

Risk in manager selection

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Introduction

This paper is devoted to using risk principles in the process of manager selection. We outline a framework to assess the candidacy of a manager for portfolio inclusion and consider the implications of one manager versus alternatives.

Risk is the likelihood that a realized outcome differs from the expected outcome and can be measured in a variety of ways, including magnitude and frequency. We classically think of investment risk through the lens of returns, measured by standard deviation, which simply describes the symmetric boundary for realized returns around the expected (median) return for a probability interval¹. While this is the most common measure of investment risk, it is by no means the only one. Risk is a tool for assessing any aspect of a portfolio, fund or security that has a probabilistic distribution of outcomes and describing the factors that drive those outcomes. Risk is relevant for anything that may differ from an investor's expectations.

Expected risk and return decomposed

The expected returns of a manager can be decomposed, as outlined in the Verus Topics of Interest paper, *Investment Golden Rule*², into three components: the risk-free rate, beta and alpha. A risk-based approach to manager selection considers how both the beta and alpha elements contribute to the probabilistic distribution of investment outcomes.

- Beta: What are the expected returns of the asset class or benchmark? How does the manager co-move (move in a correlated manner) with the asset class or benchmark?
- Alpha: What is the expected idiosyncratic risk and return of the manager?

In the context of the portfolio, a manager's return contribution is determined by the size of its exposure. Using a risk perspective, a manager's contribution to portfolio return volatility is determined by the size of the allocation (exposure), the stand-alone volatility of the returns (standard deviation) and the co-movement with the rest of the portfolio (correlation). Understanding how a manager engenders these factors helps drive informed portfolio construction decisions and the assessment of one manager versus another.

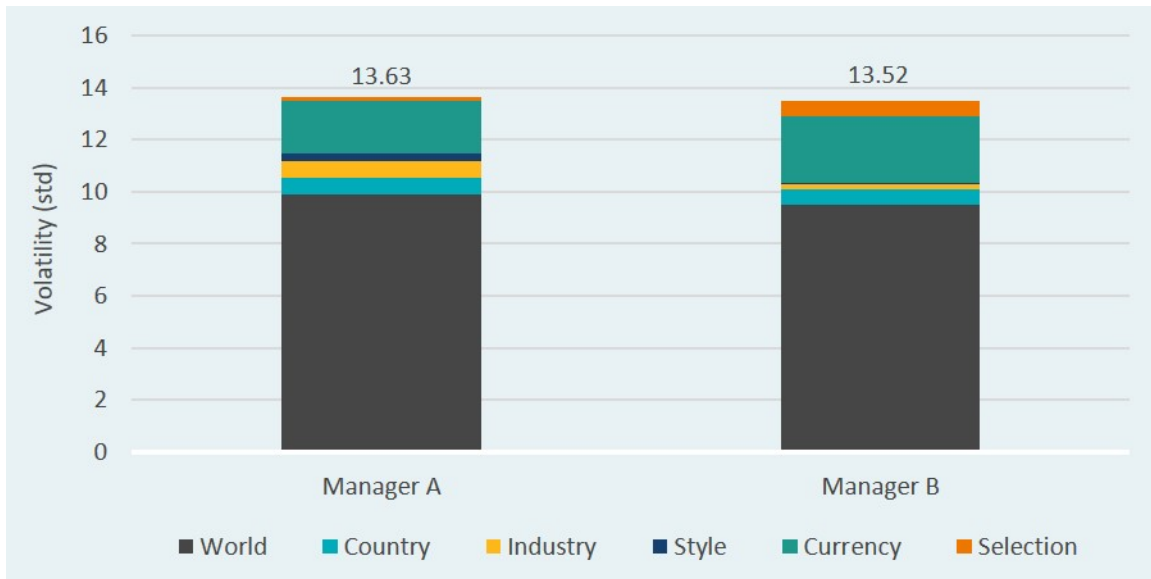
Does the manager add a desired exposure?

Exposures are the broadest return drivers of an investment. Returns are better explained by the asset class they belong to than by any other characteristic, save currency in some cases³. A manager is first considered for a portfolio because of the asset class in which they invest. An investor should understand the risk characteristics of the asset class and the benchmark that the manager is judged against⁴. The context of these expected behaviors is the starting point for considering how a manager varies from them. Once the asset class and benchmark are established, more granular characteristics, such as the duration in fixed income or style in equities, are used to describe behavior.

For an equity manager, style, sector, industry, geography and currency all represent sources of risk. For a fixed income manager, duration, spread duration, currency and credit rating are all risk drivers. Confirming the exposures that a manager claims to hold disentangles perceived exposures from the actual exposures, where any difference is a risk to the investor. The first principle in risk mitigation is knowing one's exposures. Affirming that these characteristics are congruent with expectations is a first step in due diligence and allows an investor to know his or her exposures.

Below is an example of a risk decomposition between two similar equity managers, who we will follow throughout this paper. In this example an asset allocator is looking to add a large-cap, value international equity manager to the portfolio. Both managers are evaluated on their total volatility and the sources of that volatility. Those sources are broken down into world, country, industry, style, currency and selection. Volatility is measured in single standard deviation terms and the total is quite similar between the two managers; however, the compositions differ.

FIGURE 1: RISK DECOMPOSITION

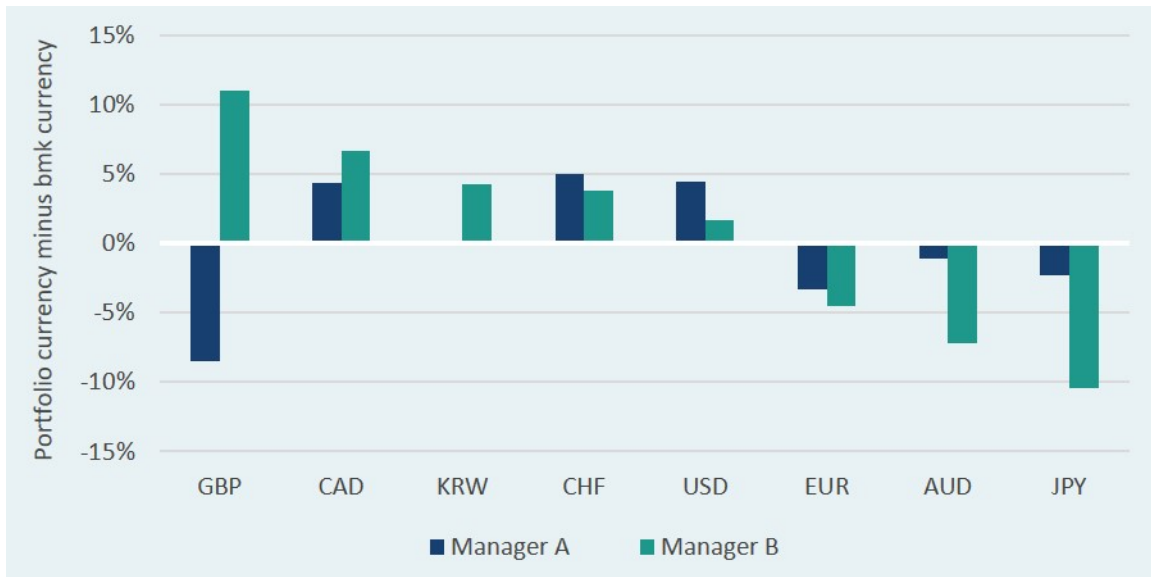


Source: MSCI BarraOne

In *Figure 1*, for *Manager A*, more volatility is contributed from the world factor, capturing aggregate global equity movements, thought of as a market premium, or beta to the global equity market. Hence, we expect *Manager A* to have a more positive co-movement with broad equity markets than *Manager B*. The country factor is the same as the world factor, but at the country level, and is roughly equivalent for both managers. Style and industry describe how those equity factors contribute to volatility, with more contribution toward the volatility of *Manager A*. We see more currency risk from *Manager B* as well as selection risk, the idiosyncratic risk associated with security selection.

Delving deeper into one of these contributors can better demonstrate differences between the two managers. Currency is the largest risk contributor outside the underlying global equity markets. Below we compare the currency exposure in each manager’s portfolio to the currency of the benchmark. Both are benchmarked to MSCI EAFE Value.

FIGURE 2: ACTIVE CURRENCY WEIGHTS



Source: MSCI BarraOne

The active currency weight is defined as currency exposure in the portfolio minus currency exposure in the benchmark. The above chart illustrates that *Manager B* takes more currency bets (defined as an active weight greater than the absolute value of 5%) and those bets are of greater magnitude than those of *Manager A*. Understanding that *Manager B* comes with more currency risk may influence the decision of whom to include in the portfolio⁵.

An asset allocator might be considering these two managers in hopes of increasing exposure to the equity value factor in his or her portfolio. The below analysis plots the exposure to the value factor in standard deviation terms for both managers against the benchmark. We see that while both exhibit holdings with higher-than-average exposure to each component of the value factor, *Manager A* outpaces the benchmark in that regard while *Manager B* lags the EAFE Value universe in value terms.

FIGURE 3: EXPOSURE TO VALUE FACTOR



Source: MSCI BarraOne

Conducting analysis of this type puts an asset allocator in better touch with his or her exposures. Depending on the purpose for including the manager in the portfolio, this serves to recommend one over the other. If the goal is to maximize value, *Manager A* might be preferred. If the goal is to pair with another equity manager in hopes of achieving a style-neutral equity book, then this analysis could be done at the level of each pairing to determine which best achieves those results.

Does the manager exhibit skill?

This question is the crux of any manager research and due diligence process. There are qualitative and quantitative approaches for answering and we recommend a combination of the two. Our evaluation of skill requires meeting the following five principles.

1. The investment product is supported by a robust and stable organizational and teams structure.
2. The manager has articulated an inefficiency or market-based belief that informs its process.
3. The manager has described an investment approach which is sensible, repeatable.
4. The manager has an effective framework to assess and manage risk inherent in its process.
5. The historical performance appears consistent with the manager's expressed process.

The above framework evaluates the manager and the product in detail, covering the major elements which provide the justification for allocating to them. Most considerations are qualitative in nature and require a fundamental understanding of the underlying investment process. Number five is the most quantitative, involving a reconciliation of the realized versus expected performance given the investment process. Here is where we home in on the skill a manager possesses. Doing so requires judging a manager against an appropriate benchmark, and this may not be the benchmark a manager prefers to judge himself against⁶. Consistently outperforming an *appropriate* benchmark is an indicator of skill.

Understanding the manager's relationship to the benchmark is an important part of that process. Many active managers claim to be "benchmark aware," meaning that they generally consider the universe of benchmark constituents when constructing their portfolio but are not wed to them. The further a manager's process allows him or her to stray from the benchmark, the less comparing returns to the benchmark is beneficial. In these cases where a benchmark is not an accurate indicator, understanding the investment process and thesis is increasingly informative. In periods of poor performance, is this expected given our understanding of the investment process? What bets did the manager take that did or did not pan out and why? Do we feel comfortable with that approach? Are these active bets synonymous with our expectations when we took on the manager in the portfolio? Typically, managers receive intensive scrutiny during periods of poor performance, but similar levels of scrutiny should be applied during the periods of top performance. There is a tendency to lean toward "resulting" in any due diligence process, where we thoroughly inspect the negative results but gloss over the positive ones⁷. Remembering that risk is merely the frequency and magnitude that an outcome will differ from our expectations, the lens should be symmetrically scrupulous. Times of positive returns should be explained in context to the manager's process just as those periods of negative returns should be.

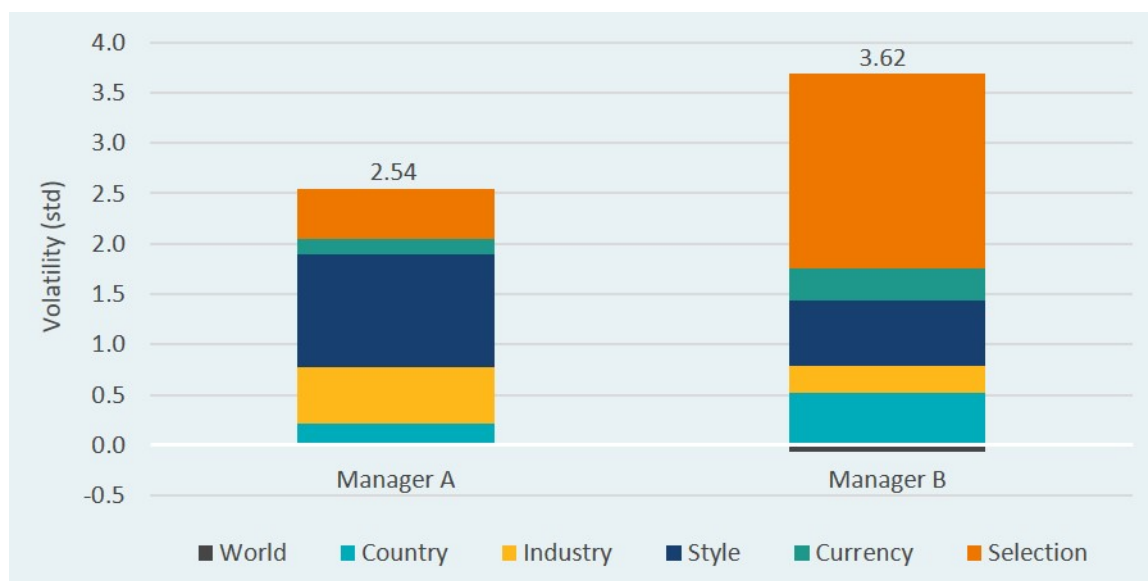
Skill is typically thought of in terms of alpha generation: that is returns in excess of the appropriate benchmark and the first order co-movement with that asset class (beta from the *Investment Golden Rule*). Alpha is the juice a manager squeezes out in excess of the beta multiplied by the benchmark returns and the risk-free rate of return. Understanding how the manager fits in our Investment Golden Rule framework allows us to better evaluate skill.

Risk is an important tool to evaluate the volatility incurred from active bets. The prior risk decomposition in *Figure 1* described the total volatility of the fund and the contribution of each risk factor. Beyond the bottom-up volatility, we consider the active risk of a manager. That is the volatility of expected returns beyond the benchmark, or—explained another way—the volatility of holdings that differ from the benchmark. All else equal between active managers with similar propensities to achieve alpha, the one exhibiting lower active risk is preferred.

The figure below is an active risk decomposition of the two managers from the previous examples. The volatility of the alpha stream from *Manager A* is less than that of *Manager B* and is more diversified across risk factors. Conversely, selection drives the preponderance of

active volatility for *Manager B* with over half coming from idiosyncratic security selection. Unsurprisingly, *Manager B* also has a higher active share, the proportion of assets held in a manager’s fund that differ from the appropriate benchmark, at 81% compared to 51% for *Manager A*. Higher active share generally indicates greater potential for alpha and enhanced active risk.

FIGURE 4: ACTIVE RISK DECOMPOSITION



Source: MSCI BarraOne

An active risk comparison becomes relevant when coupled with excess return assumptions. If *Manager B* consistently shows excess returns beyond those of *Manager A*, then the excess active risk is justified. An assessment of the past 10 years of returns reveals outperformance of *Manager B* over *Manager A* relative to the benchmark. Thus, in this case the greater stand-alone alpha volatility of *Manager B* is justifiable. On a risk-adjusted basis, *Manager B* has a preferable alpha stream given its excess returns over *Manager A* are greater than the delta in active risk. Active risk is the cost of alpha.

What does the manager add to the broader portfolio relative to other candidates?

This final question involves considering one manager versus others in the context of the portfolio. From a risk perspective, we are not merely concerned with a manager’s stand-alone volatility but also how the manager fits in the context of the portfolio. The contribution to total risk is a function of the manager’s exposure within the portfolio, its stand-alone volatility and correlation with portfolio constituents. Building hypothetical portfolios with each proposed manager elucidates how each engenders differences in total volatility and the composition of volatility. Furthermore, the correlation with other managers and asset classes is a worthwhile consideration in the portfolio implementation decision.

The tables below give the correlation coefficients between *Manager A* and *Manager B* and the asset classes of hypothetical portfolios using A in *Table 1* and B in *Table 2* with the international developed equity book⁸. We see that both managers have nearly identical correlations to each asset class and the broader portfolio when they are included in the equity book. This is unsurprising given the risk contribution of *Figure 1* that demonstrated risk is chiefly driven by global equity factors for each manager. With this analysis an asset allocator can choose one manager over the other knowing that risk implications at the total portfolio level will not be materially affected by either choice.

TABLE 1: CORRELATIONS OF MANAGER A WITH PORTFOLIO ASSET CLASSES

Portfolio	Manager A	Equity	Hedge Fund	Inflation	Rates
Manager A	1.00				
Equity	0.90	1.00			
Hedge Fund	0.59	0.61	1.00		
Inflation	0.36	0.45	0.41	1.00	
Rates	0.04	0.00	0.65	0.17	1.00
Total Portfolio	0.90	0.99	0.70	0.52	0.12

Source: MSCI BarraOne

TABLE 2: CORRELATIONS OF MANAGER B WITH PORTFOLIO ASSET CLASSES

Portfolio	Manager B	Equity	Hedge Fund	Inflation	Rates
Manager B	1.00				
Equity	0.89	1.00			
Hedge Fund	0.60	0.61	1.00		
Inflation	0.36	0.45	0.41	1.00	
Rates	0.05	0.01	0.65	0.17	1.00
Total Portfolio	0.89	0.99	0.70	0.52	0.13

Source: MSCI BarraOne

Adding a manager to any portfolio comes with the expectation of some result. That outcome could be increasing total duration, balancing equity style biases or reducing total risk. Comparing multiple managers in this space is paramount to understanding whether they are expected to achieve said goals. By modeling each hypothetical portfolio these questions can be reasonably answered and reconciled against the initial expectations. This approach considers not only how a manager will affect the expected risk characteristics of the portfolio, but also how those results compare to other proposed managers.

Conclusion

This paper provides a framework for assessing the candidacy of a manager for portfolio inclusion and considers the implications of one manager versus alternatives. We recommend a disciplined due diligence and risk-based approach for manager evaluation in addition to considering past performance and return expectations. Future returns are unknowable, and the prospect of chasing past outperformance can lead to the buy high, sell low phenomenon. An analysis of how a manager *fits* within the desired exposures of a portfolio, what the manager adds relative to another and whether the manager exhibits skill is crucial to avoiding the performance trap.

Notes & Disclosures

1. *The prototypical example of volatility is a one standard deviation measurement, given in percentage terms, which indicates the realized return will be within plus or minus the standard deviation of the median return approximately 68% of the time.*
2. *See Verus 2019 Topic of Interest paper, "The Investment Golden Rule." Sullivan, Danny. <https://www.verusinvestments.com/the-investment-golden-rule/>*
3. *Local emerging market debt being the primary example.*
4. *See Verus 2019 Topic of Interest paper, "Why Benchmarks Matter." Toner, Ian. <https://www.verusinvestments.com/why-benchmarks-matter/>*
5. *Note that here the currency exposures are simply derived from equity positioning, rather than by the creation of explicit currency bets using options, futures and forwards. Understanding the sources of relative currency risk is an important element of the analytical process.*
6. *Consistently outperforming an inappropriate benchmark isn't skill but misuse of a benchmark.*
7. *Thinking in Bets: Making Smarter Decisions When You Don't Have All the Facts. Duke, Annie.*
8. *The correlations are based on risk factors using 10 years of history and projecting one year forward.*

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