Some Like It Hot

On the role of very active mandates across equity segments in a core-satellite structure

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Xiaowei Kang

Frank Nielsen

Giacomo Fachinotti

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Introduction

Since the beginning of indexing in the early 1980s, active versus passive investing has been a much-debated subject of investment management. Today, plan sponsors have the option to implement their global equity allocation through either active or passive mandates.

In many instances, the active versus passive decision reflects both the philosophical beliefs and practical considerations of institutional investors. While there are institutional investors with strong convictions in each camp, more are increasingly pragmatic and combine passive and active mandates when implementing the global equity allocation.

The recent MSCI Research Insight "The 'New Classic' Equity Allocation?" (Kang, Nielsen, and Fachinotti, 2010) discusses the evolving mandate structures and provides a framework for the implementation of global equity allocation[1]. As part of the MSCI Research series on global equity implementation, this paper reviews the active management opportunity in different equity market segments, and discusses the role of very active mandates across segments in a core-satellite portfolio structure.

Active Management in Different Equity Market Segments

It is worthwhile revisiting a few basics that are accepted by the proponents of active and passive management. First, when taking the market as a whole, active management is a zero-sum game, and a negative-sum game after transaction costs and fees. Secondly, it is notoriously difficult for managers to consistently deliver alpha on a risk-adjusted basis. Lastly, skillful active managers do exist, but institutional investors need to have the relevant skills and resources to identify such managers on a consistent basis. Thus, the decision to go active or passive often reflects cost considerations and resource constraints. However, there are other important dimensions.

Institutional investors often rely on the relative efficiency of markets to gauge the level of opportunities for active management. For instance, emerging markets and the small cap segment are perceived to be relatively less efficient than developed markets and the large cap segment. Consequently, active management is generally thought to be more promising for emerging markets and small cap mandates.

An indication of the potential for active management is the level of return dispersion. Exhibit 1 shows that, as measured by the MSCI indices, emerging markets exhibited a higher level of return dispersion than various developed market regions. The comparison across size segments also confirms that small caps had significantly higher return dispersion than large caps in both developed and emerging markets. These observations indicate the higher potential for active managers to add value in emerging markets and the small cap size segment.

[1] Refer to Appendix 1 for "The 'New Classic' Equity Allocation?".

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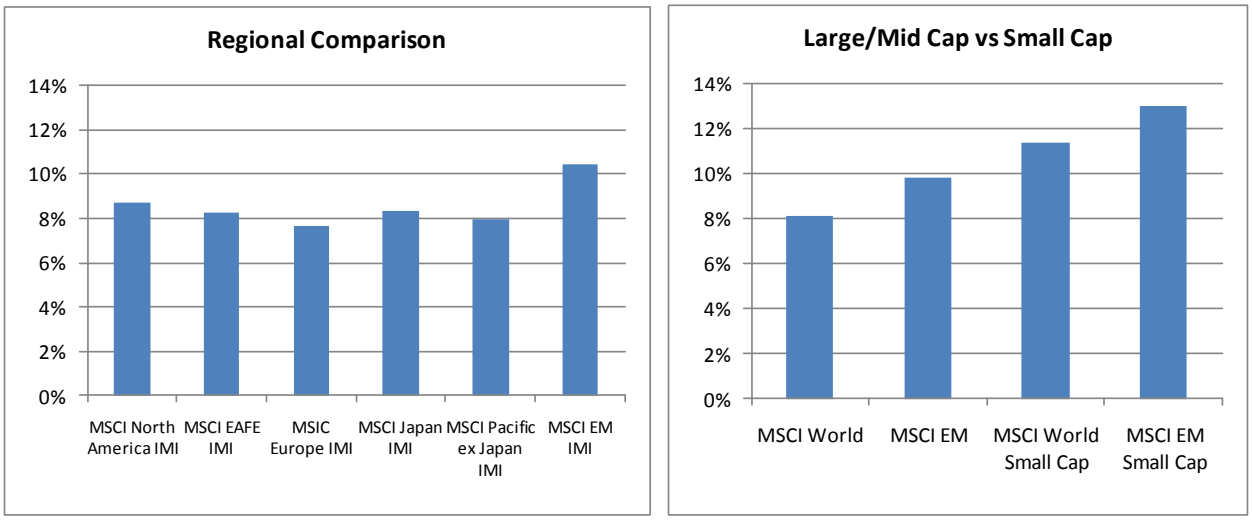
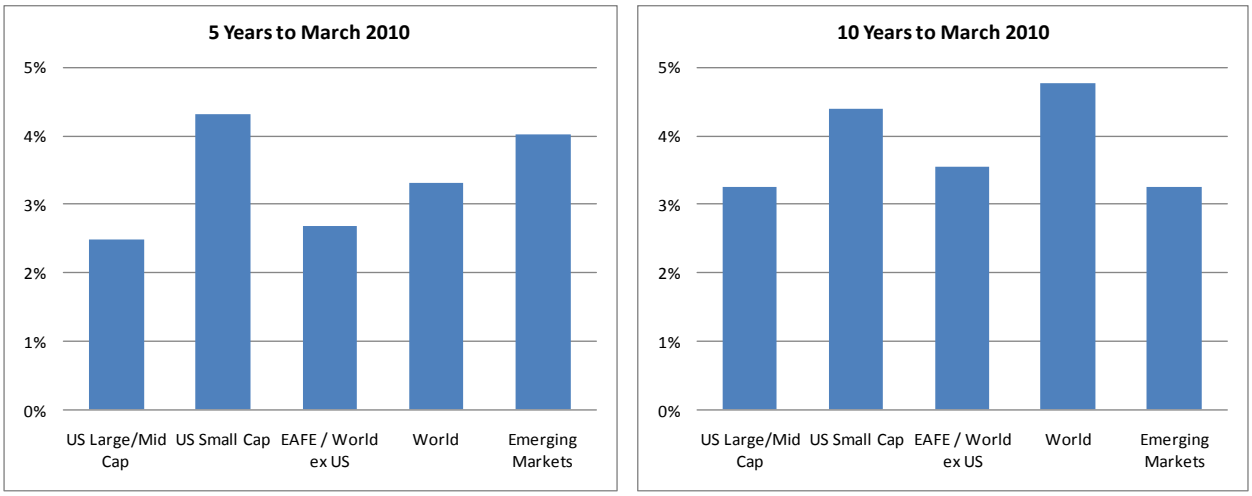
Exhibit 1: Stock Return Dispersion in Different Equity Market Segments



Source: MSCI. 10 Years to 31 March 2010. "IMI" denotes "Investable Market Index" and covers large, mid and small cap stocks.

For institutional investors who implement their equity allocation through external mandates, the manager return dispersion may be a more relevant measure of the potential for active management. Exhibit 2 reports the gap between the performance of top and bottom quartile managers across different equity segments. It shows that the manager performance dispersion is higher in US small cap than US large/mid caps, a result consistent with the higher stock return dispersions in small caps. On the other hand, over the 10 years ending March 2010, emerging market managers have demonstrated lower performance dispersion than global developed market managers, contradicting the results one might expect based on the higher security return dispersion in emerging markets.

Exhibit 2: Annualized Performance Dispersion between Top and Bottom Quartile Managers[2]



Source: MSCI, eVestment Alliance. 10 Years to 31 March 2010. Manager performance dispersion is measured as the gap between the excess returns of top quartile and bottom quartile managers. Excess return is the active return relative to the benchmark.

[2] In this paper, our data for international equity, global developed markets, and emerging markets includes large/mid cap mandates. Small cap managers in these segments are not analyzed separately due to the relatively small size of the sample.

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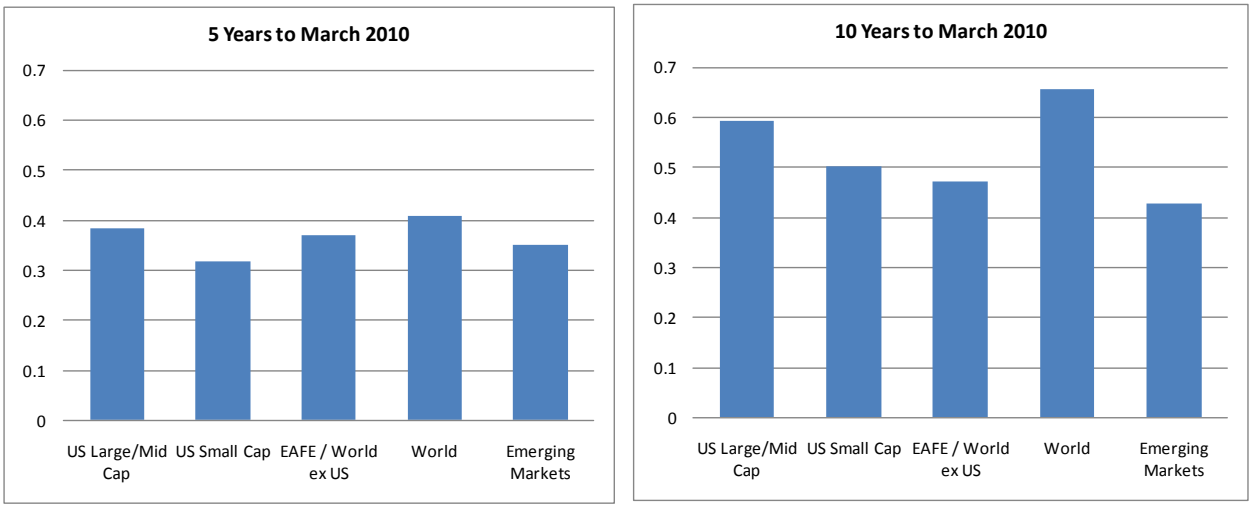
Kang, Nielsen, and Fachinotti (2010) suggest that some emerging market mandates may be structured to obtain just the broad exposure to the segment through tracking their respective benchmarks. This could have contributed to the modest performance dispersion amongst emerging market mandates, despite the higher stock return dispersion and market volatility. Another potential explanation may be that some developed market mandates allow for a certain maximum exposure to emerging markets that is not captured by their benchmark. Such exposure may inflate the dispersion in the excess return of developed markets mandates.

Another question is whether there are active managers in less efficient segments, such as emerging markets and small cap, who can consistently add value beyond their respective benchmarks. Empirical studies show mixed results. Some earlier studies[3] find consistent and significant active management premium in US small cap. However, Davis, Sheay, Tokat, and Wicas (2007) find that small-cap outperformance is overstated and fragile with regard to benchmark selection, time periods, and relative performance measures. In emerging markets, Knutzen (2010) observes that dedicated emerging markets managers have historically shown an ability to add value versus the benchmark over 5-year rolling periods. Eling and Faust (2010) report that some emerging market hedge funds generated significant positive alpha, whereas the median emerging market mutual funds underperformed traditional benchmarks during the period from 1996 to 2008.

Exhibit 3 shows that, net of management fee, the top quartile US small cap and emerging market managers have added less risk-adjusted active return than their respective counterparts in US large cap and global developed markets during the recent 5- and 10-year periods ending March 2010. Another notable observation is that across all segments the 5-year information ratios were lower than the 10-year ratios. This may reflect the existence of survivorship bias in longer-term manager performance data and the challenges faced by many active managers during the 2007-2009 financial crisis.

Exhibit 3: Information Ratio (Risk-Adjusted Active Return) of Top Quartile Active Managers[4]



Source: MSCI, eVestment Alliance. 10 Years to 31 March 2010. "International" denotes EAFE and World ex US mandates. The management fee by peer group published by eVestment Alliance as of March 2010 was used. Manager performance data has not been adjusted for potential biases such as survivorship bias and selection bias.

[3] For instance, see Allen (2005).

[4] The top quartile information ratio here corresponds to the value at the 75th percentile in each segment.

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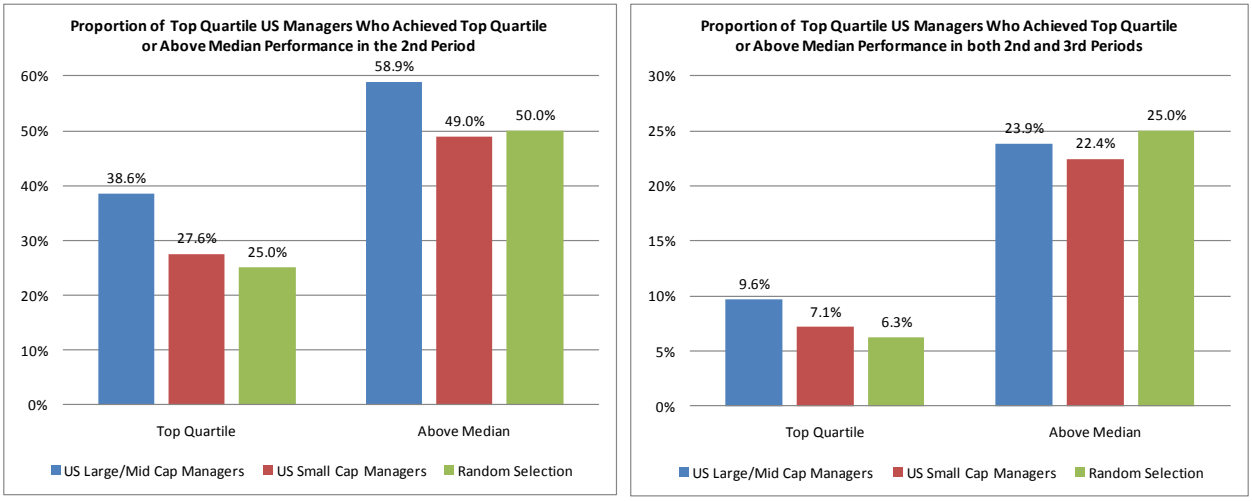
Exhibit 4 shows the proportion of active US managers who were top quartile managers in the first three-year period, continuing to achieve top quartile or above median performance over the second and third three-year periods. It shows that top US small cap managers have not demonstrated stronger performance persistency than the top US large/mid cap managers. In fact, only about 7.1% of top quartile US small cap managers (compared with 9.6% of top quartile US large/mid cap managers) in the first period continued to rank in the top quartile over the following two periods, a probability that was close to random selection.

Exhibit 4: Performance Persistency of Top Quartile US Managers over Three 3-Year Periods



Source: MSCI, eVestment Alliance. Analysis is based on manager performance in the 9 Years ending 31 March 2010, which is divided into three 3-year periods. Manager performance data has not been adjusted for potential biases, such as survivorship and selection bias.

A potential explanation for the lack of performance persistency is that the manager outperformance may be attributed to a combination of skill and luck. Urwin (2000) suggests that due to high noise-to-signal ratio in active manager returns, the performance may reflect the influence of chance more than the influence of investment skills. Fama and French (2010) use bootstrap simulations to study the role of luck versus skill in the cross-section of mutual fund returns, finding that some managers do have sufficient skill to cover costs, although such managers are few.

Note that manager performance studies are often time-period dependent and subject to many potential biases[5], making further analysis over longer periods necessary to obtain more conclusive findings. Nevertheless, the empirical literature and our limited analysis suggest that there is no empirical evidence suggesting that perceivably less efficient markets may be associated with ”easier” alpha.

For instance, higher costs in portfolio management and trading as well as potential regulatory and information barriers may dampen the perceived higher opportunities for active management in emerging markets. Similarly, compared with the large cap segment, small cap managers may face higher implementation costs due to limited information flow, lower liquidity, and constraints on capacity.

[5] Such biases may include survivorship bias, selection bias, and backfilling bias.

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Given such results, it may be legitimate for institutional investors to examine both active and passive implementation options across all segments of the global equity universe. The choice of active versus passive depends foremost on an institutional investor's beliefs and skills in selecting active managers.

Combining Active and Passive Management: A Fresh Look at the Core-Satellite Structure[6]

Many institutional investors consider active and passive management as two complementary (rather than mutually exclusive) approaches for implementing their equity allocation. While passive mandates offer the diversified market exposure at low cost, active mandates offer the alpha potential for institutional investors who have the resources and capacity for active management or manager selection.

Due to different levels of market efficiency, some institutional investors traditionally believe that developed market large cap equities should be mainly managed passively, while emerging markets and small cap equities should be managed actively. Under such beliefs, institutional investors often structure a core-satellite equity portfolio, using a passive core of developed market large cap mandates combined with active satellite mandates that target emerging markets and small caps. As our earlier discussion suggests, contrary to traditional beliefs, both active and passive management may be utilized across all equity market segments. We investigate below the application of a core-satellite structure that combines active and passive mandates across market segments, with a focus on the role of very active mandates.

For plan sponsors who employ active management, there are a few important factors determining the potential magnitude of excess returns:

- The level of manager skills
- The sponsor's ability to identify above-average managers ex ante
- The level of active risk the sponsor is willing to take.

Exhibit 5 presents the tracking error distribution of active equity funds. It shows in each equity market segment that there is a wide spectrum of active risk profiles among active managers. An important consideration for institutional investors is the allocation between passive and active mandates and the resulting aggregate active risk or tracking error. One can target the same overall active risk but achieve it with very different allocations between active and passive investments. One extreme is to go 100% active, but with very tight tracking error and active exposure controls for individual mandates, resulting in a well-controlled tracking error at the aggregate level. The potential downside is that this may introduce the risk of "closet indexing."

[6] Note that our discussion focuses on the application of core satellite structure (sometimes known as "barbell structure") in implementing the equity allocation. Market participants also refer to core satellite as an asset allocation approach for multi-asset class portfolios, but that is not the focus of this paper.

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Exhibit 5: Tracking Error Statistics of Active Equity Funds

Median Tracking Error	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
Low Active Risk Manager Universe	3.1	5.5	3.3	3.6	3.3
Whole Manager Universe	4.5	8.1	4.6	6.1	4.8
High Active Risk Manager Universe	8.2	11.7	7.2	10.0	7.7

Source: MSCI, eVestment Alliance. 10 Years ending 31 March 2010. We define the low and high active risk manager universes as the two groups of managers whose have a bottom quartile / top quartile tracking error, respectively.

At the other end of the spectrum, one can adopt passive mandates with the majority of equity investments while allocating the remaining assets to high active risk mandates. The relative allocation between passive and high active risk mandates may vary, depending on the investor's target level of active risk, as well as the desire to be in a position to make asset allocation decisions without hurting the active management process. Exhibit 6 illustrates that across different equity market segments, allocating 60% of the investments to passive mandates and 40% to high active risk managers led to an active risk level similar to that of low active risk managers. By comparison, an 80/20 allocation exhibits less active risk.

Exhibit 6: Active Risk Profile of Different Combinations of Passive and High Active Risk Mandates

Median Tracking Error of Different Combinations	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
40 Passive / 60 High Active Risk	4.9	7.0	4.3	6.0	4.6
60 Passive / 40 High Active Risk	3.3	4.7	2.9	4.0	3.1
80 Passive / 20 High Active Risk	1.6	2.3	1.4	2.0	1.5

Source: MSCI. 10 Years ending 31 March 2010.

Exhibit 7 shows the simulated historical performance of high vs. low active risk managers in the 10 years ending March 2010. Across all segments, high active risk managers achieved higher excess returns and information ratios. While some of this outperformance may be linked to survivor or selection bias, it may reflect links between higher manager skill, higher investment conviction, and/or fewer constraints. The gap between the information ratios of high and low active risk managers has been the most significant among global managers and emerging markets managers. As a result, these combinations of passive and very active managers achieved higher information ratios in each market segment.

We also include a similar 5-year simulation in the Appendix. The results are consistent with the 10-year simulation. As we noted earlier, manager performance analysis can be dependent on the specific time periods and database used, thus the observations here may not be generalized and historical results may not reflect future performance.

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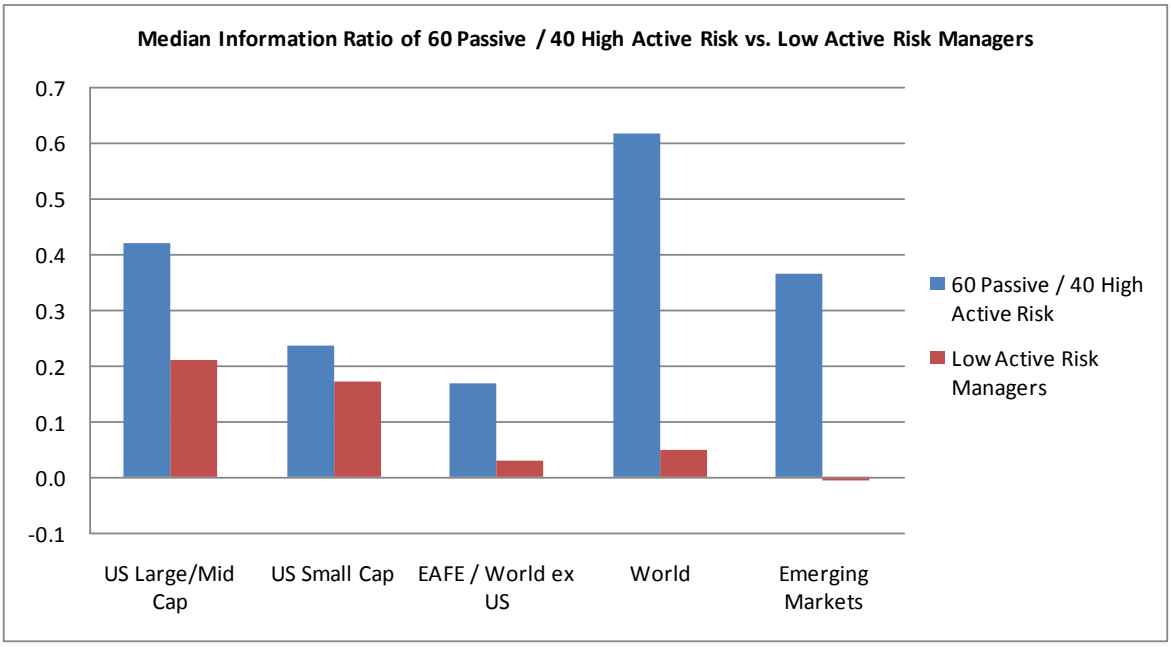
Exhibit 7: Historical Performance of Different Combinations of Passive and High Active Risk Mandates (10 Years)

Median Excess Return	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
Low Active Risk Manager Universe	0.77	0.86	0.06	0.20	-0.02
High Active Risk Manager Universe	4.04	3.09	1.27	5.47	3.07

Median Information Ratio	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
Low Active Risk Manager Universe	0.21	0.17	0.03	0.05	-0.01
High Active Risk Manager Universe	0.44	0.26	0.21	0.64	0.41

Median Information Ratio of Different Combinations	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
40 Passive / 60 High Active Risk	0.43	0.25	0.18	0.63	0.38
60 Passive / 40 High Active Risk	0.42	0.24	0.17	0.62	0.37
80 Passive / 20 High Active Risk	0.42	0.23	0.16	0.61	0.35



Source: MSCI, eVestment Alliance. 10 Years ending 31 March 2010. Managers' historical performance was net of management fee, and has not been adjusted for potential biases such as survivorship bias and selection bias. The management fee by peer group published by eVestment Alliance as of March 2010 was used for active products, and the management fee for passive products was assumed to be one-quarter of the active management fee.

For a global equity allocation that spans across developed markets, emerging markets and small cap, a potential core-satellite structure would combine passive and very active mandates in each of these equity market segments, where the core passive mandates offers broad global equity exposure, and the very active mandates reflect the investor's conviction in active management and skills in selecting active managers.

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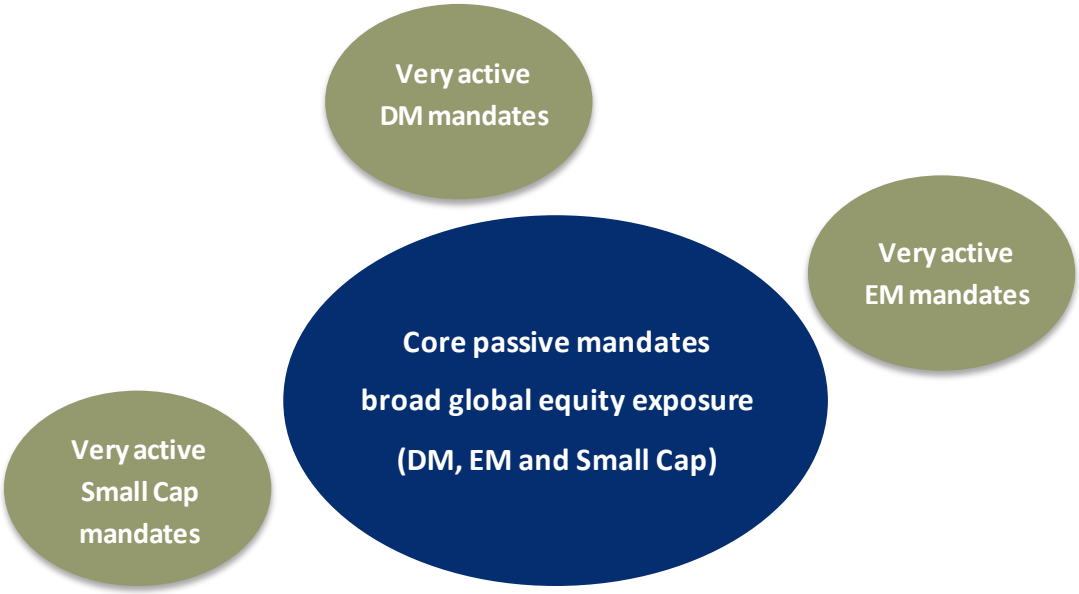
One potential benefit of such core-satellite structure is that it allows institutional investors to manage more flexibly the beta exposure and the alpha component across equity market segments[7]. For instance, changes to the asset allocation can be implemented through passive mandates, without impacting the alpha decisions made by the satellite managers. Furthermore, it may allow both passive and active managers to focus on their core competencies.

In addition, the core-satellite structure would allow institutional investors to utilize high active risk mandates, even with a modest aggregated active risk budget. High active risk mandates usually come with fewer constraints, therefore allowing managers to enter into active positions that reflect their convictions more strongly. Such mandates would also be less restricted by their respective benchmarks. For instance, Cremers and Patajisto (2009) find that funds with the highest Active Share (another measure of active risk) significantly outperform their benchmarks after expenses, exhibiting strong performance persistency. Lin et al (2009) find that global equity managers with larger active bets achieved higher information ratio than their peers with smaller active bets.

There are different ways of structuring the satellite active mandates. Traditionally investors allocated mandates according to geographic building blocks such as domestic/international. More recently some institutional investors have moved towards a more integrated global equity structure, focusing on global developed markets mandates, dedicated emerging markets mandates and specialist regional small cap mandates to implement the global equity allocation (Kang, Nielsen, and Fachinotti, 2010). Exhibit 8 illustrates a potential core-satellite structure under such integrated global equity framework.

Exhibit 8: Illustration of a Potential Implementation Option using Core-Satellite Structure



[7] Siegel et al (2009) discuss why institutional investors should make alpha and beta decisions separately. For instance: beta is not conditional on skill while alpha is only conditional on having above average skill; the reward for taking beta risk differs from taking alpha risk; and the criteria for deciding how much beta risk to take differs from deciding whether to take alpha risk.

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Conclusion

We reviewed whether different segments of the global equity universe exhibit different opportunities for active management. Both the degree of market efficiency and the level of stock return dispersion suggest that emerging and small cap markets may offer higher active management potential. However, these segments are more costly to implement. In fact, the empirical literature and our analysis seem to indicate that there is little evidence that average managers operating in these markets have produced higher or more persistent risk-adjusted returns relative to their developed markets large and mid cap peers.

As a result, and against the traditional belief that passive management suits developed markets large cap and active management suits emerging markets and small cap, institutional investors may consider active and passive management as complementary strategies across these different equity segments.

The core-satellite structure has been revived as alpha-beta separation over recent years. It is supported by the wide availability of low-cost passive vehicles and an increasing number of very active or benchmark agnostic managers. We examined a core-satellite structure that combines passive and very active mandates across different equity market segments. Due to the outperformance of high active risk mandates during the analyzed period, simulated combinations of passive and very active mandates achieved higher information ratios than low active risk mandates across segments. Depending on investment beliefs, institutional investors might explore a core-satellite structure where the active-passive split extends to each equity market segment to implement the global equity allocation.

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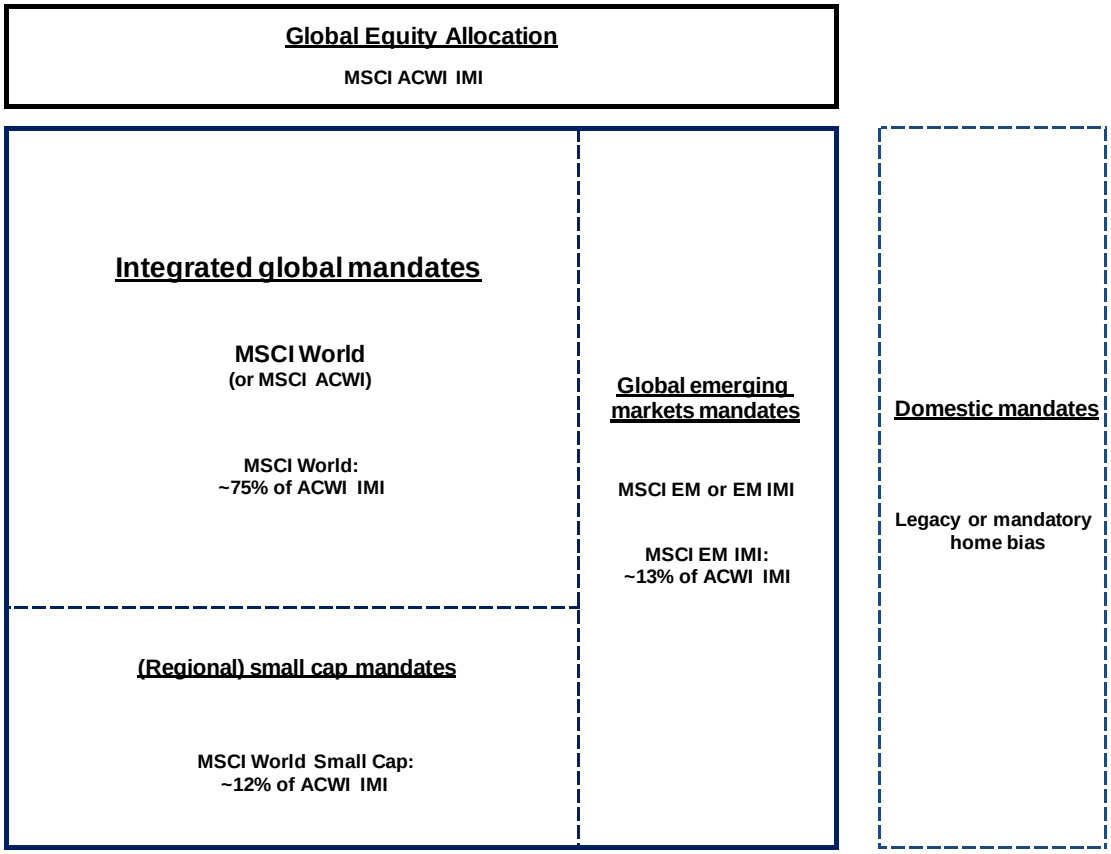
Appendix 1

Exhibit 9: "New Classic" Equity Allocation?[8]



Note: MSCI ACWI IMI denotes the MSCI All Country World Investable Market Index that covers large, mid, and small cap companies in developed and emerging markets. MSCI World covers the large and mid cap companies in developed markets. MSCI EM IMI denotes the MSCI Emerging Markets Investable Market Index that covers large, mid, and small cap companies in emerging markets. The weights of MSCI World, MSCI World Small Cap and MSCI EM IMI in MSCI ACWI IMI represent their market capitalization weights as of September 2010.

[8] Taken from Kang, Nielsen, and Fachinotti, 2010.The structure illustrated here addresses active mandates. If an investor decides to go passive across the whole global equity allocation, then the mandate structure is a less critical consideration.

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Appendix 2

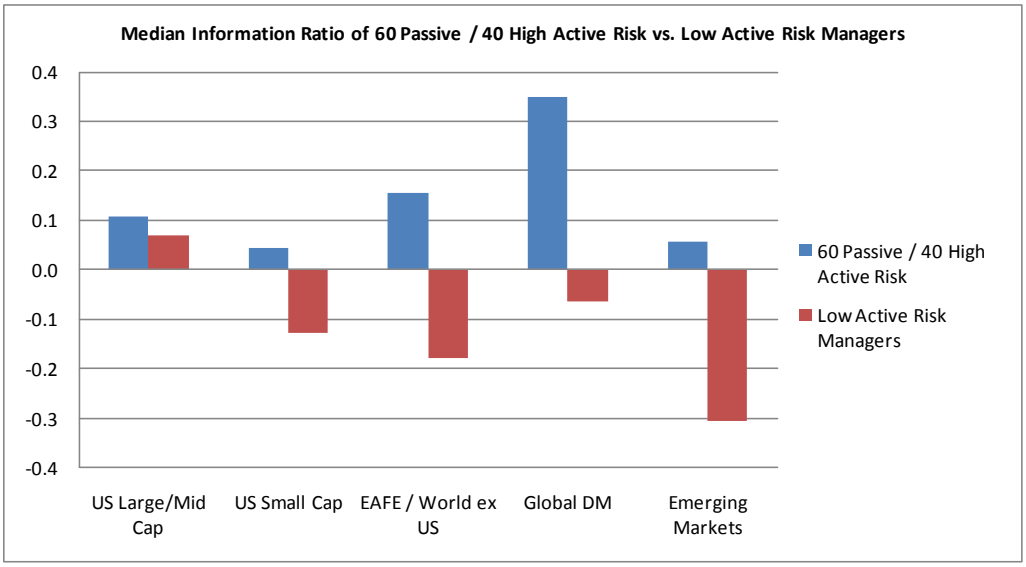
Exhibit 10: Historical Performance of Different Combinations of Passive and High Active Risk Mandates (5 Years)

Median Excess Return	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
Low Active Risk Manager Universe	0.17	-0.51	-0.50	-0.15	-1.08
High Active Risk Manager Universe	1.03	0.95	1.24	3.76	1.01

Median Information Ratio	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
Low Active Risk Manager Universe	0.07	-0.13	-0.18	-0.06	-0.31
High Active Risk Manager Universe	0.13	0.07	0.19	0.38	0.10

Median Tracking Error of Different Combinations	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
40 Passive / 60 High Active Risk	4.7	6.5	4.3	5.1	4.6
60 Passive / 40 High Active Risk	3.1	4.3	2.9	3.4	3.0
80 Passive / 20 High Active Risk	1.6	2.2	1.4	1.7	1.5

Median Information Ratio of Different Combinations	US Large/Mid Cap	US Small Cap	EAFE / World ex US	World	Emerging Markets
40 Passive / 60 High Active Risk	0.12	0.05	0.17	0.36	0.07
60 Passive / 40 High Active Risk	0.11	0.04	0.16	0.35	0.06
80 Passive / 20 High Active Risk	0.10	0.03	0.14	0.34	0.04



Source: MSCI, eVestment Alliance. 5 Years ending 31 March 2010. Managers' historical performance was net of management fee, and has not been adjusted for potential biases such as survivorship bias and selection bias. The management fee by peer group published by eVestment Alliance as of March 2010 was used for active products, and the management fee for passive products was assumed to be one-quarter of the active management fee.

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