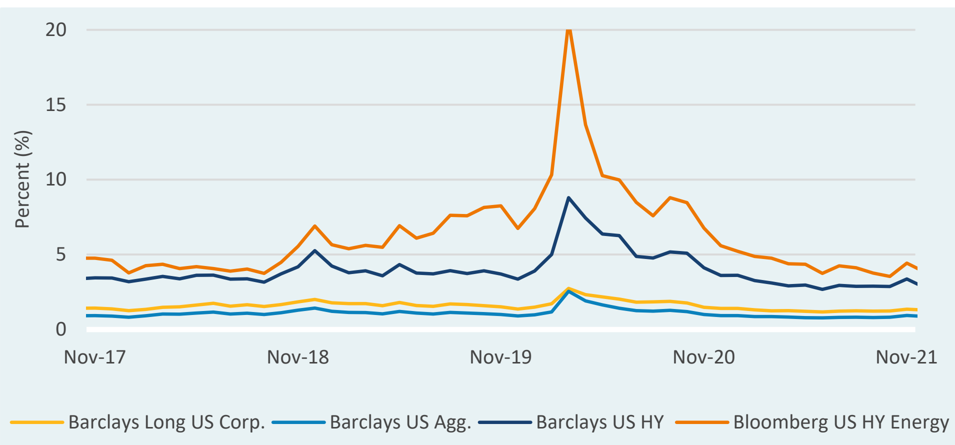
Fixed income – U.S. high yield

— Over time we have observed that actively managed high yield strategies have demonstrated greater dispersion around the benchmark compared to more interest rate-sensitive products. Over the 5-, 7- and 10-year trailing periods, a limited number of managers in the high yield universe demonstrated the ability to consistently outperform the benchmark. Over the recent 3-year period, we have observed managers taking on more risk, which has not necessarily translated into higher returns relative to the 5- and 10-year lookback.

— Over each rolling time period, there appears to be only a slightly positive relationship between risk and return given the shape and direction of the ovoids, as most managers were not meaningfully compensated for bearing additional risk. The 3-year period has been characterized by a mini market cycle, consisting of a large drawdown, spread widening and quick contraction of option-adjusted spreads. We have observed that while there were a higher percentage of successful actively managed strategies for this period, managers in general have been reaching out further on the risk spectrum.

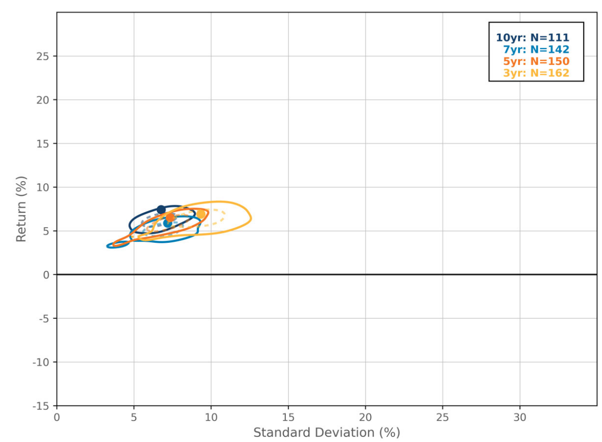
— High yield bond spreads and performance has been impacted substantially by the energy sector in recent years, as multiple supply events have resulted in crisis. The exposure of active strategies to this sector likely had an outsized impact on historical performance.

SPREADS



Source: Barclays, FRED, as of 11/30/21

U.S. HIGH YIELD



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the BBgBarc U.S. Corporate High Yield Index

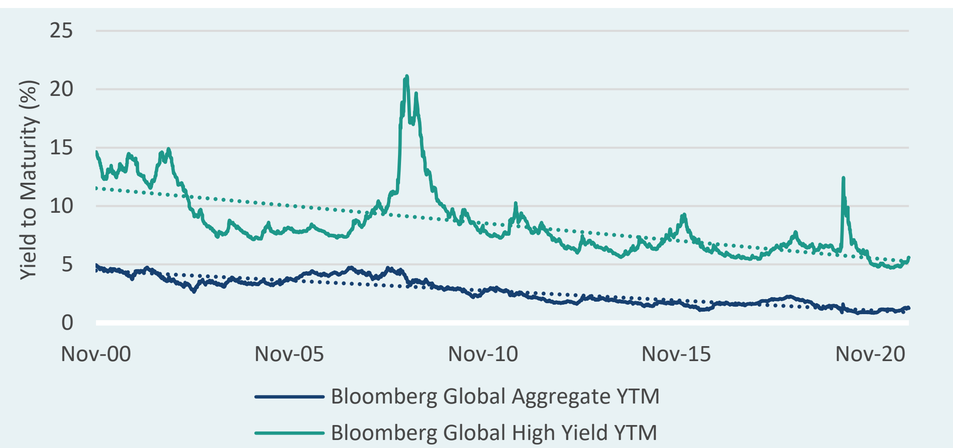
Fixed income – Global credit

— Over the time periods examined, the global credit opportunity set has experienced a high degree of dispersion, also evident by the wideness and waviness of the ovoids. Global credit products tend to show a wide distribution of outcomes relative to the benchmark, most likely due to a heterogenous opportunity set across the active management universe. Strategies differ in the way in which they allocate to credit quality and emerging market corporate debt. During periods of heightened volatility and wider spreads, products with flexible investment mandates often take on exposure to lower quality bonds to provide liquidity to the market with the goal of benefiting from spread normalization.

— Over the 7- and 10-year periods, we note that dispersions were tighter around the benchmark and there was a higher propensity for active products to outperform. More recently, as volatility has increased, we observed that high risk active products have generally struggled to produce excess returns above the benchmark. The number of the products in the opportunity set has doubled over the past ten years and the observable outcomes have also increased.

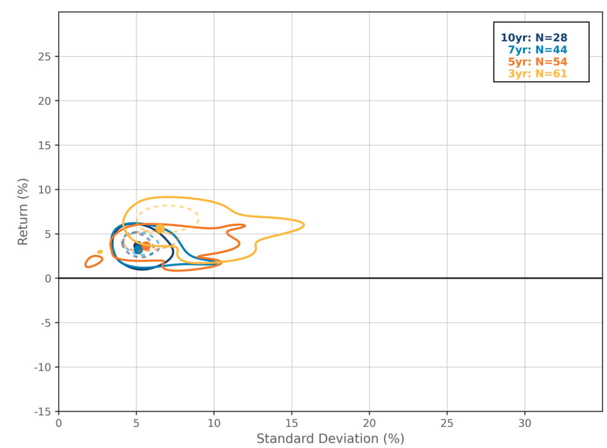
— Currency movement plays a large role in this asset class oftentimes, as most investors leave their foreign currency exposure unhedged. Developed market interest rates have remained low due to accommodative monetary policy, which means currency movements can outweigh the impacts of security selection on total return.

GLOBAL BOND MARKET YIELD TO MATURITY



Source: Bloomberg, as of 11/30/21

GLOBAL CREDIT



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the BBgBarc Global Aggregate – Credit

Fixed income – Emerging market debt (hard currency)

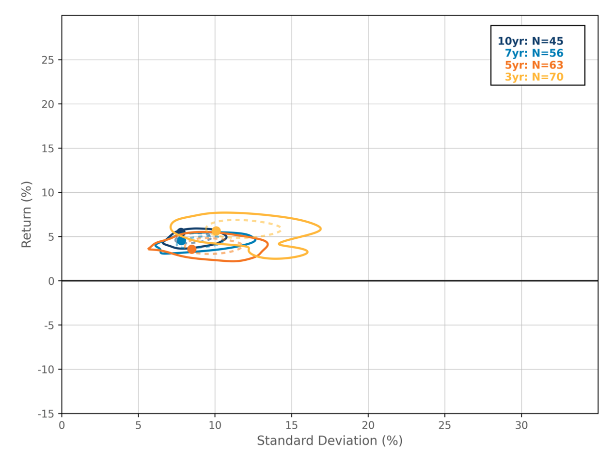
— Overall, in the EMD hard currency universe we observe a relatively neutral relationship between risk and return (i.e. managers that took more risk did not necessarily produce higher returns) over the time periods shown below. More recently (the 3- and 5-year periods), the dispersions have also widened, resulting in larger ovoids, and more managers outperforming the benchmark. We believe that skillful security and currency selection, as well as risk management, are paramount to success in this asset class. Performance of EMD hard currency over the 3-year period has been stronger than other time periods shown.

— We continue to observe that managers have increased their use of risk, which has not resulted in higher performance via a positive risk/return relationship. Hard currency strategies often carry off-benchmark securities in seeking additional return, risk mitigation, or a combination of the two. These off-benchmark bets may include other emerging market-related sectors, such as quasi-sovereign, corporate credit, local currency debt, and emerging market local currency bonds. Given limited local currency exposure, hard currency strategies tend to have a smoother return profile relative to local currency strategies. However, this smoother volatility profile may simply mask a different form of risk—a greater chance of default, as debt obligations are denominated in U.S. dollars rather than the issuer's domestic currency.

EMBI YIELD (HARD CURRENCY)

Source: J.P. Morgan, Bloomberg, as of 11/30/21

EMERGING MARKET DEBT (HARD)



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the JP Morgan EMBI Global Diversified Index

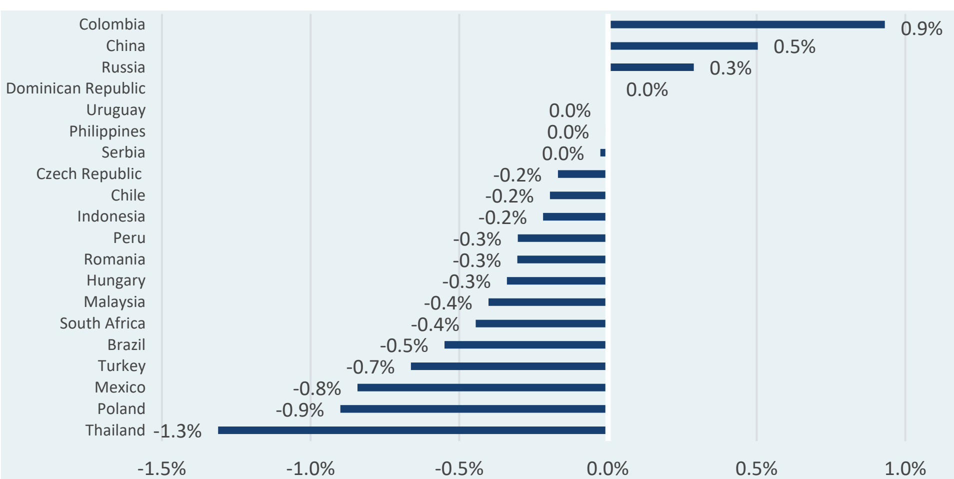
Fixed income – Emerging market debt (local currency)

— Over recent time periods (3- and 5-year), local currency EMD strategies have exhibited a neutral relationship between risk and return (i.e. managers further on the risk spectrum did not materially outperform or underperform the benchmark). Over the 7- and 10-year periods, however, we have observed a neutral-to-very-slightly-negative relationship between risk and return. Local currency EMD has experienced choppy returns, mostly due to the volatility of EM currencies.

— The asset class continues to experience headwinds, mostly due to various idiosyncratic country issues and volatility of EM currencies, though performance has continued to rebound for the 3- and 5-year trailing periods. The universe exhibited moderate yet increasing dispersion, where incremental risk taking has generally gone unrewarded. While the benchmark has performed relatively well during each time period, we believe that there is a decent opportunity for active managers to provide value-added performance.

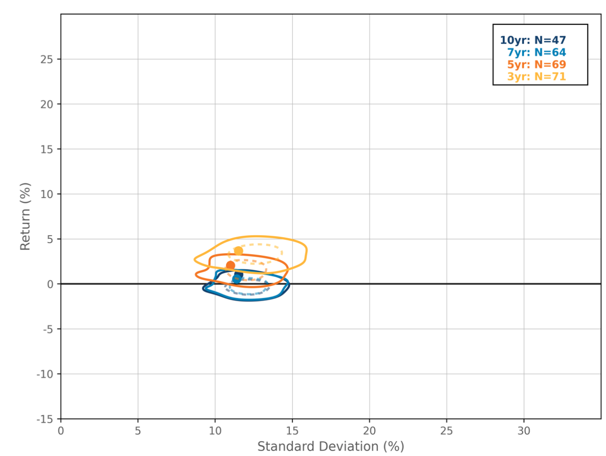
— Local-currency denominated emerging market debt generally provides a degree of diversification for multi-asset portfolios due to its unhedged currency component, though that diversification may also carry with it a significant amount of added volatility due to geopolitical risk, idiosyncratic country-specific event risk, and other factors. Over the last year, unhedged U.S. investors in local EMD strategies have lost approximately 4.9% due to currency fluctuations, particularly in European and Latin American currencies.

ESTIMATED IMPACT OF CURRENCY EXPOSURE ON ONE YEAR RETURNS



Source: Bloomberg, as of 11/30/21

EMERGING MARKET DEBT (LOCAL)



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the JP Morgan GBI-EM Global Diversified Index

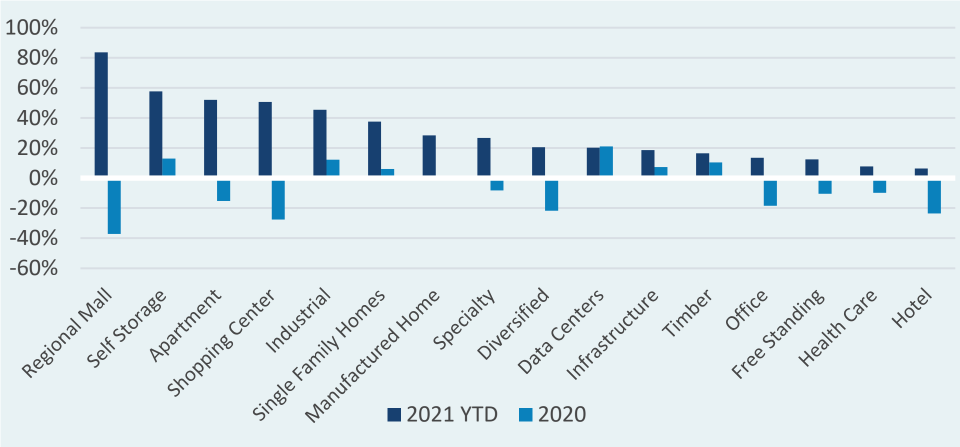
U.S. REITs

— Over longer time periods, active REIT management has broadly provided the benefit of volatility reduction rather than the generation of excess returns.

— During more recent time periods, many active managers have been able to generate excess returns above the benchmark. There has generally been a negative relationship between risk and return as lower risk strategies outperformed higher risk strategies, on average.

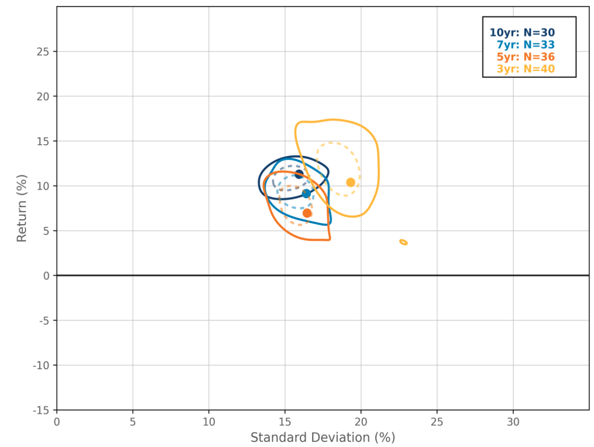
— REITs staged a vigorous recovery in 2021 after a disappointing year in 2020, though sector dispersion remained quite wide. Sectors which were hardest-hit by the onset of the pandemic, such as regional malls and shopping centers, posted some of the strongest returns in 2021. Elsewhere, self storage continued to benefit from population migration tailwinds, apartments performed well as rent prices surged nationwide, and data centers were on pace to return north of 20% for the second consecutive year. Given the high sector dispersion which remained intact during 2021, we believe there are ample opportunities for active management in the asset class.

REIT SECTOR PERFORMANCE



Source: Cohen & Steers, as of 11/30/21; YTD reflects 1/1-21 through 11/30/2021

U.S. REITS



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the Wilshire REIT Index

Commodities

— Active management in the commodity space tends to exhibit wide performance dispersion. This may be partly a reflection of the variety of strategies available. Strategies which look to mitigate negative roll yield and contango through term structure management have continued to add value over standard indexes, on average.

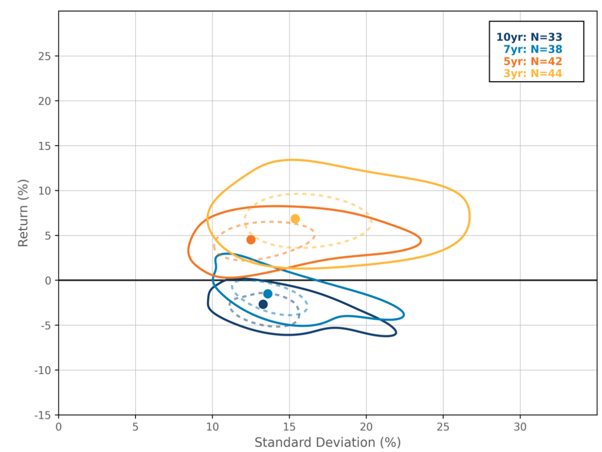
— Generally speaking, strategies which take on large amounts of additional risk over the benchmark have not been rewarded with additional return. This relationship has held true over each time period below.

— The roll yield component of returns experienced significant volatility in 2020 and 2021. The roll yield dropped to almost record negative levels during early 2021 and then subsequently moved back into positive territory by the end of the year. If roll yield remains positive, this would provide a tailwind to futures-based commodities strategies going forward.

12-MONTH ROLL YIELD

Source: Standard & Poor's, as of 11/30/21

COMMODITIES



Source: eVestment, as of 9/30/21. Universe returns have been adjusted for fees and survivorship bias. Benchmark displayed is the Bloomberg Commodity Index

Appendix

Supplementary Universe Charts

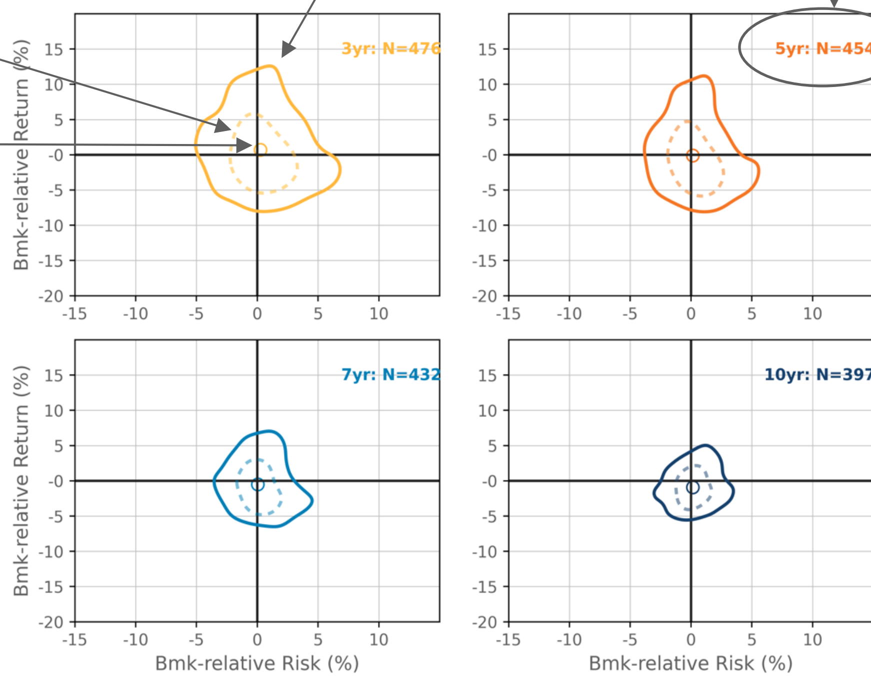
How to read a risk/return universe chart

Ring contains 75% of products

Ring contains 35% of products

Center circle indicates median manager

The center axis (0,0) indicates the benchmark return

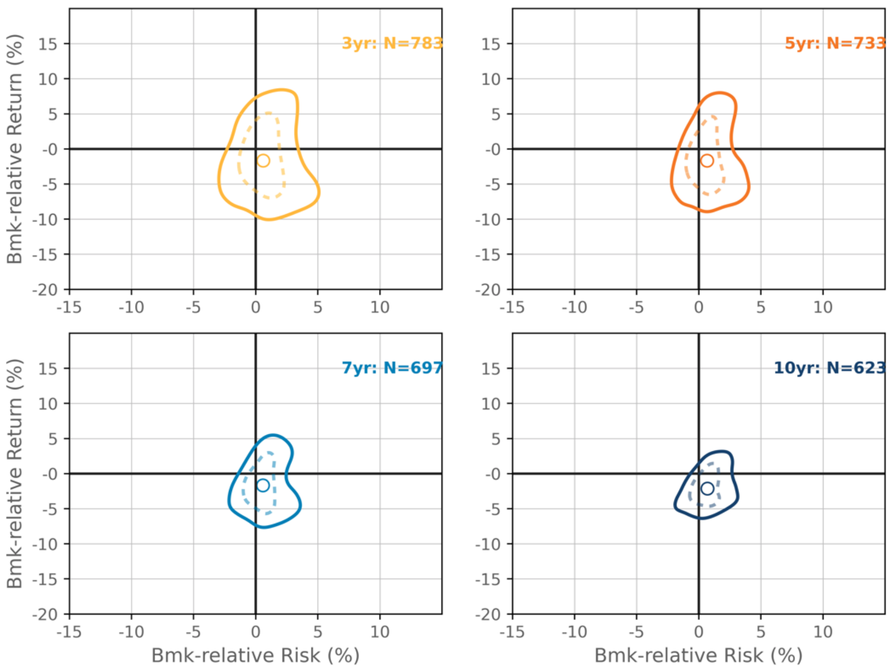


The number of products included in the analysis provides insight into the robustness of the analysis.

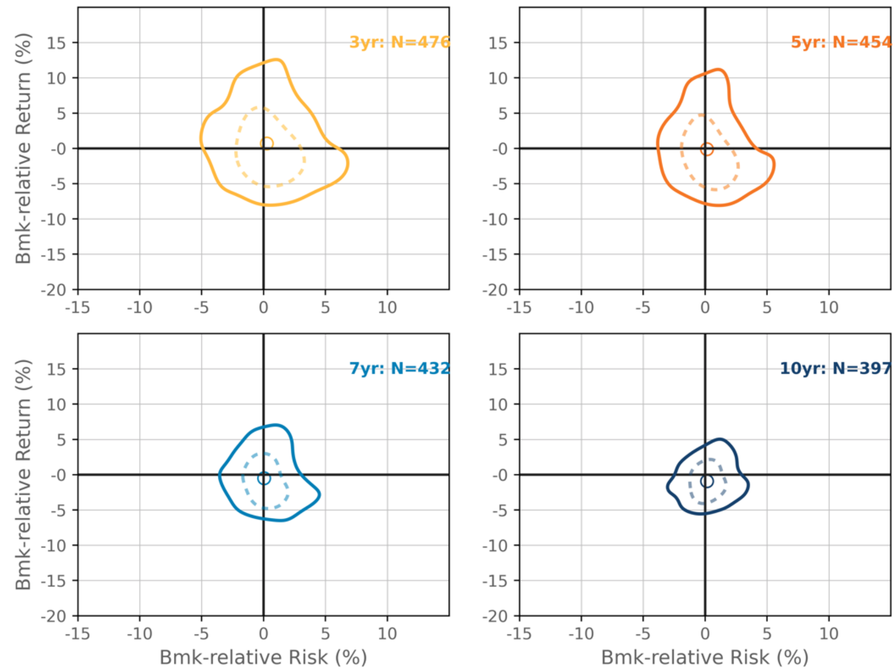
The changing shape within the charts is impacted by the market environment and the time period examined

U.S. equity

U.S. LARGE CAP



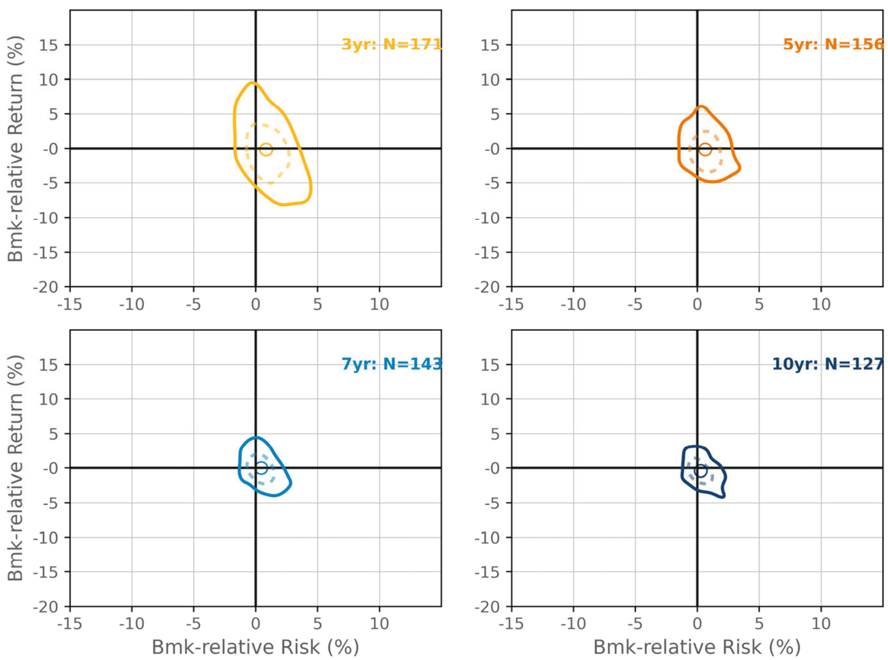
U.S. SMALL CAP



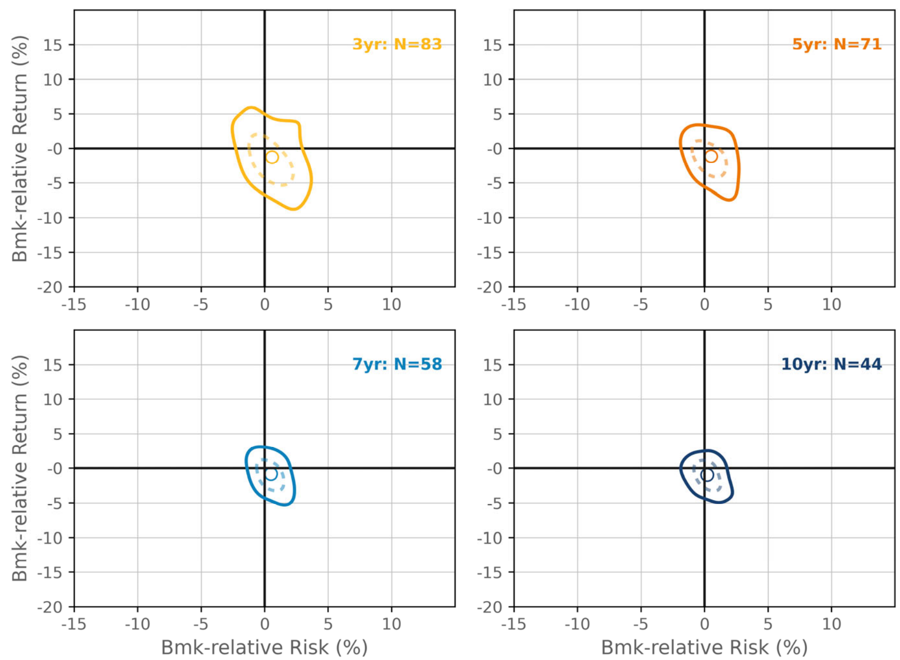
Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

International equity

INTERNATIONAL DEVELOPED



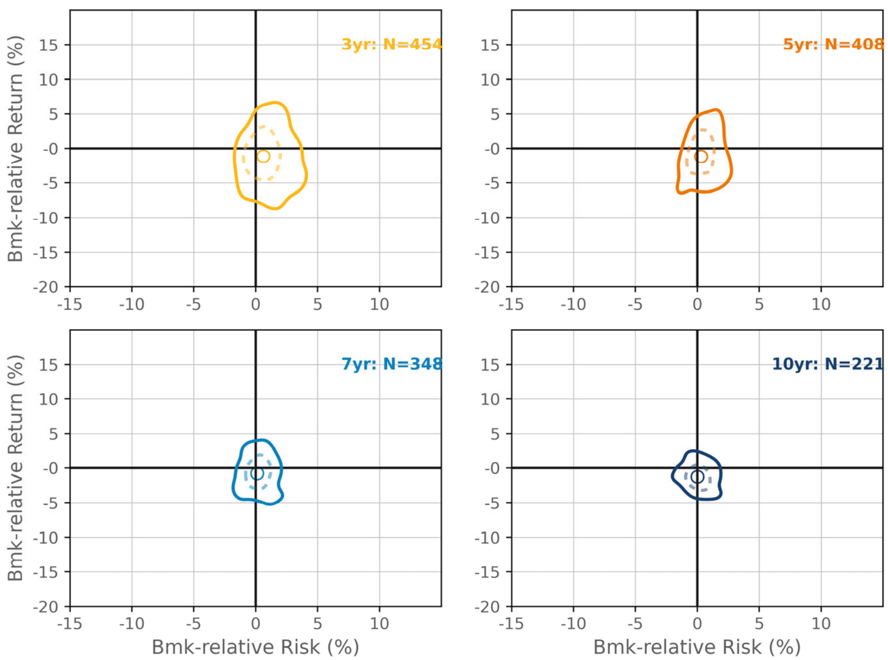
INTERNATIONAL DEVELOPED SMALL



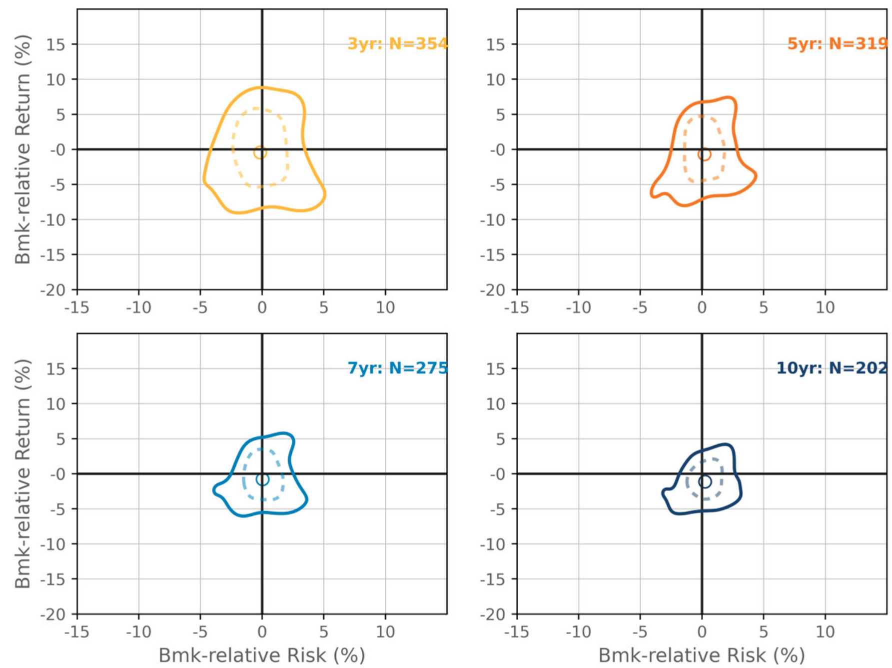
Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

Emerging market & global equity

EMERGING MARKETS



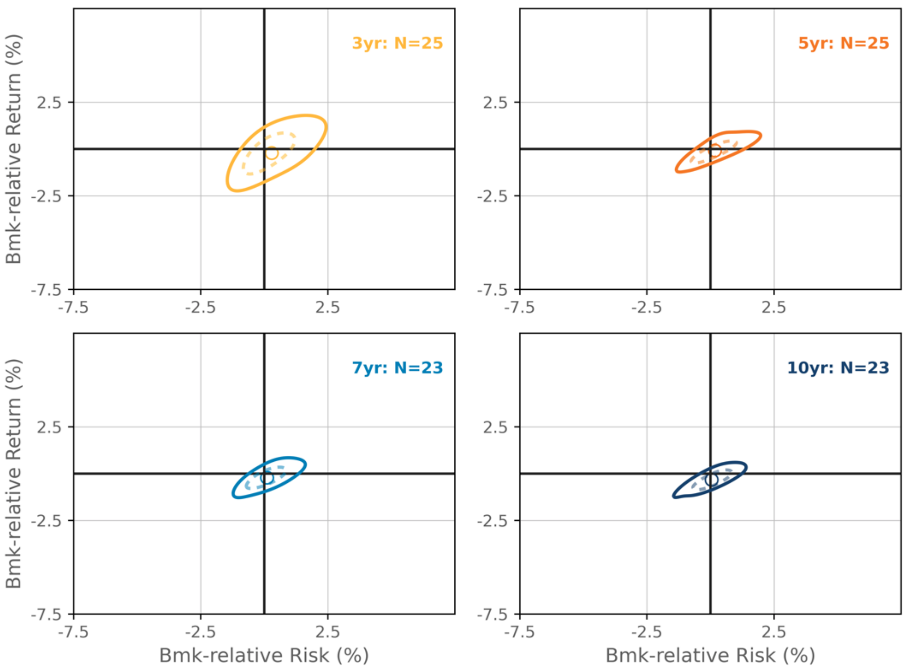
GLOBAL



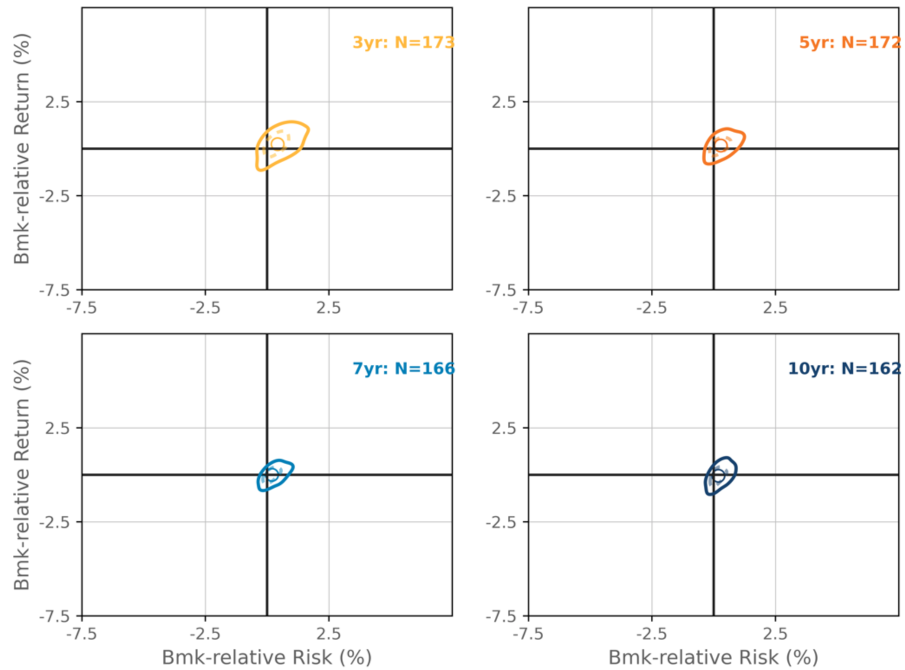
Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

U.S. fixed income

U.S. TIPS



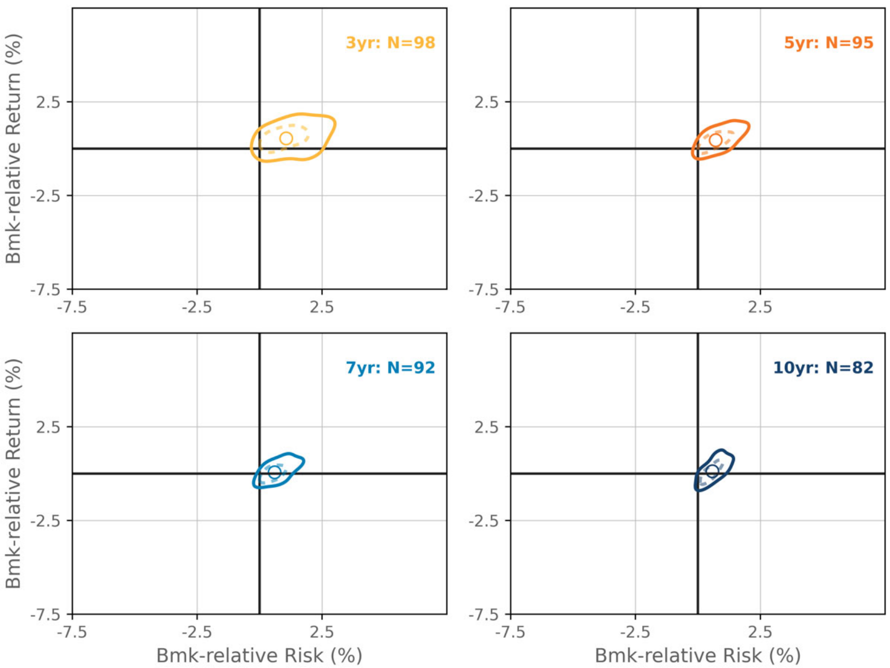
U.S. CORE



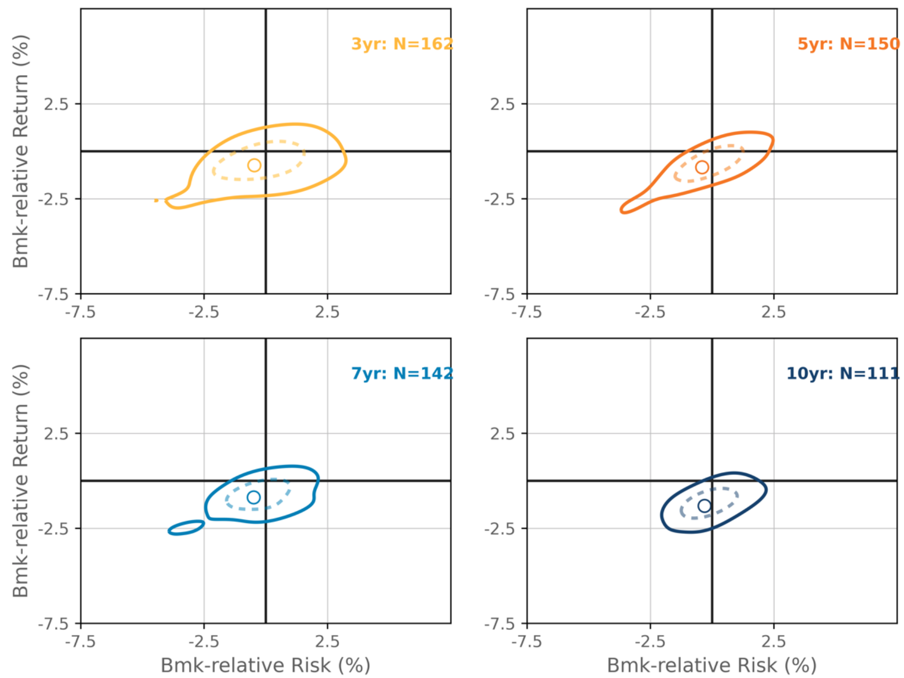
Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

U.S. credit

U.S. CORE PLUS



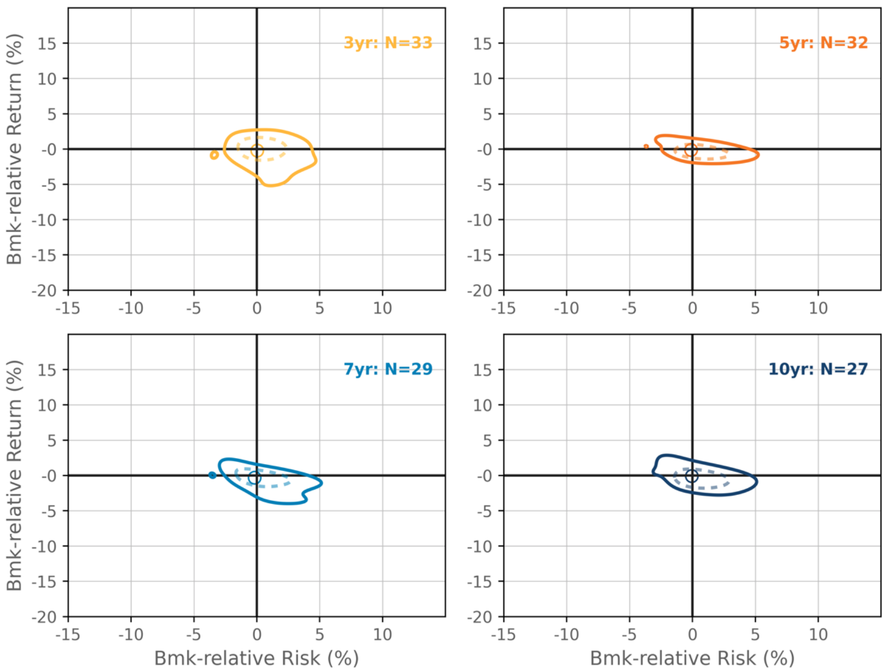
U.S. HIGH YIELD



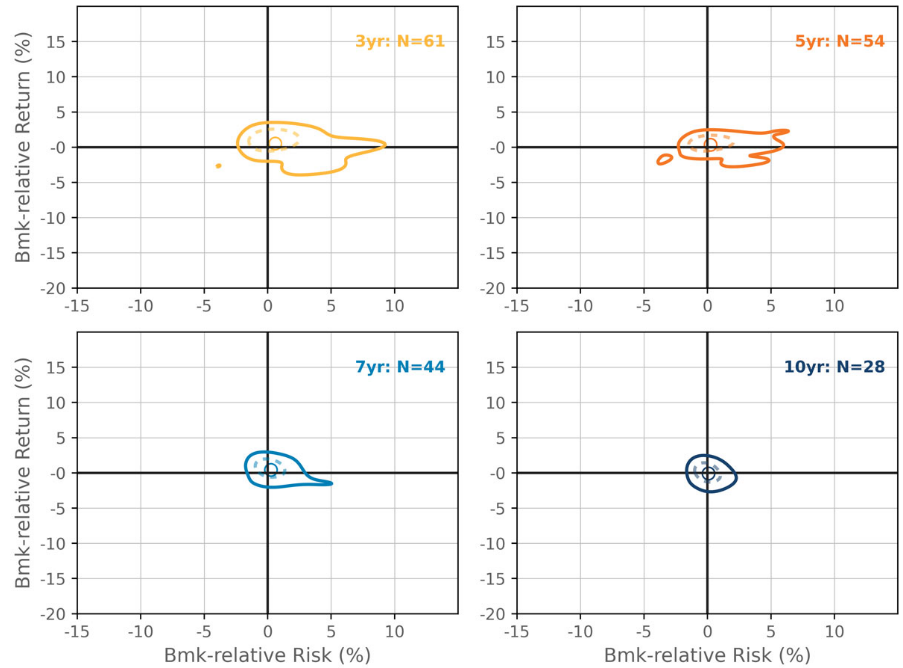
Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

Global fixed income

GLOBAL SOVEREIGN



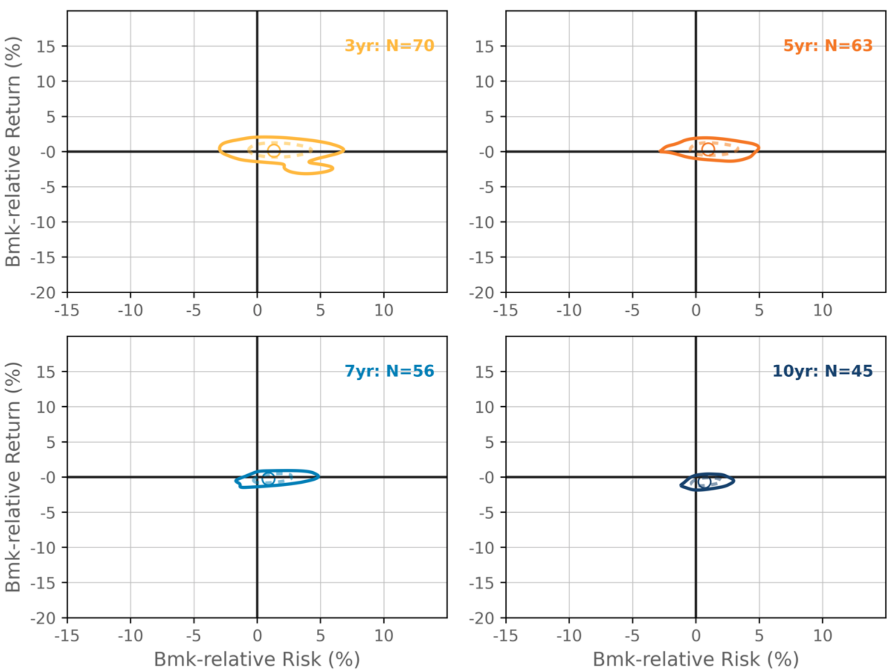
GLOBAL CREDIT



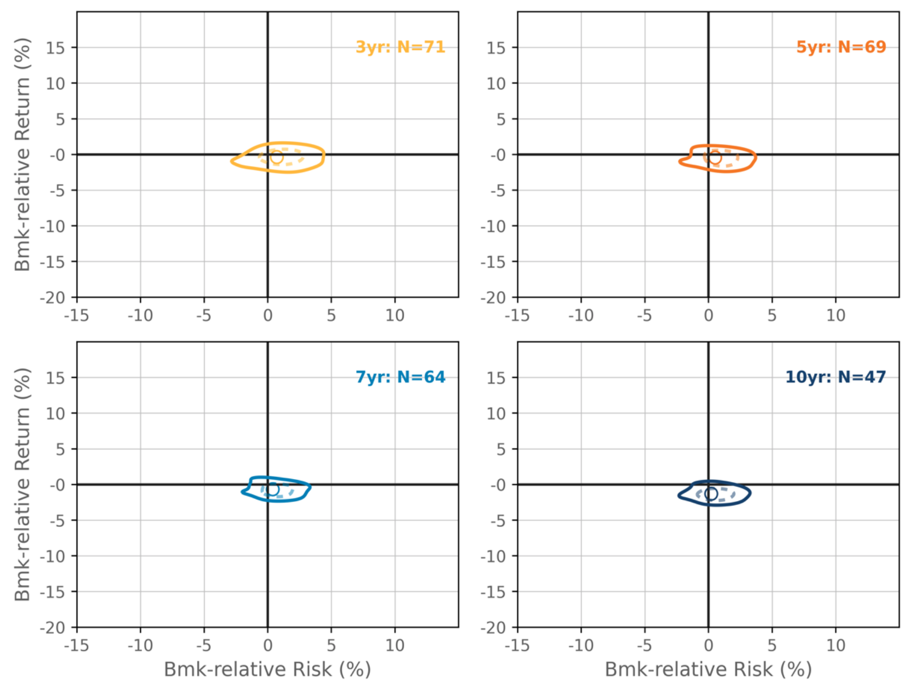
Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

Emerging market debt

EMERGING MARKET DEBT (HARD)



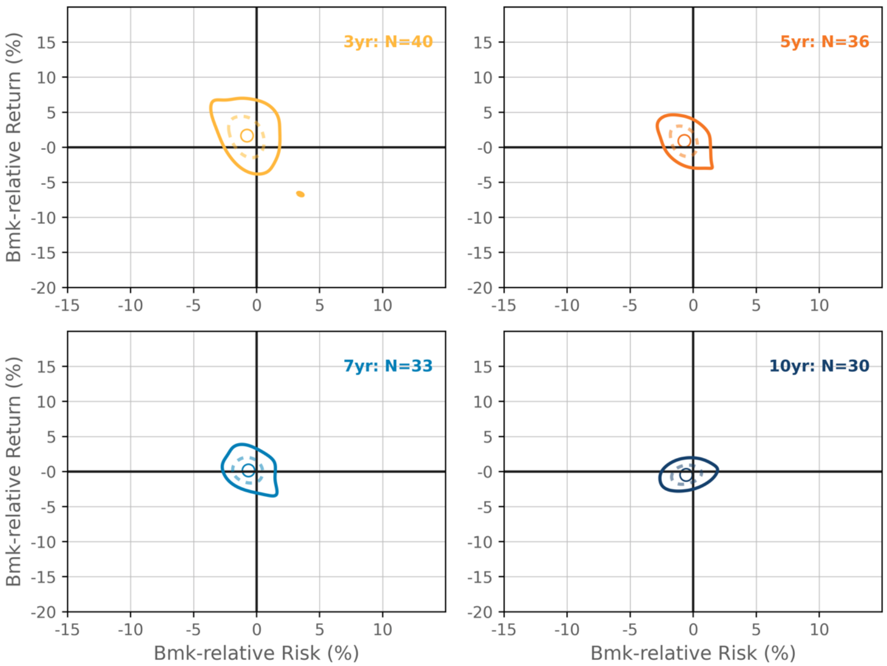
EMERGING MARKET DEBT (LOCAL)



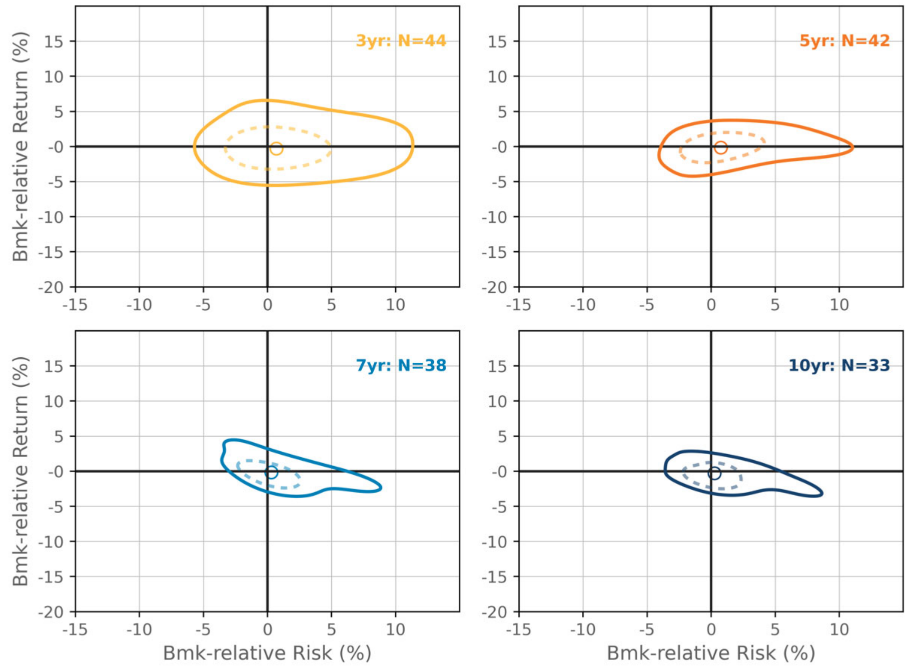
Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

Other

U.S. REITS



COMMODITIES



Source: eVestment, Verus, as of 9/30/21, center circle indicates median manager

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