Global Equity Position Paper

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Abstract

The following paper examines global equity as an asset class, focusing on justifications and concerns for investing globally rather than via a traditional partitioned U.S. and non-U.S. approach. Furthermore, relative performance, risks, and meaningful outperformance from active management are also considered. Ultimately, this paper strives to investigate the theoretical reasons for global investing and whether these same arguments hold true in reality.

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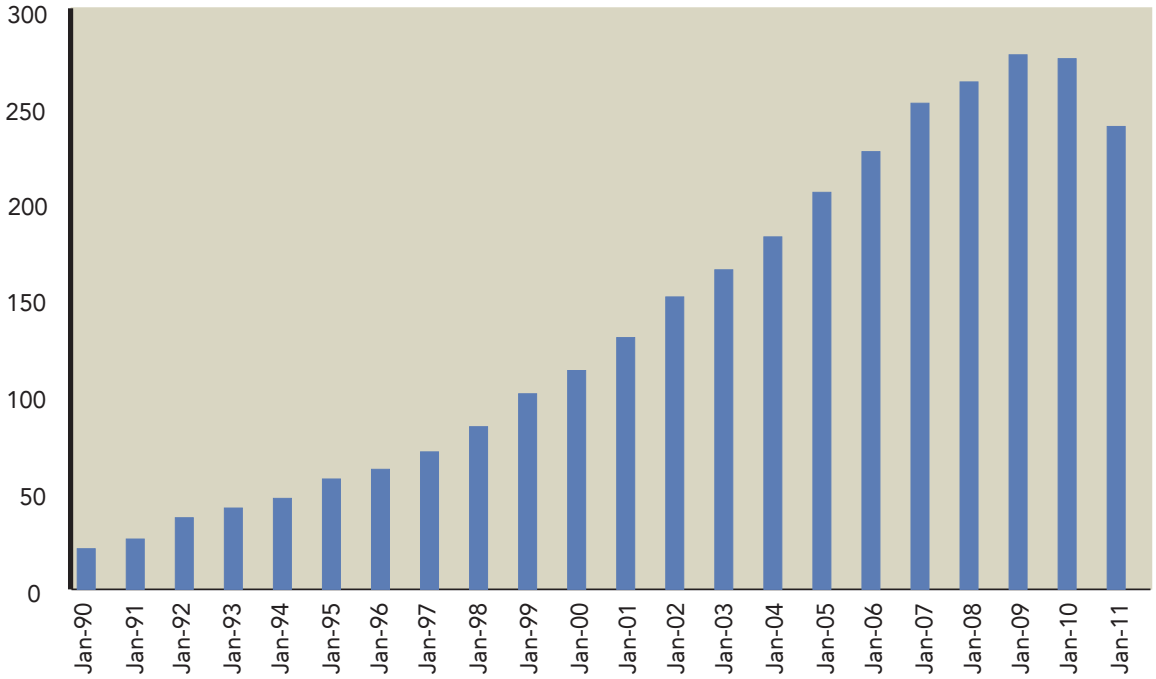
Introduction

As economies and capital markets become increasingly more integrated, interest in global equity investing has soared over the past few years, making some U.S. institutional investors question the traditional partitioned approach of U.S. and non-U.S. equity allocations. Over the last ten years, allocations to global equity mandates (as a percentage of new commitments to global and international funds) have risen from 6% in 2000 to almost 40% by 2011.[1] In essence, U.S. investors have increased global equity mandates as a percentage of their total equity allocations, meaning a shift from a partitioned U.S., non-U.S. approach to a global program.

Not surprisingly, firms and managers have developed strategies to take advantage of the larger opportunity set offered by global mandates. As shown in Exhibit 1, global large-cap equity managers, as defined by the e-VESTMENT Alliance, have increased from 25 in January 1990 to over 250 as of December 31, 2011.

Exhibit 1: Global Large-Cap Equity Managers



However, just because global investing appears to be an emerging trend in the institutional investment world does not necessarily mean that it is a sound hypothesis. The following paper examines global equity as an asset class, focusing on justifications and concerns for investing globally rather than via a traditional partitioned U.S. and non-U.S. approach. Furthermore, relative performance, risks, and meaningful outperformance from active management are also considered. Ultimately, this paper strives to investigate the theoretical reasons for global investing and whether these same arguments hold true in reality.

What is Global Equity Investing?

As a way of framing our analysis, we first offer a broad definition of global equity investments. A global equity manager, as the name implies, has the latitude to invest in stocks across the globe without facing the constraints of a regional benchmark. In theory, this allows for greater freedom in making investment decisions because the

[1] Newton Capital Management, "The Case for a Global Approach to Investing", September 2011

manager can combine investments from the U.S. and international countries to locate the most compelling values and opportunities. So whereas a global manager is free to purchase stocks across 45 distinct countries, a U.S.-based domestic equity manager can only select companies domiciled within the United States.

Essentially, a global mandate provides much more flexibility to a manager, affording him the opportunity to avoid specific countries or regions that possess a greater deal of uncertainty or little perceived value. For example, the current European crisis could be more easily avoided by a global manager than a partitioned approach featuring a 50% international EAFE[2] mandate. This is because Europe comprises 64% of the EAFE index, making it nearly impossible for an international manager to avert the crisis, whereas a global manager can choose to largely ignore Europe and overweight investments to other regions such as Asia or the U.S. Global managers have no specific benchmark to follow, but most loosely adhere to the Morgan Stanley Capital International ("MSCI") All Country World Index ("ACWI"), which is roughly 46% U.S. and 54% non-U.S. Further, the ACWI consists of 85% developed markets and 15% emerging markets; the inclusion of emerging markets adds even more potential investments for a global manager.

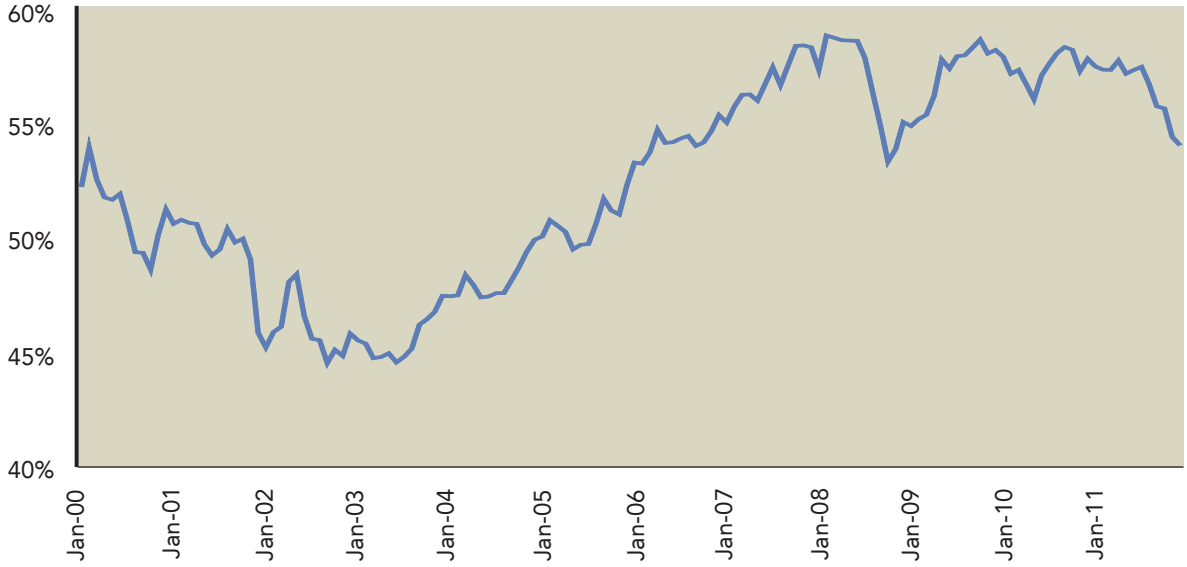
Arguments for Using a Global Manager

There are four primary reasons why global investing may make more sense than the traditional partitioned approach: increased globalization, larger opportunity set, higher correlations among U.S. and non-U.S. equities, and somewhat paradoxically, divergent returns between U.S. and non-U.S. sectors. We cover each of these arguments in more detail below.

Increased Globalization:

As illustrated in Exhibit 2 below, non-U.S. equities continue to comprise a larger portion of the MSCI ACWI. At the end of 2011, non-U.S. equities comprised 54% of the ACWI, down from an all time high of approximately 59% in February of 2008.

Exhibit 2: Non - U.S. Market Capitalization: % of ACWI

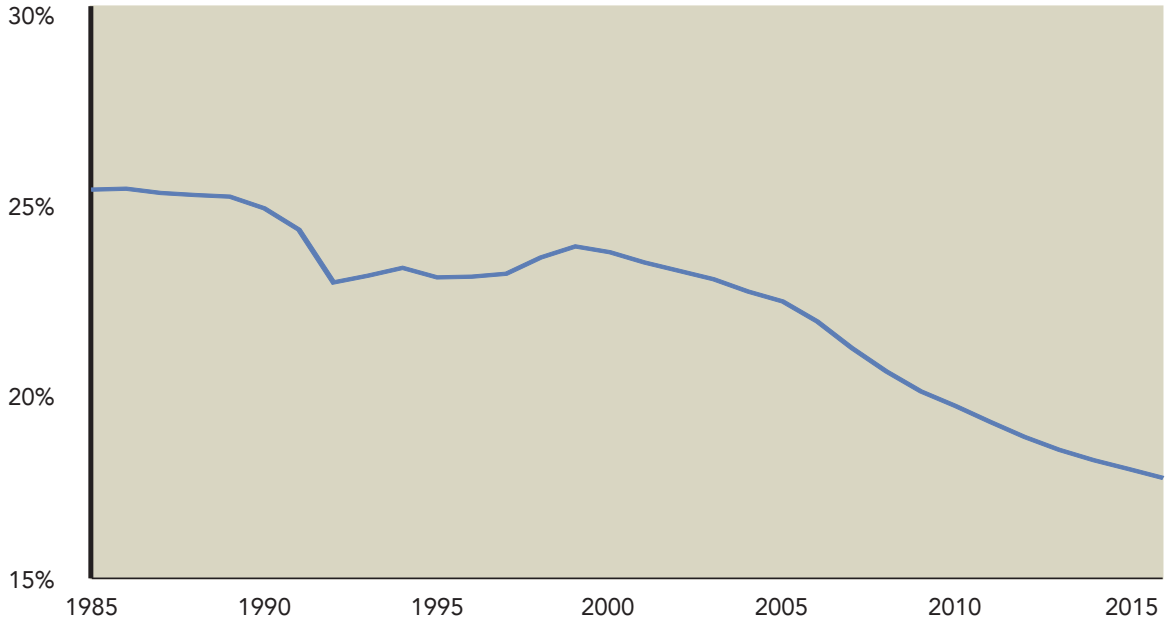


Source: Bloomberg

[2] Europe, Australasia, & Far East

In addition to a declining global equity percentage, the U.S. has been on a continual decline in regard to its global GDP contribution. Exhibit 3 shows that the U.S. percentage of global GDP has steadily dropped from slightly over 25% in 1985 to less than 20% in 2009, and is only projected to decrease further.[3] While the U.S. and other developed countries' share of global GDP has declined, non-developed countries have become much larger participants in the global economy, even more than they were just ten years ago.

Exhibit 3: U.S. % of Global GDP



Source: International Monetary Fund, World Economic Outlook Database, September 2011

In 2010, non-developed economies comprised approximately 48% of global GDP, compared to 36% in 1995.[4] Further, emerging markets now constitute approximately 15% of the global equity universe, an increase from 1% in 1988.[5] Non-developed economies continue to exhibit long-term secular trends of favorable growth, urbanization, demographics, and rising levels of wealth, making them more competitive and influential on a global basis. Moving forward, investors should expect the composition of the global equity market to more closely reflect global GDP makeup, meaning the U.S. presence within the ACWI should decline and non-U.S. countries' representation, specifically emerging and frontier countries, should continue to increase.

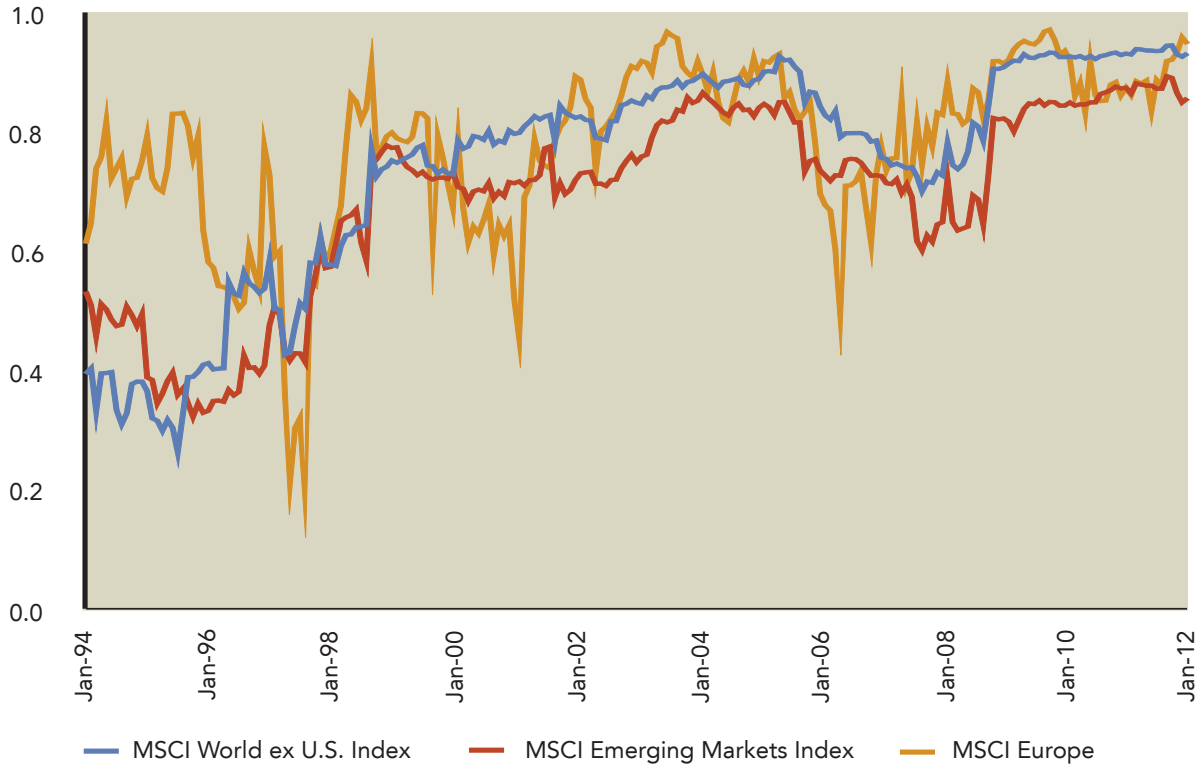
Notably, correlations among U.S. and international markets have increased due to globalization. Exhibit 4 illustrates the rolling correlations of three non-U.S. equity indices to the S&P 500. Correlations between each index and the S&P 500 have increased dramatically over time, with all three values currently above .9.

[3] IMF: All data after 2010 considered estimates

[4] IMF Data based on Purchasing Power Parity

[5] MSCI

Exhibit 4: Rolling 3-year Correlations with S&P 500



Source: EnCorr

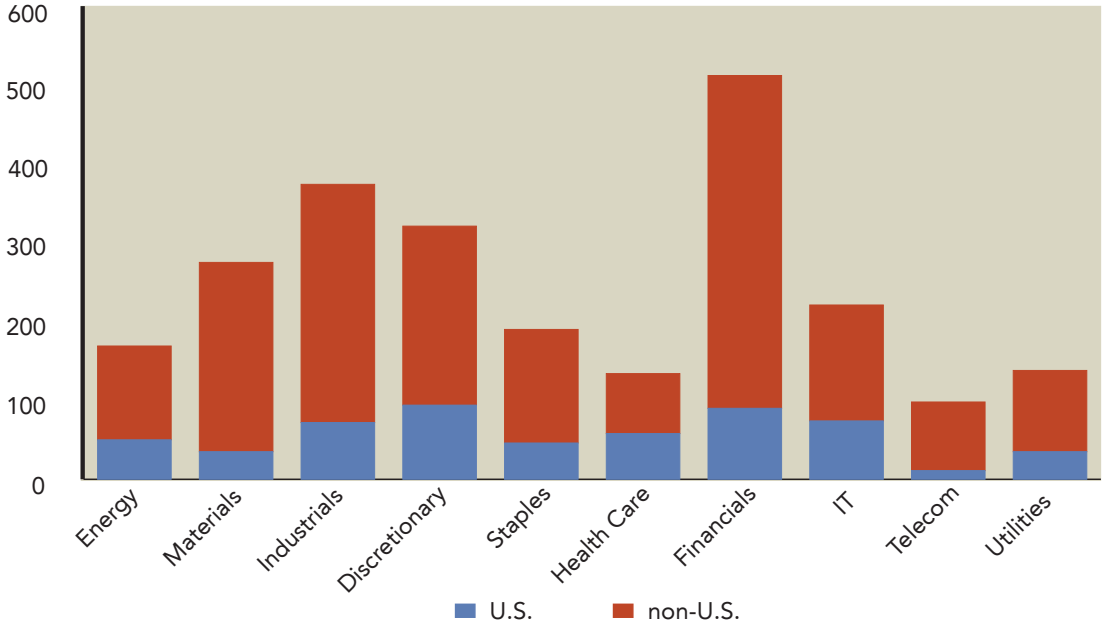
Opportunity Set:

Opportunity set is all the available investments that fall within a manager's universe. For example, a large-cap domestic equity manager concentrates his time and energy researching companies that fall within the S&P 500 index, while an emerging markets manager focuses on corporations that fall into an emerging markets index. A global equity manager differs in that his investable universe (opportunity set) is much larger – he can choose stocks on a global basis, regardless of the company's headquarters. Ultimately, this enhanced opportunity set is another argument in favor of global equity strategies.

As a result of globalization and emerging markets growing in importance, the investable equity names outside of the United States have grown remarkably. Given that the U.S. has declined in terms of its contribution to both global equity make-up and GDP, opportunities have emerged in other parts of the world.

Evidence of this trend can be found in Exhibit 5: non-U.S. companies represent the vast majority of eligible investments within the MSCI ACWI. On average, U.S. domiciled companies comprise only 25% of each of the ten main sectors.

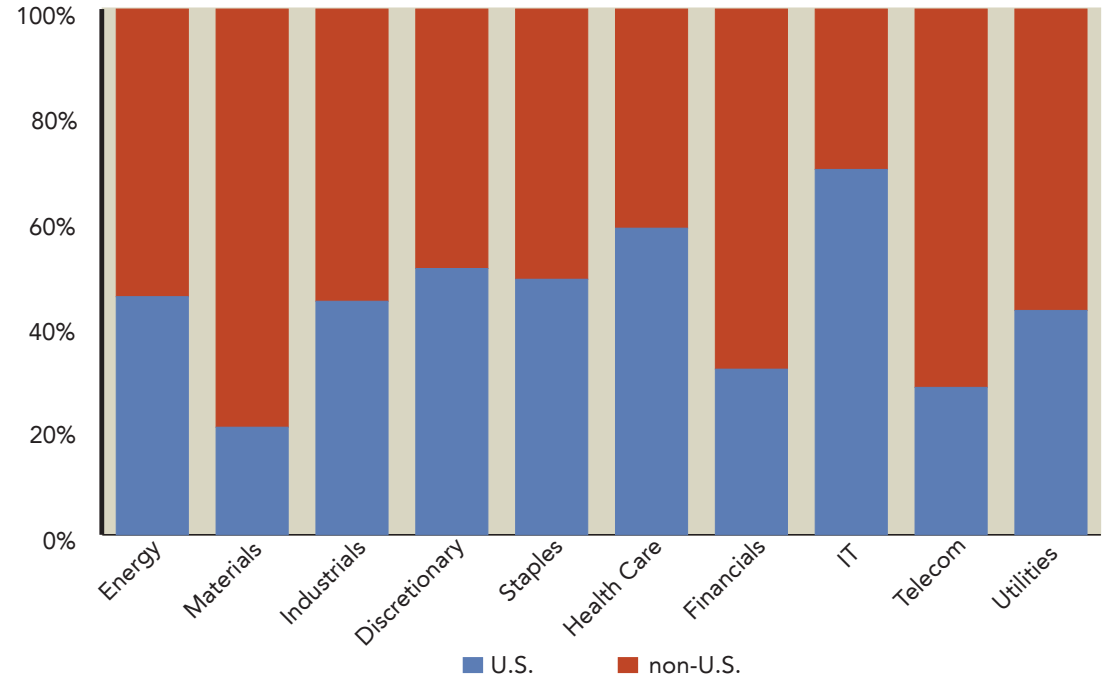
Exhibit 5: Global Sector Makeup by Names



Source: Bloomberg

Clearly, there are a large number of names outside of the U.S. within each of the ten sectors. Exhibit 6 shows the same sectors within the MSCI ACWI Index as Exhibit 5, but compares the names within each sector on a market-capitalization ("cap") weighted basis, rather than absolute numbers. On a market-cap weighted basis, the U.S. constitutes a much larger percentage of each sector.

Exhibit 6: Global Sector Makeup by Percentage



Source: Bloomberg

Composition varies by sector, but on average - based on market-cap - U.S. domiciled companies comprise 44% of each MSCI ACWI Index sector. However, much dispersion exists in these averages; for example, U.S. companies comprise almost 70% of the IT sector on a cap-weighted basis in the ACWI, whereas 80% of the materials sector is non-U.S.

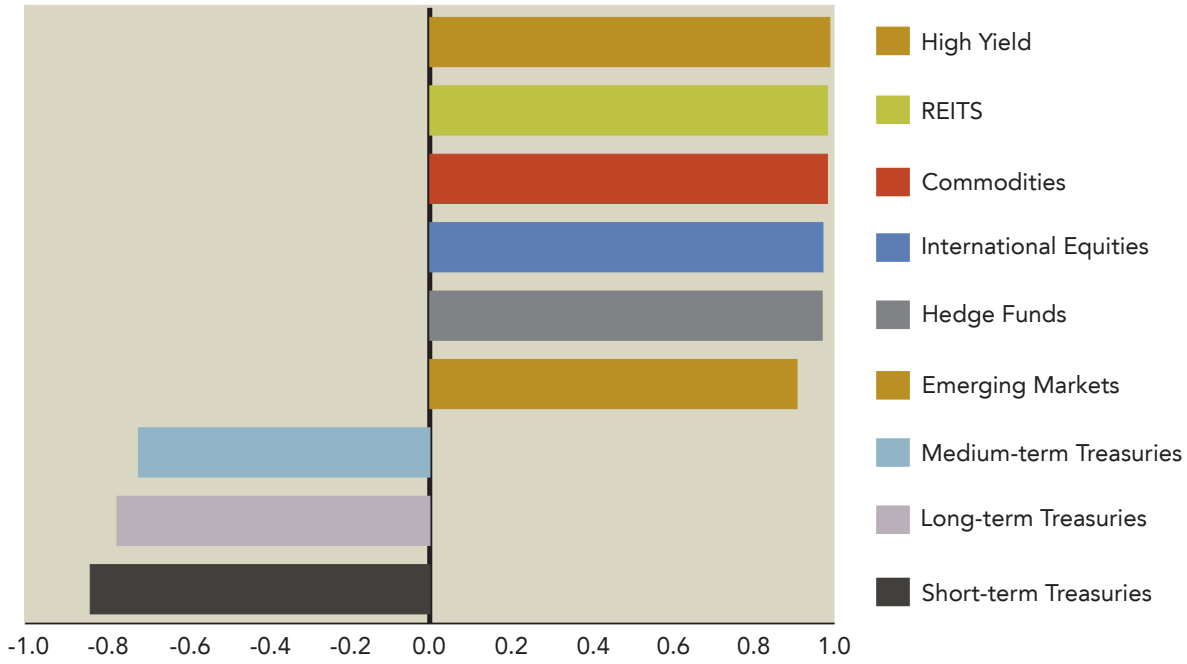
One notable take-away from Exhibit 6 is that future growth potential appears more favorable in non-U.S. markets. The reasoning is fairly straightforward: as companies gain a larger market cap they have a smaller probability of continuing to increase their values. For example, Exxon Mobil with a market cap of $406 billion has a much smaller chance of increasing its value by 50% compared to Eni S.p.A., an Italian based energy company that has a market-cap of just $81 billion.

Collectively, Exhibits 5 and 6 illustrate the expansive opportunity set abroad, while the majority of the more established companies are domiciled within the United States. Because the majority of sector names are located outside the U.S. and the majority of market capitalization is from companies domiciled within the U.S., it is reasonable to assume greater growth in the value (as measured by market-cap) of non-U.S. companies compared to their U.S. counterparts. In turn, one should expect the non-U.S. portion of Exhibit 6 to increase just as the non-U.S. portion of the ACWI index has grown over time. Ultimately, this should contribute to the larger opportunity set afforded to global managers. One would expect that a skilled manager will perform better when able to choose from a greater number of names.

Increased Correlation Among Sectors

Increased correlations among indices, sectors, and stocks are another argument in support of a global mandate. Referring to Exhibits 7 and 8, there is little doubt that correlations are extremely elevated and much higher now

Exhibit 7: 5-Year Correlations to S&P 500



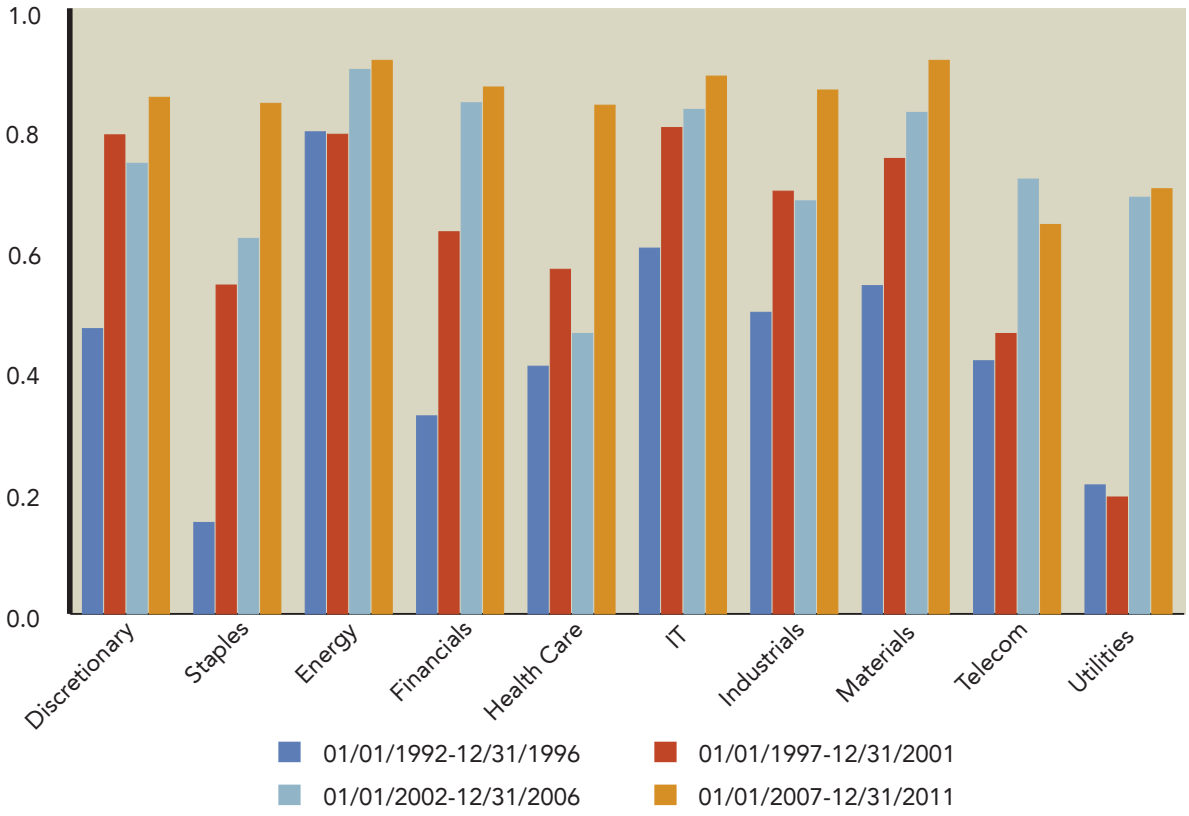
Source: Bloomberg

than they have been historically. Exhibit 7 shows the 5-year correlations between the S&P 500 and a broad set of sample asset classes through December 2011.

As shown in the chart, all risk assets have displayed a very high positive correlation to the S&P 500 over the past five years. Aside from the three Treasury indices, no other asset class has a correlation less than .9, which is extremely high.

Exhibit 8 depicts 5-year correlation figures over four different time periods, for each respective MSCI U.S. and ACWI ex U.S. sector. Each time period is shown by a different colored bar on the chart. For example, the consumer discretionary ("Discretionary") section shows the correlation between the MSCI U.S. discretionary sector and the MSCI ACWI ex U.S. discretionary sector over four distinct 5-year time frames.

Exhibit 8: Correlations between U.S. & non-U.S. sectors



Source: Bloomberg

There is no question that correlations between U.S. and non-U.S. sectors have increased since 1992. If we look at correlations for the discretionary sector, we can see that correlations were .48, .79, .74, and .85 for each respective 5-year period.

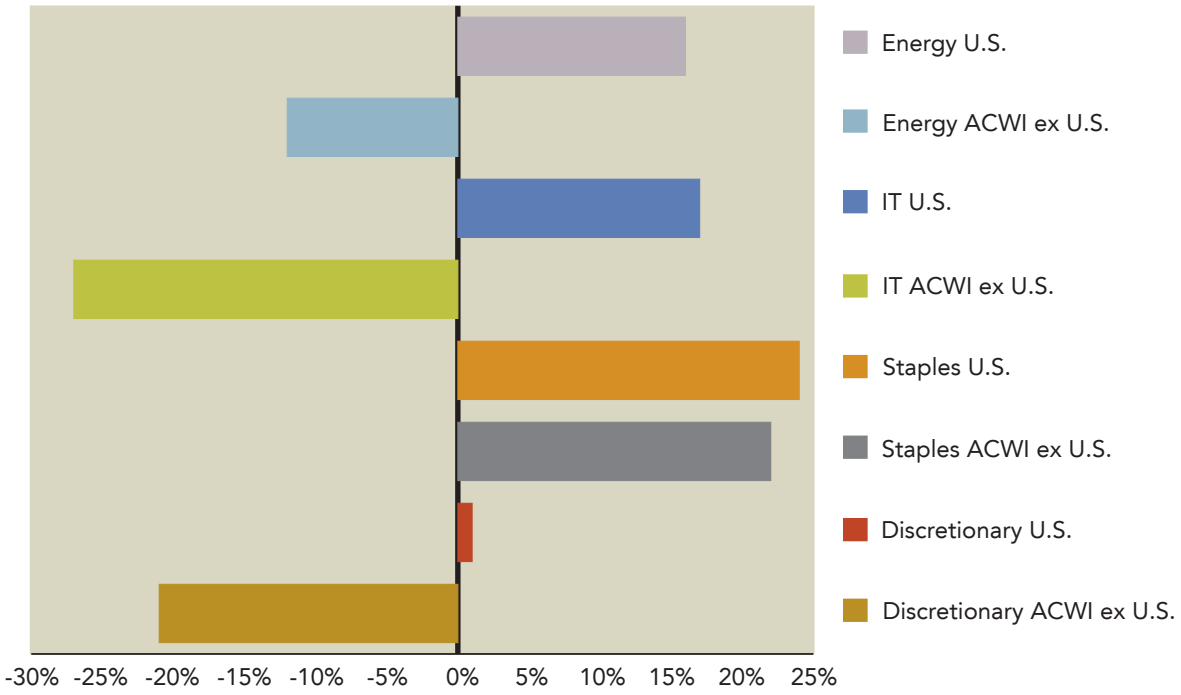
Correlation for the discretionary sector has increased 77% when the 1992-1996 period is compared to the 2007-2011 period. In all but one sector (Telecom), correlations between the U.S. and non-U.S. sectors were higher in the most recent 5-year period than in any other 5-year time frame analyzed.

The higher correlations between asset classes and sectors reduces the utility of separating U.S. and non-U.S. stocks for diversification purposes, since the two are so highly correlated. As such, global equity mandates may be more efficient since they can provide similar exposures to regions without compromising significant diversification effects from segregating the two equity classes.

Divergent Returns

Correlation, however, shows solely the direction that two variables move and does not incorporate the magnitude of the movement. Just because two asset-classes, indices, or stocks have high correlations doesn't mean that their returns will be the same. In fact, this will most likely never be the case as shown below in Exhibit 9.

Exhibit 9: Total Sector Returns, 5-years Ended 12/31/2011



Source: Bloomberg

The graph above illustrates 5-year returns through 2011 for a select group of MSCI U.S. and ACWI ex-U.S. sectors. When each U.S. sector is compared to its respective non-U.S. counterpart, it is clear that despite high correlations, there are large divergent returns. For example, from 1/1/2007 to 12/31/2011, the MSCI U.S. discretionary index returned a cumulative total of 1% compared to -21% for the ACWI ex U.S. discretionary index.[6] Along the same lines, the U.S. IT index returned 17%, while the non-U.S. IT index returned -27%, a staggering 44% difference. In fact, consumer staples was the only sector that showed similar performance within and outside the United States over the five-year period ended 2011.

The previous discussions about increased correlations and largely divergent returns between U.S. and non U.S. sectors may seem counterintuitive. However, Exhibit 9 confirms that despite high correlations, stocks, sectors, and indices can perform differently. Thus despite elevated correlation levels, absolute sector and stock performance can still fluctuate widely based on companies' domiciles.

[6] Return information based on index returns without dividends.

Theoretically, the arguments presented to this point support a global manager rather than a partitioned approach. However, the main concern for investors is not whether a global equity allocation makes sense in theory, but whether global managers perform better compared to managers in a partitioned U.S., non-U.S. approach.

Portfolio Analysis

In this next section, we analyze the performance and risk characteristics of global equity strategies over two time periods to determine if a global mandate leads to better absolute and/or risk-adjusted performance than a partitioned U.S., non-U.S. allocation. To do so, we compare the median[7] global manager to the median 50-50, U.S. large-cap and non-U.S. diversified large-cap, blended manager. Two time periods are analyzed; the first uses rolling one-year returns dating back to 1990, and the second utilizes rolling-one year returns since 2002. We use 2002 because that is the first year in our analysis (Exhibit 8) when correlation levels became elevated (recall that the increase in correlations is one of the arguments in favor of global managers). All of the data used has an endpoint of December 31, 2011.

The MSCI World Index is used as the common benchmark for comparing the performance of a global strategy to a partitioned strategy. In other words, both equity portfolios are benchmarked against the MSCI World Index to gauge their relative advantages. It should be noted that the MSCI World Index does not contain emerging markets. Emerging markets were not as prevalent within portfolios fifteen years ago as they are today, and as such, many global and international strategies did not hold emerging market stocks. Thus in an effort to level the playing field when comparing relative performance, we feel it is best to utilize the MSCI World Index.

The overall results of the analysis are shown in Exhibit 10. Based on the metrics, global equity strategies appear to outperform on both an absolute and risk-adjusted performance perspective when compared to a blended allocation of U.S. and non-U.S. stocks. When compared to a partitioned approach, the global strategy displays a better outperformance rate, higher average outperformance, along with higher information and Sharpe ratios.[8] Furthermore, data since 2002 illustrate a similar, but more compelling, story for global managers. Again, global equity portfolios delivered a better outperformance rate, average outperformance, and higher information and Sharpe ratios than a 50/50 U.S., non-U.S. partitioned allocation.

Exhibit 10:

Portfolio Analysis Since 1990	Median Partitioned Approach	Median Global Manager
Outperformance Rate	67%	75%
Avg. Outperformance	1.35%	1.64%
Tracking Error	3.09%	3.50%
Average Returns	8.3%	8.6%
Standard Deviation	17.7%	18.0%
Sharpe Ratio	0.29	0.30
Information Ratio	0.44	0.47
t statistic	0.770	0.896
Statistically Significant	NO	NO

Portfolio Analysis Since 2002	Median Partitioned Approach	Median Global Manager
Outperformance Rate	58%	75%
Avg. Outperformance	0.21%	1.11%
Tracking Error	0.95%	1.29%
Average Returns	6.5%	7.4%
Standard Deviation	21.4%	21.9%
Sharpe Ratio	0.22	0.25
Information Ratio	0.23	0.86
t statistic	-0.019	0.206
Statistically Significant	NO	NO

Source: e-VESTMENT, EnCorr

[7] Median managers are used as we assume no skill in manager selection.

[8] Information ratios, Sharpe ratios, and excess returns are calculated against the MSCI World Index.

Looking strictly at the numbers from the analysis, a global equity strategy appears to add value versus a partitioned approach. However, when comparing different portfolio structures, it is important to determine how rigorous the apparent outperformance of any strategy is. To do so, we use a statistical test – a straightforward t-test based on a z-score – to conclude if the outperformance is statistically significant. In this case, none of the t-stats are close to being statistically significant. Nonetheless, the outperformance is still notable and helps to explain the movement toward global equity mandates over the last ten years. If nothing else, it is reason to continue our analysis of global equity investments and investigate how managers have delivered these excess returns.

Analysis of Active Global Managers

The values shown in Exhibit 10 are based on actively managed global equity mandates, and that data along with the qualitative arguments suggests that any global allocation made by an investor should be actively managed. However, it is necessary to confirm this hypothesis before blindly recommending the use of active management. Specifically, we need to confirm if active managers have demonstrated an ability to add value above a passive strategy on a net of fees basis. As a first step, we investigate how much (if any) additional value active management can add for global investors. To do this, we compare quarterly median manager returns and quarterly index returns (based on the MSCI ACWI). Median manager returns were obtained from the e-VESTMENT Alliance database. Again, we use median managers as we assume no skill in manager selection. Estimates of active and passive management fees were developed for each index so returns are calculated net of fees. Rolling one-year returns dating back to 1990 are used for the analysis.

The results of the analysis are shown in Exhibit 11 below. A quick review of the numbers reveals that the median global manager outperformed the index 66% of the time with an average annual outperformance of 1.39%. Risk, as measured by standard deviation, was slightly lower for the median active manager compared to the index. Furthermore, the median active manager delivered Sharpe and information ratios of .36 and .42, respectively. Based on Exhibit 11, active management appears to outperform on an absolute and risk-adjusted basis when simply comparing the returns of the median global manager to the global benchmark. In order to truly hold conviction in these results, though, evidence of statistical evidence is again necessary. Similar to the previous section, the lack of data points in the analysis keeps the t-stat[9] from reaching any notable threshold of significance.

Exhibit 11

Portfolio Analysis	Active	Passive
Outperformance Rate	66%	N/A
Avg. Outperformance	1.39%	N/A
Tracking Error	3.27%	N/A
Average Returns	8.6%	7.0%
Standard Deviation	18.0%	18.5%
Sharpe Ratio	0.36	0.21
Information Ratio	0.42	N/A
t statistic	0.80	N/A
Statistically Significant	NO	N/A

Source: e-VESTMENT, EnCorr

Thus, it appears that active management offers superior performance, but not in a statistically meaningful way. Despite the lack of statistical significance, though, the level and frequency of outperformance versus an index also helps to explain the large inflows into actively managed global equity funds. Given this relative outperformance, we would like to identify how global equity funds have beaten both passive global indices and partitioned equity portfolios.

To address this question, we develop a linear regression model to assess the value added by active global managers. If global active managers add statistically

[9] T-stat value is 0.80.

significant value after accounting for management fees, it would seem logical to employ an active manager rather than an index fund when allocating to global equities. We ran two regressions - one from the date of each manager's inception, and then a second using 2005 as the common initial date. The reason for running the second regression is to ensure that any statistical findings for global managers have not dissipated as products have flooded the market given the growing interest in global investing.[10] We again use the e-VESTMENT Alliance database as our universe of active managers. After eliminating any managers lacking a three-year performance record and any concentrated managers (energy, gold, technology, infrastructure, etc) we are left with 282 global equity managers. In order to estimate manager alpha, we use a seven-factor regression analysis.

The regression analysis is formulated as follows:

$$\text{Returns} - R_f = \alpha + \beta_{USDev} \times (\text{U.S. Market}_{Dev} - R_f) + (\beta_{USSMB} \times \text{U.S. SMB}) + (\beta_{USHML} \times \text{U.S. HML}) +$$
$$\beta_{NonUSDev} \times (\text{non U.S. Market}_{Dev} - R_f) + (\beta_{NonUSSMB} \times \text{non U.S. SMB}) +$$
$$(\beta_{NonUSHML} \times \text{non U.S. HML}) + \beta_{EM} \times (\text{Emerging Market} - R_f)$$

Where:

α = Manager Alpha

β_{USDev} = Beta of U.S. developed market returns

β_{USSMB}= Beta of excess returns to U.S. small cap stocks

β_{USHML}= Beta of excess returns to value stocks

$\beta_{NonUSDev}$ = Beta of non-U.S. developed market returns

$\beta_{NonUSSMB}$= Beta of excess returns to non-U.S. small cap stocks

$\beta_{NonUSHML}$= Beta of excess returns to non-U.S. value stocks

β_{EM} = Beta of emerging market returns

Based on the results of the first regression (Exhibit 12), global managers exhibited varying exposures to each of the factors listed above, with managers overweighting U.S. or non-U.S. markets based on their respective views of each. However, passive exposures to our analyzed factors are unable to explain gross of fee manager outperformance. Using the seven factor model, we find that global managers add statistically significant[11] alpha gross of fees (1.24%). However, this is usually the case when analyzing active managers: alpha is added gross of fees, but then disappears when management fees are considered. In this case, though, we find that global managers still add statistically significant[12] alpha (48 basis points) after adjusting for the median management fee.[13]

Exhibit 12:

Regression (1) Results	Since 1990
Annualized Alpha	0.48%
Managers	282

[10] While it is to be expected that the early entrants to the market would be profitable in a thinly researched and traded arena, it is less likely that significant returns would persist as more investors enter the market.

[11] T-stat of 8.53

[12] T-stat of 3.18

[13] 80 basis points was used as the median fee

Despite the lack of statistical significance in the first analysis of active global managers, our first regression results make a strong case for global managers. However, when analyzing any asset class and its managers, it is important to ensure that alpha demonstrates some sort of persistence. It is this question to which we now turn, using 2005 as our common starting point for all managers.

Alpha Disappearing

Our second regression utilizes manager returns since 2005. Using our seven factor model, we again find that managers add statistically significant[14] alpha gross of fees (69 basis points). While this would seem to indicate significant value added by active management, actual returns to investors are net of fees. After performing the same analysis on net of fee manager returns, alpha becomes negative (-11 basis points) as illustrated in Exhibit 13.

Exhibit 13:

Regression (2) Results	Since 2005
Annualized Alpha	-0.11%
Managers	282

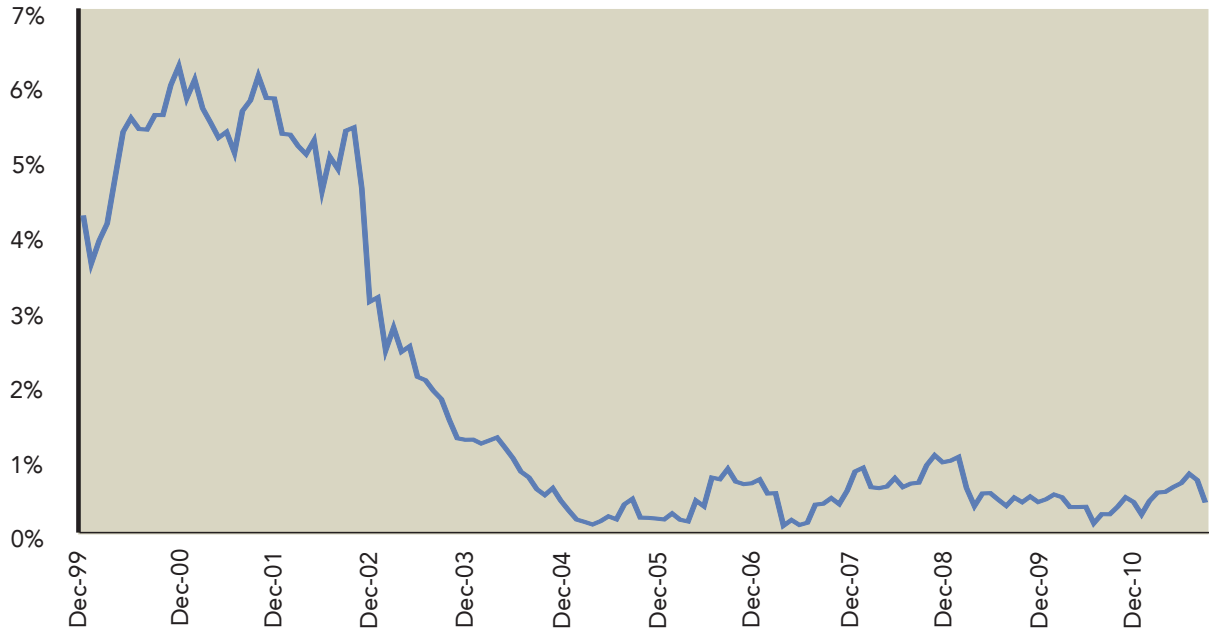
Additionally, the betas summarized in Exhibit 14 suggest that global managers appear to overweight[15] international small-cap and emerging market stocks in an attempt to generate alpha.

Exhibit 14:

Category	US Mkt-Rf	US Small-Cap	US Value	Intl Mkt-Rf	Intl Value	Intl Small-Cap	EM
Global	44.0%	-0.17%	-0.3%	41.4%	-6.3%	4.4%	8.6%

Lastly, Exhibit 15 shows a rolling 3-year regression (using the same factors as in the regressions above, dating back to January 1997) that reveals a similar trend as Exhibit 13: the average alpha generated by global managers[16] has dropped precipitously since November 2002, and has yet to recover to meaningful levels.

Exhibit 15: Average Manager Alpha



Source: e-VESTMENT

[14] T-stat of 4.62

[15] Versus the benchmark

[16] After accounting for inherent bets made via asset allocation

However, Exhibit 15 is based on average alpha. Certainly, there are managers within this subset that have continued to generate alpha, but given the overall low value, the law of averages works out so that there are more managers who have generated little or negative alpha. Many possible explanations for this downward trend in alpha have been hypothesized, but the most plausible is that the global equity manager universe has grown substantially and thus added many mediocre and sub-par managers to the sample set. For example, at the end of 1997, there were 71 global large-cap equity managers and a total of 189 global equity managers. At the end of 2011, there were 253 managers designated as global large-cap and a total of 720 managers designated as global equity. Given the explosion in products and managers, the market has become considerably more efficient therefore eliminating most opportunities for global managers to deliver meaningful alpha to investors.

Conclusion

Where does all this analysis lead us when establishing a position on global equity strategies for our clients? The initial evidence (Exhibits 10 - 12) indicates that while not statistically significant, the use of a global equity strategy would have been accretive to portfolio performance. However, more recent evidence (Exhibits 13 - 15) suggests that global equity managers are running into the usual challenges of a crowded market: increased efficiency and competition have all but eliminated meaningful sources of alpha. Further analysis via regression reveals that asset-allocation decisions, rather than stock-selection abilities, have been the primary driver of global managers' outperformance relative to the index. It appears that the majority of global managers' outperformance has been a result of beta exposure to small-cap and emerging market stocks. Exhibit 15 illustrates that after accounting for factors such as overweights[17] to small-cap and emerging market stocks, the average active global manager does not provide value to investors net of fees. If the majority of global managers' outperformance comes simply from beta exposure to specific asset classes, an investor can utilize a passive approach to obtain these exposures much more efficiently.

Based on these findings, there is no structural advantage available to global managers, as their outperformance has really been driven by asset allocation decisions. In fact, separate allocations to emerging market and international small-cap equities as part of a U.S. and non-U.S. partitioned portfolio will accomplish the same end goal, while also allowing asset allocation decisions to stay at the plan level. Therefore, we do not recommend that investors replace their partitioned U.S. and non-U.S. equity portfolios with a global approach, as our analysis has identified that the apparent outperformance can be sourced through separate allocations to the appropriate equity categories.

However, investors interested in global equities have likely been drawn to the space for the qualitative arguments – economic globalization, larger opportunity set, increasing correlations, and divergent returns – just as much if not moreso than by the more ambiguous quantitative evidence. Critically, these qualitative arguments are more compatible with the concept of active management than an index strategy; one of the common arguments historically made to rationalize active management is the ability to take advantage of value and opportunity across a given landscape. Therefore, the premise of a global mandate may be predicated on the utilization of active management; otherwise investors may be just as well off with the appropriate split between separate allocations to U.S. and non-U.S. equity.

[17] Versus the benchmark

We find no structural benefit that is inherent to a global mandate, despite the qualitative arguments. Ultimately, the decision to install a global mandate is a bet on successful active management. If there is no perceived advantage for an investor when selecting managers, he is better off leaving his equities split between U.S. and non-U.S. stocks. If investors have access to the appropriate research to identify successful managers, active management can be appropriate. We would expect that with rigorous due diligence and research, above median managers can be properly identified and sourced for investors. Yes, it is a crowded space with a large dose of average to below average products, but positive alpha products on a net of fee basis are out there. It is simply a matter of finding them.

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