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AN ACTIVE/PASSIVE DECISION FRAMEWORK

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Introduction

Few investment topics invite more debate than the issue of active versus passive management. Investors pursuing active management seek to outperform comparative indices by investing in funds that attempt to exploit market inefficiencies. Passive investors, on the other hand, believe that active management is more likely than not to produce returns that lag comparable indices. As such, passive investors choose funds that invest in baskets of securities which replicate the holdings of reference indices. These investors forfeit potential excess returns in exchange for lower fees and minimal risk of underperformance relative to the index.

In our experience, investors often view the active versus passive management decision in binary terms. In other words, they believe that in all circumstances active management either adds value or does not add value. However, our research strongly suggests that this is a flawed perspective. In reality, the benefits and risks associated with active management vary substantially based upon each client's unique investment objectives and constraints, as well as the relative strength of the investment opportunity set. Further complicating the issue is the fact an investor's thought processes are often influenced by systematic behavioral biases, which tend to produce decisions that do not accurately address the underlying needs of investors.

The goal of this issue of Investment Perspectives is to change the way investors approach the active/passive decision. Rather than viewing the decision in terms of absolutes, we instead encourage the careful consideration of multiple factors, which we group into three general categories: *investor-related factors*, *opportunity-related factors*, and *behavioral biases*.

Investor-related factors refer to an investor's unique investment objectives and constraints, which determine the relative attractiveness of active management as a whole. *Opportunity-related* factors refer to the potential benefits and risks of specific active management opportunities that are available to an investor at any given moment. Finally, *behavioral biases* refer to unconscious thought processes that may lead investors to pursue active or passive management in situations that are suboptimal. Each of these factors is outlined at a high level in **Figure 1** and explained in greater detail on the following pages.

We conclude the paper with a decision tool that may help investors to navigate active/passive investment management decisions. While we acknowledge that these decisions will always depend heavily upon subjective judgement, our hope is that this decision tool will at least encourage investors to expand the list of factors that they consider and thereby improve the quality of their decisions.

Figure 1: Active/Passive Decision Factors

❶ Investor-Related Factors	❷ Opportunity-Related Factors	❸ Behavioral Biases
Factors that investors should consider to determine if active management is necessary to achieve their objectives, as well as whether the associated risks and costs are tolerable.	*Asset/sub-asset class characteristics that alter the probability and magnitude of expected excess return from active managers.*	*Behavioral biases that may lead investors to pursue active or passive management in situations that are suboptimal.*
1. Utility of Excess Return 2. Risk Tolerance 3. Investment Time Horizon 4. Strategic Stability 5. Decision-Maker Conviction 6. Opportunity Costs 7. Fee Sensitivity 8. Unique Investment Constraints	1. Degree of Asset Class Market Inefficiency 2. All-in-Fee Levels of Investment Options 3. Strength of Current Opportunity Set	1. Loss Aversion 2. Optimism Bias 3. Predisposition for Change 4. Hindsight Bias

Before investors consider the strength of specific active management opportunities, it is essential to carefully consider whether active management is appropriate for their unique situation (regardless of how attractive the opportunity appears). Therefore, it is critical for investors to understand their objectives and constraints. To this end, several important factors that we encourage investors to consider include:

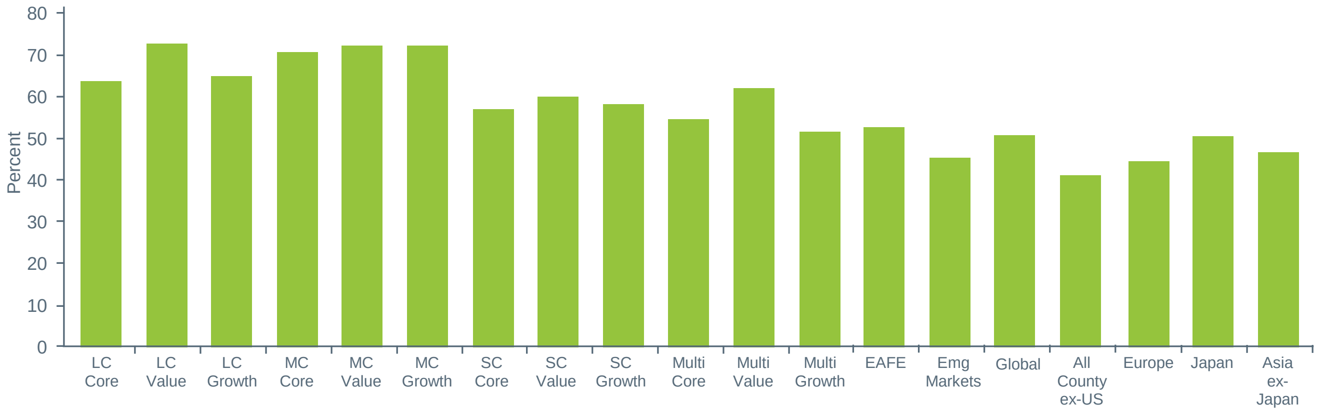
1. **Utility of Excess Return** – The most frequently cited objective for active management is return enhancement. However, investors often downplay the associated risks that accompany this objective. After all, for many investors adverse manager selection produces a drag on performance over extended periods of time or even permanently. Therefore, it is important for decision-makers to understand the utility of excess return for their organization. If utility is limited, active management may not be worth the added risk. One such example is a fully funded pension plan for which additional excess return is subjected to substantial excise taxes and, therefore, provides little value to beneficiaries. In other cases, return enhancement provides high utility and is clearly worth the risk. As an example, university endowments are often well rewarded for excess return through the growth of distributions from the endowment and the increased ability of the organization to attract donations. The bottom line is that investors need to understand their return objectives and whether incremental utility of excess return is sufficiently high to warrant the associated risks.

2. **Risk Tolerance** – The risks associated with active management are often underestimated. The reality is that by investing in actively managed strategies, investors incur a wide variety of risks, such as the following:

   a. **Underperformance** – Investors often underappreciate the fact that actively managed strategies can underperform for extended periods of time. While investment advisors strive to recommend managers that will outperform in the long term, success is by no means guaranteed and is highly variable over short time periods. Investors must acknowledge this risk and carefully consider how it will impact their portfolio and decision-making process. As highlighted by J.P. Morgan in **Figure 2**, successful managers that have outperformed over a 5-year period experienced extended periods of interim underperformance. For instance, more than 60% of large cap ("LC") core managers (that outperformed their respective ETFs on a 5-year basis) underperformed in at least 2 out of 5 individual years.[1]

[1] Cembalest, Michael. "A Search for Intelligent Life in the Active Equity Management Universe." *Investment Insights*, J.P. Morgan Asset Management (2013).

Figure 2: Percentage of Managers Underperforming in at Least 2 Out of 5 Individual Years, But Outperforming on a 5-Year Basis



Source: J.P. Morgan, eVestment (June 2013).

b. **Volatility** – Active management strategies have the potential to lower or raise the level of return volatility relative to a comparable index fund. Investors with a high sensitivity to volatility may be less attracted to active management. Specifically those with a beta exceeding 1.0.

c. **Headline Risk** – Many investors, especially public entities, are vulnerable to public criticism if they experience adverse investment outcomes – even if these are temporary in nature. Regardless of whether the criticism is merited, this type of attention may have negative consequences.

3. **Investment Time Horizon** – The time horizon of an investment varies based on the expected life of the total fund, as well as the intended time horizon of each specific asset or sub-asset class allocation. For investors with a short time horizon, active management is generally less attractive, as investments may need to be liquidated before value is fully realized.

4. **Stability of Investment Strategy** – Perhaps the most important yet frequently overlooked prerequisite for using active managers is the stability of a governing body's investment strategy. It is often the case that active strategies experience periods of underperformance. If the governing body abandons the strategy during these periods, they risk selling at the worst possible moment. The result is the proverbial "buy high and sell low" phenomenon. All else being equal, use of active management is a decision reserved for the patient investor. Extreme reactions to adverse events severely diminishes the probability of success. The susceptibility of both current and future members of governing bodies to strategic instability must be considered.

5. **Conviction of Decision-Maker** – Similar to the tendency of investors to view the general active/passive decision in terms of absolutes, there is also a tendency to assume that decision-makers hold equal levels of conviction when selecting managers across all asset classes. The truth, however, is that the level of conviction varies by asset and sub-asset class. Variance stems from factors, such as the skill of decision-makers for different asset classes and investment types, as well as issues that we have previously addressed, such as the availability of high quality funds at any given moment in time. While gauging conviction is an admittedly qualitative exercise, **Figure 3** provides a framework to aid in this decision. The model provides hypothetical excess return expectations based on the level of conviction that a decision-maker has in selecting successful active managers. In the "high conviction" scenario, investors are able to confidently differentiate skilled from unskilled managers; while in the "no conviction" scenario investors are unable to differentiate skilled from unskilled managers, which makes the outcome dependent solely on random selection. While the probabilities are hypothetical, the excess return values for median, top quartile, and bottom quartile managers are based on RVK's annual active/passive research. In summary, investors can clearly observe from this model that the expected value of excess return for each sub-asset class varies substantially depending upon the level of conviction held by the decision-maker.

Figure 3: Expected Value of Excess Return Relative to Benchmark by Decision-Maker Conviction (January 2002 – December 2016)

	No Conviction	Modest Conviction	High Conviction
	Expected Value of Excess Return	Expected Value of Excess Return	Expected Value of Excess Return
Fixed Income			
Core Fixed Income	0.06%	0.11%	0.20%
Core Plus Fixed Income	0.64%	0.74%	0.94%
High Yield Fixed Income	-0.36%	-0.23%	0.01%
US Equity			
US All Cap Equity	0.65%	0.93%	1.49%
US Large Cap Growth Equity	-0.04%	0.18%	0.63%
US Large Cap Core Equity	-0.06%	0.12%	0.47%
US Large Cap Value Equity	-0.07%	0.13%	0.54%
US Mid Cap Growth Equity	-0.46%	-0.20%	0.31%
US Mid Cap Core Equity	-0.58%	-0.36%	0.09%
US Mid Cap Value Equity	-0.64%	-0.43%	-0.01%
US Small Cap Growth Equity	0.08%	0.37%	0.95%
US Small Cap Core Equity	0.80%	1.04%	1.53%
US Small Cap Value Equity	1.08%	1.33%	1.83%
International Equity			
Non-US Large/All Cap Equity	0.70%	0.89%	1.27%
Non-US Small Cap Equity	1.48%	1.74%	2.24%
Emerging Markets Equity	0.94%	1.17%	1.64%
Global Large/All Cap Equity	0.81%	1.04%	1.50%

Note: Net of fees based on median calculated fee for $10 million separate account.
Source: eVestment.com (2016).

Methodology

- No conviction assumes that an investor selects randomly from the pool of available managers.
  Expected Value = (0.25)*(Top Quartile Return) + (0.50)*(Median Return) + (0.25)*(Bottom Quartile Return)

- Moderate conviction assumes that investor has a slightly greater than random probability of selecting a top quartile manager and slightly lower probability of selecting a bottom quartile manager.
  Expected Value = (0.30)*(Top Quartile Return) + (0.50)*(Median Return) + (0.20)*(Bottom Quartile Return)

- High conviction assumes that investor at random.
  Expected Value = (0.40)*(Top Quartile Return) + (0.50)*(Median Return) + (0.10)*(Bottom Quartile Return)

6. **Opportunity Costs** – Resources available to institutional investors are finite, and the use of active managers requires significant time and effort. Many organizations lack the required resources to pursue active management in all areas of the portfolio. As such, they need to focus their use of active management in areas that provide the highest excess return. In addition, even if sufficient resources are available to pursue active management across the entire portfolio, an investor may produce better results by concentrating efforts in areas with the most promising outcomes.

7. **Fee Sensitivity** – Although net of fees performance is the ultimate determinant of manager value add, many investors are highly sensitive to fee levels, regardless of the net of fees performance. This may be due to factors such as headline risk and specific demands from beneficiaries. In addition, the consequences associated with underperformance are often magnified if investors also incur high fees to achieve these results.

8. **Unique Investment Constraints** – Investors may have investment constraints that render active management unattractive in areas where it would otherwise be considered attractive. Commonly observed constraints include size of the investment (which prevents access to managers with high minimums), restrictions on allowable security types, and restrictions on allowable investment vehicles (e.g., use of commingled funds or offshore entities).

Opportunity-Related Factors

Experienced investors appreciate the fact that the relative attractiveness of active management varies by the type of opportunity under consideration. In our experience, we observe three primary factors: (1) the degree of market inefficiency for the asset or sub-asset class; (2) all-in-fee levels of investment options; and (3) the current strength of the active managers that have capacity for investment.

1. **Degree of Market Inefficiency** – Asset classes and sub-asset classes differ substantially in terms of the frequency and magnitude of securities mispricing. This is generally referred to as market inefficiency. Markets that exhibit high levels of inefficiency experience frequent and substantial mispricing. This is primarily attributable to the fact that less efficient markets experience a longer time lag before security-specific information is fully incorporated into market prices. Skilled managers profit from this delay by trading securities that are priced well above or below fair market value. All else being equal, markets with high levels of inefficiency are most conducive to the use of active management.

   One measure that we use to gauge market efficiency is the relative level of dispersion and median active manager performance by asset and sub-asset class. **Figure 4** shows dispersion statistics across multiple asset classes from an annual study produced by RVK. The table clearly shows that the prospect of outperformance for median, top, and bottom quartile managers varies substantially by asset class. As an example, US large and mid cap equity segments generally have more modest excess return expectations relative to the US small cap segment.

Figure 4: Median Excess Return Relative to Comparable Benchmark (January 2002 – December 2016)

	Top Quartile (25th Percentile)	Median	Bottom Quartile (75th Percentile)
FIXED INCOME			
Core Fixed Income	0.56%	0.03%	-0.38%
Core Plus Fixed Income	1.71%	0.57%	-0.31%
High Yield Fixed Income	0.87%	-0.36%	-1.59%
US EQUITY			
US All Cap Core Equity	2.79%	0.88%	-1.10%
US Large Cap Growth Equity	1.89%	-0.04%	-1.82%
US Large Cap Core Equity	1.51%	-0.02%	-1.57%
US Large Cap Value Equity	2.01%	0.19%	-1.50%
US Mid Cap Growth Equity	1.81%	-0.35%	-2.42%
US Mid Cap Core Equity	1.23%	-0.63%	-2.49%
US Mid Cap Value Equity	1.35%	-0.54%	-2.35%
US Small Cap Growth Equity	2.72%	0.13%	-2.66%
US Small Cap Core Equity	2.85%	0.73%	-1.24%
US Small Cap Value Equity	3.68%	1.32%	-1.09%
INTERNATIONAL EQUITY			
Non-US Large Cap Equity	2.19%	0.15%	-1.68%
Non-US Small Cap Equity	4.00%	1.59%	-1.04%
Emerging Markets Equity	3.12%	0.74%	-1.45%
Global All Cap Equity	2.83%	0.11%	-2.27%

Note: Net of fees based on median calculated fee for $10 million separate account.
Source: eVestment.com (2016).

2. **All-in-Fee Levels** – The amount of money that investors pay to managers matters. While the net-of-fees return is usually the ultimate gauge of success, fee levels clearly impact the probability of achieving success. All else being equal, investors should increase the threshold for engaging in active management as fee levels rise.

3. **Strength of Current Opportunity Set** - The availability of attractive investment options varies over time. During periods in which high conviction managers are closed to new investments, the attractiveness of active management may decline. This issue tends to be particularly acute in niche markets, such as US micro cap, in which a substantial amount of capital competes for limited number of attractive opportunities.

Behavioral Biases

Behavioral biases refer to unconscious thought processes that may lead investors to pursue active or passive management in situations that are suboptimal. Identifying the presence of these biases can be challenging, as they are often deeply engrained in a committee's procedures, processes, and culture. That said, simple acknowledgement of these potential sources of error can provide a means to counter the negative effects. The behavioral biases that we commonly see with regard to the active/passive management decision include: *loss aversion*, *optimism bias*, *predisposition for change,* and *hindsight bias*. Each bias is described below:

1. **Loss Aversion** – Psychological research shows that human beings tend to exhibit a strong, systemic bias when faced with a choice between a certain loss or the pursuit of a risky but uncertain outcome, which has an even larger negative expected value.[2] The active/passive decision can be framed in this context; investors must choose between an investment that guarantees a small loss relative to the index (e.g., a low-cost index fund), or one that has an unknown probability of either adding or detracting value relative to the index (e.g., an actively managed fund). The rational decision is to consider each active/passive decision individually based on the probability and magnitude of potential excess return. In some cases, the expected value may be sufficiently positive, while in others it may be negative. Loss aversion hurts performance when investors select an actively managed fund that has a negative expected value relative to a low cost index fund.

2. **Optimism Bias** – Psychological research demonstrates that when faced with a decision with uncertain outcomes, human beings tend to overestimate their odds of choosing a course of action that provides a positive outcome.[3] The selection of an active manager can be viewed in this framework. If done skillfully, it is a decision with an uncertain, but positive expected value. However, if executed poorly the decision can result in underperformance. Although investors know this fact intuitively, they may overestimate their probability of achieving success and downplay the consequences of failure.

3. **Predisposition for Change** – New members of investment committees often pressure existing committee members to change the investment strategy in some manner. Sometimes this instinct manifests itself in a debate over the use of active or passive strategies. While this can be extremely helpful if the changes address real problems, recommendations may be made simply for the sake of change itself. A relatively benign manifestation of this bias occurs when new committee members are motivated by an honest desire to contribute their expertise to the group. A more problematic manifestation is when a new committee member seeks change in order to leave a mark on the portfolio for political purposes. In order to avoid making suboptimal portfolio changes, committee members should carefully consider their motives and ensure that the change resolves a specific problem.

4. **Hindsight Bias** – This is one of the most pernicious behavioral biases for institutional investors. Hindsight bias is the tendency for people to look back at a prior decision and judge its merit solely on the outcome rather than the quality of the decision making process. The problem with this bias is that it may cause decision-makers to become too risk-averse.[4] For example, if a decision-maker believes that they have a 60% chance of adding value by using active managers in small cap equity, but they also believe they will be fired if these managers underperform after three years, the decision-maker may conclude that passive management is the optimal strategy despite the fact that the expected value of active management is positive. While hindsight bias is an admittedly difficult behavioral trap to avoid, we find that it can be helpful to communicate to decision-makers a clear commitment to judge decisions based upon the information that was available when the decision was made. Also, using detailed meeting minutes to memorialize the factors that led to a decision can help provide a defense against hindsight bias if and when decisions result in suboptimal outcomes.

[2] Tversky, A. and Kahneman, D. "Loss Aversion in Riskless Choice: A Reference-Dependent Model." *The Quarterly Journal of Economics* (November 1991).
[3] Kahneman, D. and Lovallo, D. "Timid Choices and Bold Forecasts: A Cognitive Perspective on Risk Taking." *Management Science* (January 1993).
[4] Thaler, R.H. *Misbehaving: The Making of Behavioral Economics* (2015): pp 190.

Conclusion

The decision to use active or passive managers is complex, yet many investors approach it using a simple binary framework. This paper outlines multiple factors that we encourage investors to consider before making the active/passive decision in different areas of their portfolio. Filtering our insights down to three questions, we encourage investors to ask themselves the following before making an active/passive decision:

1. *Does the value added from active management provide substantial utility to beneficiaries, and are we willing and able to handle the risks of failure?*
2. *What is the probability of success, and what are the rewards if success is achieved?*
3. *Are we aware of our behavioral biases, and have we made appropriate adjustments to avoid the behavioral traps that compromise the decision-making process itself?*

We hope that the insights presented in this paper and the accompanying decision tool provided on the following pages help investors to answer these questions and thereby improve outcomes related to the active/passive decision.

Active Management Decision Tool – Part I

The following tool provides a framework for active/passive decision making. For each area of the portfolio under consideration, fill out the form in **Part I** and then plot the score in **Part II**. A high score overall and for individual line items suggests a higher level of attractiveness for active management, while low scores suggest the opposite. This tool is *not intended* to provide a definitive conclusion as to whether active or passive management should be pursued. Rather, it is intended to provide insights into the relative strength of an opportunity, as well as the extent to which an investor values potential excess return and is able to handle the accompanying risks.

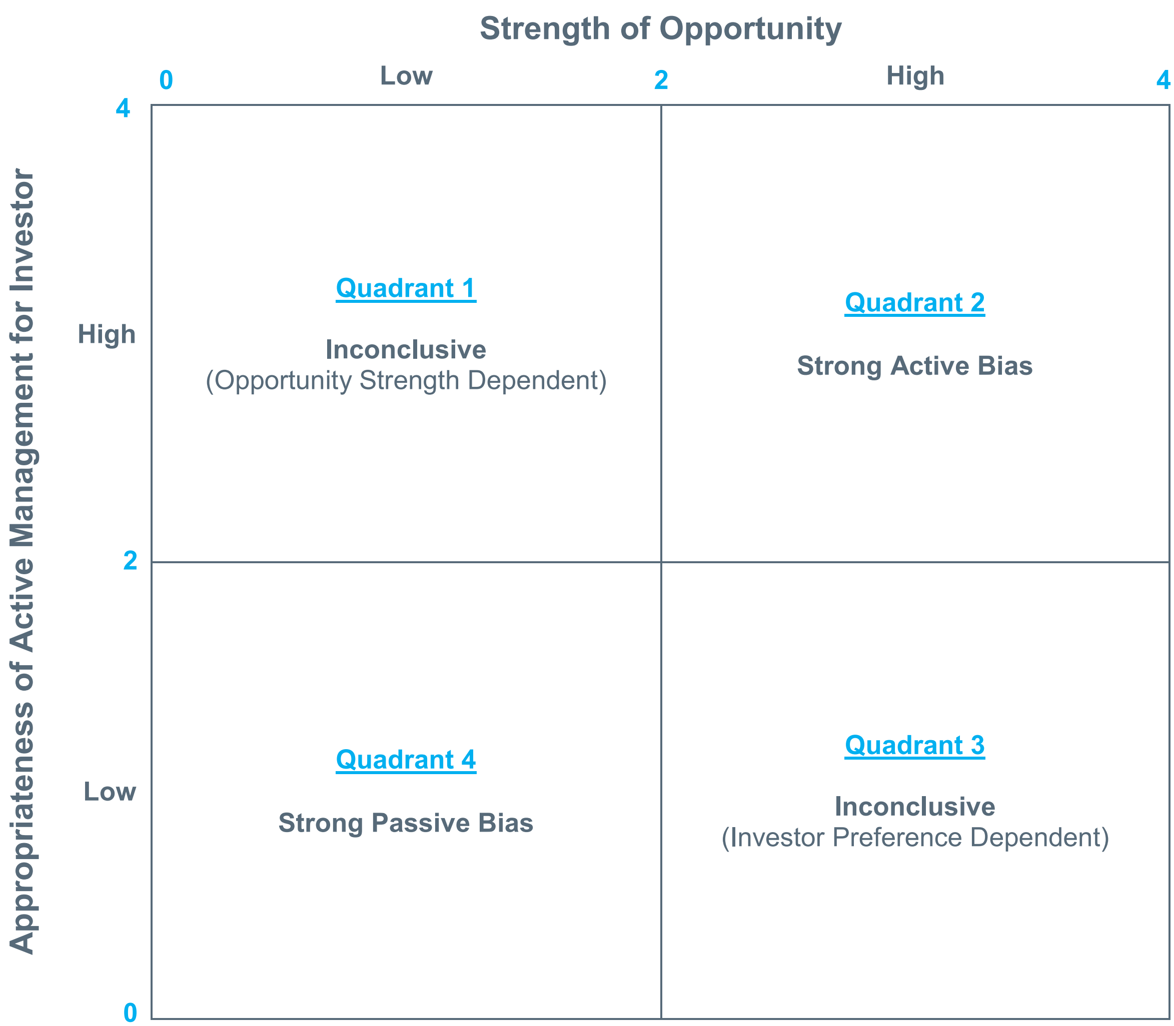
	Score					
	0	1	2	3	4	Score
Opportunity-Related Factors						
Degree of market inefficiency within asset/sub-asset class	Very Low	Low	Moderate	High	Very High	
All-in-Fee Levels*	300+ bps	150 bps	75 bps	50 bps	25 bps	
Strength of current opportunity set	Very Weak	Weak	Average	Strong	Very Strong	
Opportunity Strength Average (Total ÷ 3)					Sub-Total	

	Score					
	0	1	2	3	4	Score
Investor-Related Factors						
Utility of excess return	Very Low	Low	Moderate	High	Very High	
Risk tolerance for underperformance	Very Low	Low	Moderate	High	Very High	
Length of investment time horizon	< 3 Yrs	3-5 Yrs	5-10 Yrs	10-15 Yrs	15+ Yrs	
Stability of investment strategy	Very Low	Low	Moderate	High	Very High	
Level of decision- maker conviction	Very Low	Low	Average	High	Very High	
Level of opportunity costs*	Very High	High	Moderate	Low	Very Low	
Fee Sensitivity*	Very High	High	Moderate	Low	Very Low	
Impact of unique investment constraints*	Very High	High	Moderate	Low	Very Low	
Investor Appropriateness Average (Total ÷ 8)					Sub-Total	

*Red text indicates scoring that is the inverse of the prior factors. In other words “very high” serves as a negative indicator for the use of active management rather than a positive indicator.

Active Management Decision Tool – Part II

For each asset class, take the total average score for investor appropriateness and opportunity strength that you calculated in **Part I** and plot it on the two-by-two matrix. A guide to the critical decision driver for each quadrant is then provided below and on the following pages.



Guide to Quadrants

- **Quadrant 1** - In this scenario, the investor is well-suited to pursue active management, but is faced with an opportunity set that is relatively weak. In such scenarios, investors must rigorously scrutinize the opportunity under consideration to ensure that the potential rewards are worth the risk. A good example of this situation is a large public plan with a talented equity team that is faced with a decision as to whether or not they should use active or passive management in US large cap equity segments.
- **Quadrant 2** - In this scenario, investors should clearly show a bias toward the use of active management, as the opportunity set is strong and active management is deemed highly appropriate for the investor. An example may be a large, well-staffed university endowment that is exploring investments in the small cap value market segment.

- **Quadrant 3** - In this scenario, the opportunity set is strong, but the investor does not exhibit attributes that are especially conducive to active management. In these situations, investors must perform a thorough and honest assessment of their needs and constraints. Even if the opportunity is strong, investor attributes may lead to failure. An example of this situation is a corporate pension that is fully funded and is on a liability driven investing ("LDI") glide path. In this situation, it is conceivable that a new active manager will need to be terminated at a suboptimal time.
- **Quadrant 4** - In this scenario, investors should have a strong bias for the use of passive managers. In addition to facing a weak opportunity set, the investor does not have a profile that is conducive to the use of active management. An example of this situation could be a foundation that is considering an investment in US large cap equity and has a committee that experiences a high level of turnover and frequent changes in strategy.

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