Our Manager Research Process

A Broader Aspect of Portfolio Management

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Manager research is an integral part of a broader portfolio management process. We explore the two aspects of manager research, which are manager selection and manager oversight.

Portfolio Management

When discussing portfolio management, one tends to think of the process as revolving only around asset allocation where an investor decides to allocate funds between equities and fixed income. Or on a more granular level, between domestic and international equity markets or between investment-grade and high-yield fixed-income markets. However, this view of portfolio management is incomplete.

At PFM Asset Management (PFMAM), we view asset allocation as the top-down research of the portfolio management process to decide which asset classes we want to allocate funds to. In contrast, manager research is the bottom-up research of the portfolio management process to determine which investment strategies we want to invest in.

In its totality, portfolio management consists of two integral components: asset allocation, as mentioned above, **and** manager research. Manager research fully complements the asset allocation process. As the term suggests, it is a process that involves deciding which specific products or managers to select in order to implement particular asset allocation views.

The asset allocation and manager research analysis and decision-making processes are central to the duties of PFMAM's Investment Research Team, which we discuss below.

The Manager Research Process

From the top-down, our manager research process consists of individual manager selection (e.g., when we hire a new manager) and manager oversight (e.g., where we monitor the performance of that manager over time, once the fund is in the client portfolios).

As a fiduciary, it is our responsibility to thoroughly investigate each manager's qualities, characteristics, and merits and identify the role(s) each plays in advancing the broader investment strategy. Our initial inquiries consist of reviewing the manager's general performance and discussions with the manager's management personnel. These discussions are helpful as they enable our Investment Research Team to gain an understanding of the manager's investment process and security selection criteria. Our due diligence investigations commence with inquiries into the manager's business and operations. We also examine the manager's current financial health and its future financial prospects.

At the very heart of manager selection and oversight is what we refer to as the "4Ps" of investment management research. The 4Ps are Parent, People, Process and Performance/Portfolio. evaluates each of these components in both the initial manager search and during the oversight process. This analysis is both qualitative and quantitative in nature.

of Investment Management Research

PARENT

PEOPLE

PROCESS

PERFORMANCE



Specifically, we analyze:

- ▶ Parent and firm background: We review the organization's history and ownership, infrastructure, and growth of clients and assets over time.
- ▶ **People:** We evaluate the personnel on the investment team and the firm's management. This includes their individual and collective investment experience and education, tenure and turnover, as well as compensation structure.
- Investment Process: We consider investment philosophy, buy and sell discipline, portfolio construction process and risk management process, portfolio characteristics, style drift, and strategy growth or decline.
- ▶ Performance and Portfolio: We review the calendar and rolling returns, volatility (standard deviation), active return (excess return), active risk (tracking error), Sharpe Ratio, Information Ratio, factor exposures, upside and downside capture ratios to determine upside potential and downside protection, attribution, and style tilts.

Manager Research in Depth

Now we outline our manager sourcing and due diligence process and explore our manager evaluation process.

First, based on the type of strategy we are looking for within a portfolio, we narrow down the universe to source potential managers. We scour our databases, tap our extensive professional relationships and follow up on referrals. Our initial data screen revolves around strategy type, length of track record, assets under management and vehicle availability, among other characteristics. This "first cut" often produces a dozen or more potential candidates.

Next, we meet with the portfolio management team and have detailed conversations about their investment process. We seek to understand investment philosophy to ascertain that the philosophy is rooted in fundamental and academic research of long-term investing. We look to identify a consistent and repeatable security selection process that aligns with the stated investment philosophy.

We want to understand how investment decisions are made and who makes these decisions. We then take a deep dive into portfolio attribution and sources of returns. We need to fully understand what drives active manager returns and, importantly, what may impede those sources of returns in the future. We evaluate the basis of the returns to see if the performance came from stock selection or asset allocation. Our expectation for active managers is that the source of returns is derived primarily from security selection, as opposed to sector allocation. Otherwise, it does not make sense to allocate to an active manager.

After manager meetings, we review the strategy's return and risk characteristics. We look at calendar and rolling returns and peer rankings. We follow that with a thorough review of risk measures, such as the Sharpe Ratio and Information Ratio. As we review return and risk measures, we want to understand how consistent risk-adjusted performance is in various market cycles. We also want to understand in which periods, and why, the strategy did well or underperformed.





Next, we review portfolio characteristics and how they compare to a given benchmark. For example, for a domestic equity strategy, we note sector exposures and market capitalization breakout. In addition, for an international equity strategy, we note regional and development exposures as well. For a fixed-income strategy, we note credit quality, duration and sector exposures, to name a few.

We look at the holdings-based analysis and returns-based analysis to observe the realized output of the investment process. The holdings-based analysis includes historical portfolio characteristics, style drift and historical attribution. The returns-based analysis includes return and risk metrics over varying time periods.

Style and factor analysis are the next steps in the evaluation process. For example, if we search for a Small Cap equity manager, we want to be certain this manager stays within a specified market cap range over time. If we evaluate a Core fixed-income manager, we expect this manager to have a specific limit/exposure to High Yield.

Factor analysis provides a more in-depth view of the manager's portfolio characteristics. A robust factor model exposes additional granularity as well as a historic view of portfolio exposures and sources of risk.

Trade-Offs

It can be difficult, if not impossible, to find the so-called "perfect" manager. To that end, sometimes, trade-offs are necessary. If we are looking for a growth-oriented manager, we understand that during certain periods, such as an economic downturn, a manager may underperform its peers or a given benchmark. We deal with this by having a thorough understanding of the manager's investment philosophy and performance sources over time. This enables us to develop our own expectations. In general, we aim to allocate to core managers without major style tilts (e.g., growth, value). We expect these managers to adhere to their investment process and capably navigate their portfolios during various market environments.

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We Set Our Own Expectations

It is vital that we manage our own expectations for a given manager's future performance and match it with current and/or the expected market environment. If we allocate funds to a defensive strategy, we should expect that this manager will follow their investment process and there is no strategy drift. However, we cannot expect this manager to outperform during periods of strong economic growth.

Having said that, we believe that there should be some elements that incorporate the macro-environment in the manager's investment process. A manager should not ignore market structure. We would expect an active manager to maintain a balance between following their established investment process and awareness of the current market environment.

The Final Steps

In the last step of our due diligence process, we write detailed reviews for each manager that has passed our comprehensive evaluation process. At this stage, we may have one or more investment fund candidates in which we have a high conviction. During this step, we outline how this particular strategy fits in with the other managers already in the portfolio, as we evaluate the investment characteristics of the proposed portfolio.



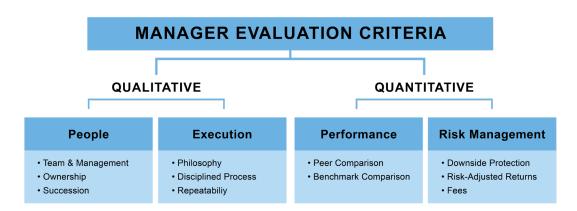


We develop extensive supporting materials based on our due diligence process and present our findings and recommendations to PFMAM's Investment Committee. At this point, the Committee reviews and (if appropriate) approves manager decisions.

Manager Oversight and the Report Card Process

After allocating funds to a given manager, the Investment Research Team then takes a proactive approach in the ongoing manager oversight process. We closely monitor each manager continually and maintain a proprietary and detailed manager "Report Card."

Our Report Card is organized around the aforementioned 4Ps and contains a quantitative and qualitative assessment of individual managers. Each section of this evaluation has up to eight individual quantitative or qualitative sub-categories. Each sub-category has a separate score, which is summed to a category score. Each group category is added and weighted to provide an aggregate manager score. The Report Card is particularly valuable as it allows us to provide consistent and systematic analysis with historical timelines. These assessments also allow for an apples-to-apples comparison with other managers.



Beyond the Report Card, individual manager reviews are conducted regularly on current managers. On a monthly basis, the PFMAM research analyst assigned to the manager presents data and findings to the Investment Committee, which then discusses performance and performance expectations and determines the status of the managers under review. The Committee must consider all manager and asset allocation changes and documentation before they are executed for the client.

If any issues or concerns were to arise with an underlying manager in the portfolio, the investment research analyst immediately notifies PFMAM's Director of Research, and we issue a "Manager Alert" announcement outlining the specific issues and our recommendations for addressing them efficiently. If a Manager Alert is issued, we increase our communication with the manager and place greater scrutiny on the portfolio. If warranted, we may also reduce our allocation toward the manager at this time.

The Manager Termination Process

Sometimes things do not go as planned. It is critical to know when to terminate or replace a manager. As mentioned, PFMAM has a formal monitoring process requiring our Investment Research Team and Investment Committee to constantly reevaluate clients' managers. The level of scrutiny and due diligence spent on a given manager may increase for various reasons.



Some of the reasons for increased monitoring and possible termination may include:

- Prolonged underperformance
- Investment style drift
- Departure of key investment professionals
- Change in ownership
- Deterioration in communication
- Violation of investment guidelines

We act quickly if these problems persist or escalate. If the Investment Committee decides there is cause to terminate a manager, action can be taken immediately. This means an underperforming manager can be removed or replaced from a client's portfolio in an expedited manner.

When terminating a manager, we typically identify a replacement manager before moving funds. However, in cases where we feel moving funds are necessary immediately and no replacement manager has been identified, we may use a transition manager or opt for a passive, index-based exchange-traded fund (ETF).

Final Thoughts

Some research indicates that up to "80% of investment managers underperform," or that an active manager will, over time, have difficulty outperforming a given benchmark. We believe that this research is correct, however, we see our job as finding the other 20% and those that will outperform their benchmark. This process is both an art and a science.

At the end of the day, we believe that our in-depth qualitative and quantitative analysis, combined with years of manager research experience, provide a solid foundation to find and oversee quality investment managers that deliver solid performance for our client portfolios.

To learn more or discuss in greater detail, please contact us:

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