The Science and Art of Manager Selection

Manager research at Barclays

White Paper

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Investments can fall in value and you may get back less than you invest.

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Introduction

In a single sentence, our advice to clients is:

> Design, implement, and maintain a diversified portfolio that is consistent with your financial situation and your financial personality.

In this paper we turn our attention to the subject of implementation. Some investors choose to invest only in self-selected individual securities: stocks, bonds, futures contracts, properties, cash instruments etc. However, much more often, implementing some or all of a portfolio involves directing money to one or more professional investment managers. These managers use an index fund, a mutual fund or a separate account to buy and sell individual securities on an investor's behalf. For some asset classes, such as Alternative Trading Strategies, there is no choice; you invest in a fund or not at all. So, whether or not the managers perform their job well goes a long way to determining how an investor's overall portfolio performs over time.

In recognising the importance of this aspect of the investment process, Barclays Investment Solutions has developed a deeply considered and rigorously applied global process for evaluating individual managers. To apply this process, we have assembled a significant team of experienced and dedicated due diligence professionals. Through our process and our people, we identify the investment managers who, in our view, are most likely to perform well in the future. The phrase 'past performance is no guarantee of future results' has become a cliché of disclosure language. For us, it is a core belief.

We want our colleagues and clients to understand the breadth and depth of the process we go through to identify those select managers we include on our roster. So, in this White Paper, we articulate our approach to the science and art of manager analysis, selection, blending and 'de-selection'.

Overview

Building the portfolio most likely to achieve your financial goals requires getting two things right. First, you need to identify the right asset allocation. Second, you must implement that asset allocation in the right way. For many investors, implementing an asset allocation involves hiring professional managers, either through a separate account or a fund, to build and maintain the various asset class portfolios. However, while most investors are familiar with the things that make a company's stock attractive (high earnings growth potential, cheap valuation etc.), the process of manager selection is often poorly understood.

We all know that a manager's historical performance record is no guarantee of future performance. So, how do we form a view on likely future performance? At Barclays, we regard manager research and selection as both a science and an art. Like science, our process is formal, structured and repeatable to create comparative data points across institutions and asset managers. Like art, our process is informed by a philosophy that guides our collective judgement. This means integrating our objective findings in a creative way, applying our many years of collective experience. Our combined approach gives us the confidence to identify and recommend managers to clients.

Inevitably, discussions about manager selection get caught up in the debate over whether investment managers in general are capable of adding value over an index[1] over time. But we are not addressing the active management versus indexing argument here. In fact, we believe there is a place for both investment management styles in portfolios, and we seek to understand each client's financial personality to determine which is the more appropriate investment strategy[2] for them. We believe in active management and have a track record of adding value relative to passive comparisons. Passive management has a role to play when cost and simplicity are key considerations. This paper explains how we go about identifying, analysing, selecting and monitoring investment management organisations.

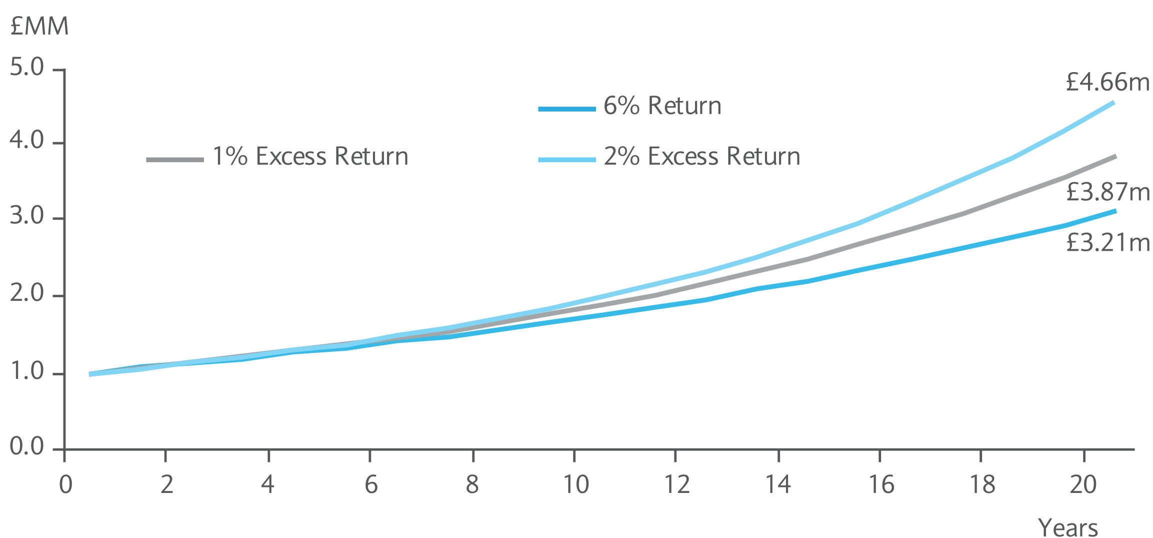
[1] Manager research is also important for investors who choose to use index funds wherever possible because not all indices or index funds are created equal. Some do an excellent job at replicating an index performance, others much less so, especially in areas of fixed income. A discussion of this branch of manager research is beyond the scope of this paper.

[2] The Savings, Investment and Wealth Management unit of Barclays developed a proprietary assessment that combines insights from the science of behavioural finance and psychology with modern theories of portfolio management to help us create an investment portfolio tailored to each client's financial personality and objectives.

Why does a manager selection process matter?

Historically, there's been a lot of time spent studying active manager returns versus indices to establish whether the average manager can outperform. However, we're not interested in investing with the average manager. Our goal is to invest with some of the best managers in each investment universe, which we define as achieving top quartile risk-adjusted returns over a market cycle, typically three to five years. The compounding effect of these excess returns can have a meaningful impact on a client's wealth over time. Consider Figure 1, in which we map the nominal growth of £1,000,000 over 20 years, assuming an annual return of 6% and varying levels of excess return per annum coming from active manager success. The outperformance over time results in significantly more value.

Figure 1: Growth of £1,000,000 based on various return assumptions



Over 10 and 20 years, the power of compounding at a higher rate is substantial, with more than a £1m difference in the end value based on a 8% return versus a 6% return on an initial £1m investment. Obviously this difference can work in both directions, as poor manager selection leading to a lower annual return would have the opposite impact.

Past performance is not a reliable indicator…

If you do buy into the premise that there are managers who can outperform on a long-term basis, and that this can be meaningful to the value of an overall portfolio, then can you just invest in managers who have done well for long-term periods and expect the performance to repeat itself? Actually no; it's not as simple as relying on a manager's past performance. Many academic studies have shown that in many cases past success, or indeed failure, does not persist. This is true for a variety of reasons. For example, individuals or teams move from one firm to another while certain investment styles can be out of favour for prolonged periods of time.

Defining success

Any investment process should be held accountable for the results it provides investors. How we define 'success' is crucial.

We seek to identify managers able to add alpha, or risk-adjusted excess returns, typically of greater than 1.5% for equities strategies or 0.75% for fixed income strategies, after their fees, annually above passive solutions over a market cycle. This definition of success applies to traditional long-only management where there's an ability to invest easily and cost-effectively in the beta (the overall market movement) of a given asset class. We also expect our managers to comfortably exceed their average active appropriate peers.

With liquid alternative funds, where no simple index alternatives are available, our definition of success is that returns should be positive over a market cycle. Having a defined measure of success allows us to judge ourselves objectively and creates accountability within the research process.

The beliefs and team guiding our investment manager selections

Beliefs

Our core belief is that there is a group of managers in the investment community who, over reasonable time frames, can be expected to outperform. No one firm can be amongst the best in all asset classes and so we take an unfettered approach to selection. We believe that these managers may work within any type of company, from a small boutique to a very large investment house, and may adopt one of many investment styles. The team is comfortable selecting quantitative managers or qualitative managers. It is also comfortable with 'star' managers, who act with a high degree of autonomy, as well as more team-based processes, while being aware of the potential risks inherent in both.

Given these beliefs we do not automatically screen out certain investment styles or manager types in our selection process. Rather, the approach is to try to identify managers whose success has been based on their investment skill (rather than luck).

We believe that there is no one simple way of verifying the presence of such skill and hence the manager selection process draws on a multitude of qualitative and quantitative techniques which, when combined, give an informed view. At all stages in the selection process our manager research analysts are looking for evidential support for the presence of key manager skills and verification of the manager's stated investment style and process.

We believe that incorporating ESG considerations in a manager's approach is likely to enhance returns and reduce risk in addition to producing better outcomes for society and the planet. ESG stands for Environmental, Social and Governance, and are factors that we expect a manager to consider in addition to the standard financial ones. Examples might be whether a fund manager has a view on whether an investee company has a well-structured board, suitable labour relations or pollution controls.

We are long-term investors and recognise that no manager can succeed all the time and, as such, excessive manager turnover is costly and detrimental to performance.

Team

The manager selection team at Barclays is highly experienced and qualified with a successful track record built up over more than a decade. The team of 9 people, which is based in London, has between them 6 CFAs, over 14 years industry experience and more than 8 years with the business on average. Each member of the team is allocated two to three sectors in which they have become experts through overseas research trips, conference attendance and ongoing 1-2-1 meetings with managers. Manager research needs a sizeable commitment to be done right – record keeping needs to be thorough and robust, managers need to be continually overseen and ongoing challenges from the different perspectives within the team are welcome.

Investment due diligence

Our manager due diligence process can be divided into two distinct steps: the investment due diligence which identifies best-in-class managers, and operational due diligence to assess and mitigate business and operational risks. As we believe in the value of specialisation, these two components of our manager research process are implemented by two different teams with well-defined approaches, each with a right of veto.

Investment due diligence is implemented using the tried-and-tested '5P' research framework whereby five key areas, each starting with the letter P, are assessed and scored from 1 to 5. A good score in each of these five areas is critical to the likelihood of future success. Each of the areas is further broken down into 3-4 sub-categories and scored. For example, 'Culture & Transparency' sits within 'Parent' whilst 'ESG Considerations' sits within 'Philosophy'. No one 'P' is more important than another.

- Parent
- People
- Philosophy
- Process
- Performance

We don't have a predetermined set of standards. Different firms with entirely different structures and track records can be very good investors, and it's important to remain as open as possible to reviewing each entity independently. The critical aspect is that we view the track record a firm has produced as a validation of the quality of an organisation and its operations and investment process, not an indicator of a 'best-in-breed' manager.

Parent

At Barclays, we believe the organisational structure should encourage, not hinder, continuity in the firm's investment process. In general, we favour firms with substantial, broadly distributed ownership among employees, offering focused product line-ups in portfolios of appropriate size for their markets. We try to ascertain the culture of the business.

We look at a firm's current and historical ownership structure. Firms can be 100% employee-owned or majority employee-owned; they can be public companies; or have parent ownership by a financial or strategic owner or an insurance company. All else held equal, we prefer firms where employee ownership is substantial and broadly distributed because we believe this structure limits turnover of key investment professionals and supports a long-term strategic perspective on the business. Employee-owned firms tend to be less sensitive to asset growth issues and better at managing their capacity, whereas all the other structures tend to create risks to the business that could affect performance in the future. When examining a firm owned by a parent or 'financial conglomerate' we seek assurances that these companies will be able to retain key employees.

These firms also tend to be larger by nature to justify their scale of operations, and may be less capable of properly managing capacity. We particularly scrutinise publicly owned firms, especially the larger ones. Public firms answer to two sets of clients: investors and shareholders. The interests of these two can be at odds, as shareholders look for asset growth, which can be a deterrent to future returns that investors seek. This conflict of interest may make the decision to close a product more difficult at public firms. We assess the financial health of each parent firm using their published report and accounts (these are a matter of public record even for firms that are not listed) and using metrics such as the share price and CDS spread where available.

Employee compensation structure: We review each firm's compensation practices for its key investment professionals and analysts, preferring firms that compensate key investment professionals in a manner that's competitive and in line with our long-term performance goals and expectations. Many firms have adopted compensation schemes based on rolling multi-year performance in line with their investment time horizon, often with the bonus tied up in the fund or company stock. We believe this is the most appropriate method of bonus compensation. It's also critical that key investment professionals continue to be tied to the firm in terms of equity ownership and/or deferred compensation. Compensation structure is a key determinant to employee turnover, especially in competitive markets like New York, London, Hong Kong, and Singapore.

Assets under management versus capacity: We view excessive asset growth as a potential impediment to future returns and believe it's crucial that investment firms manage their product capacity properly. For every investment product we research, we go through an exercise to determine what we believe is a reasonable capacity for the product. We are looking for managers that have a thoughtful plan in place regarding their capacity and whose estimate of their capacity is reasonable and similar to ours. Over time, our

view on a manager's capacity may change, but any change in the manager's investment process as a result of asset growth or with the intention of increasing capacity raises a red flag.

Our estimates and criteria on capacity differ according to investment style and asset class. If we have any concern about a manager's size or impact on its markets, we review public disclosures around the manager's ownership of its current positions. Our liquidity estimate for equities is a simple formula to calculate days to liquidate a particular percentage of the portfolio using a measure of average daily volume over the past 12 months.

Long-only managers typically provide daily liquidity. Therefore, we want to be very careful that the majority of a manager's portfolio could be liquidated very quickly.

Liquid alternatives generally offer less frequent liquidity, so we can look at the 'days to exit' versus the fund's liquidity terms. As alternative UCITs funds replicate strategies implemented in less liquid vehicles in many cases, we want to make sure the fund's core positions can be easily liquidated in that timeframe without swamping the market.

People

Investment talent is the key resource that investment management firms must have. Identifying investment talent is the most difficult task for manager selection teams. It is our belief that to claim our own skill in manager selection, it is key for our team to have experience in investment management. It is only by having developed real experience of allocating risk that our team can properly evaluate external managers as peers.

We believe investment talent is defined as a superior capability of individuals to gather and synthesise public information, correctly anticipate market movements and express their conviction via meaningful active exposures. In addition, exceptional managers exhibit portfolio management talent in the way they leave winning positions to run and cut losses rapidly. Detecting investment talent is more art than science and a deep knowledge of the technicalities of asset management, coupled with experience, are the necessary prerequisites to perform manager selection. It is about managers learning from their mistakes and having humility when dealing with markets. It is not about being a good presenter or having reams of qualifications. We have a bias towards individuals with above average experience. To assess risk-taking behaviours of portfolio managers, face-to-face interviews with the investment team are combined with sitting in on team meetings.

We believe portfolio managers need to be supported by sufficient analytical resources (macro, equity, credit) to effectively implement their investment process (i.e. to facilitate risk-taking and monitoring of investment cases). Through interviews and background reviews, we seek to assess the quality of the analyst team and identify any particular analytical edge these teams might have. It is also important to analyse how the investment team operates, particularly with regards to decision-making. Our preference is for clearly identified risk allocators and flexible decision processes.

In parallel to the investment team structure, we will review the structure and dynamic of the investment team. The aim is to gauge the continuity of the firm and whether or not non-investment factors could possibly affect its process and ability to replicate its past performance or success.

Philosophy

This is an area which is often overlooked by both managers and some fund selectors yet it is vitally important. We want to understand what market inefficiency each manager is seeking to exploit – why does it exist and will it persist? We need to be comfortable that there is a rich and sustainable opportunity set from which the manager can extract outperformance in the future. The manager needs to be very clear on this. For example, one manager might look for stocks that are cheap but have robust balance sheets. Another manager might look for stocks that have a superior growth rate and a low dividend payout ratio. Both are valid, and potentially complementary, approaches that could add value over time.

Furthermore, we are seeking to understand a manager's awareness and incorporation of ESG considerations when constructing his/her investment philosophy and applying his/her process to it. We expect all managers – equity, bond and alternatives – to be engaged with the management of their holdings on these topics and understand how their activities could impact on the sustainability and profitability of the business.

Process

We seek to answer three critical questions when conducting due diligence on any investment research process:

(1) Does the manager have a special advantage in the way he/she picks investments arising from either the kind of information he/she collects or from the way he/she analyses the information? We review the overall distinctiveness and depth of this information compared with other investment managers and publicly available information and data. We also ask ourselves how the manager's process of gathering and analysing information is likely to lead to superior performance under various market conditions.

(2) Has the way the manager used the information to make investment decisions added value? It is possible that an investment manager's information is identical to that of others, but he/she may be able to zero in on important information more astutely, or develop an investment idea from the information that others may not see. What systems are used and for what purpose?

(3) Has the manager's formal, explicit process, discipline and guidelines – the sell-discipline or risk controls – added value to the overall investment process? These guidelines can often serve as effective checks on the emotional aspects of investing. They also help ensure the process is repeatable.

All of our research on a firm's investment process is designed to answer these questions as comprehensively as possible. This is how we go about it:

Review of decision-making structure: Our review of the investment process begins with understanding the decision-making process, and how securities are bought or sold in the portfolio. We want to identify who is making those decisions, and make sure that the process has been in place consistently throughout the period of the track record.

We generally prefer processes where the key investment professionals decide on the main risk exposures as opposed to a consensus team model. We prefer investment processes that are structured and comprehensive but do not involve a series of complex steps or excessive bureaucracy.

We believe there are essentially two critical pieces to any investment research process. The first piece is assessing the information a manager gathers to make their investment decisions. We analyse the quality and depth of this information compared to other investment managers. The second piece is the judgement that a manager uses in making investment decisions.

Review of the research process: In the majority of cases, decision-making will be preceded by in-depth research of either macroeconomic conditions, equity fundamentals or credit fundamentals. This is implemented either by a dedicated team of analysts or by the portfolio managers themselves. We seek to identify which specific characteristics of the research process are unique or which features of the research process demonstrate a specific edge versus the research processes of the majority of the investment management industry. The idea generation process is very important – where do new ideas come from?

Review of portfolio construction: Here the focus is on making sure that the portfolio has met certain guidelines over time on a consistent basis. The guidelines may have been established by the manager, such as a cap on residual cash exposure, leverage or relative sector weightings. Or, they may relate to one of our own criteria, such as our belief that active managers generally need fairly concentrated portfolios in order to outperform. Analysing data such as concentration levels, the overall leverage, gross/net exposures and the cash weighting at various points in time, the review focuses on verifying that the various characteristics have been consistent over time and that the process is replicable in the future. Any substantive change in these factors could call into question the replicability of past results. We also evaluate portfolio managers on: 1) their ability to express conviction in their ideas through meaningful active exposures; and 2) how and when they choose to exit both winning positions and losses.

Sell discipline: Having a viable exit strategy should be a key component of every manager's investment process, and we pay particular attention to how securities are sold from the portfolio. The decision to exit a security can be just as important as the original purchase and may be more challenging for a portfolio manager due to emotional attachment to a particular investment. We review the manager's stated criteria for sales and compare these with the actual securities they have sold. We are looking for consistency and accountability for these decisions.

Risk management process: The approach to risk management varies significantly across asset classes and investment styles. We look for managers that demonstrate a consistent approach between their investment philosophy and their risk process. For example, fixed income managers, where risk allocation is very granular and diversified, should have very detailed risk management processes. On the other side of the spectrum, an equities portfolio manager, having a high conviction strategy and an agnostic approach with regards to market benchmarks, will have a more simplistic approach where risk is assessed at the company level instead of specific ex-ante measures.

On-site review with the portfolio manager and team: These meetings are the culmination of our assessment of a manager's investment process. They involve a review of all the questions that arise from the analysis outlined above, plus an overall assessment of the quality of the investment process, the investment team and the efficiency of the markets that the manager trades. At a minimum, this process involves a lengthy meeting at the manager's offices, but more often entails multiple on-site visits and conference calls.

Performance

Every investment team has produced some sort of historical performance track record over a given time period, whether it's just a month or 20 years or more. While a track record is an important aspect of the overall analysis, it represents what an individual or group of individuals has done in the past, and we're much more interested in ascertaining what it's likely to do in the future. Just as a scientist wouldn't ignore the results of past experiments, we don't ignore the past results of an investment strategy. We review quantitative data over rolling periods that are consistent with our view of the manager's investment time horizon, typically between one and five years. Rolling periods tend to smooth out the results so that short periods of substantial outperformance or underperformance are not given undue weight, providing a good perspective on consistency of results.

Performance and statistical analysis versus indices and peers: With long-only managers, we isolate the relevant rolling period that matches a manager's investment time horizon and focus on these factors; excess returns, alpha, beta, standard deviation, Sharpe ratio, Jensen Alpha, information ratio, risk/reward, up/down capture ratio, consistency ratios and correlation. Then we compare these statistics to the market benchmark that best represents the manager's investment universe. Whether the manager made or lost money over time is important to us, but to a large degree, our main gauge of long-only managers is in relation to the relevant market index. This is why we accept some level of volatility and drawdown with long-only managers. However, with alternative fund returns, we analyse the return stream using shorter rolling time periods to match shorter manager investment time horizons. We focus on absolute returns, standard deviation and Sharpe ratio. Here, our comparison evolves to an absolute level of return or return in excess of cash, although we also make evaluations versus peer groups of other similar hedge investment managers.

Risk statistics: We analyse risk in two ways:

- consistency of volatility and risk-taking over time, and
- magnitude of the largest drawdown

When comparing long-only managers with relevant market indices, we look for consistent levels of correlation with the market and of return volatility relative to the benchmark over time. Of course, absolute levels of volatility in the market will change over time, but we want to see that a manager's positioning versus the market is fairly stable; for example, a 'defensive' manager's returns should be consistently less volatile than market returns. In addition, we look at what was happening in the market during individual periods of drawdown and how well the losses were recovered relative to the market. With hedge investment managers, the analysis of the risk-taking is more absolute; we want to see consistent levels of volatility over time. We pay particular attention to an alternative fund manager's drawdowns – the reasons for the loss and how the manager reacted. Drawdowns can be particularly difficult for alternative investment managers given their compensation structures (incentive fees as a percentage of positive performance and the use of high water marks) and the impact losses can have on capital outflows from the fund.

Historical performance attribution: Performance attribution generally leverages the same data and information as the review of the historical holdings and exposures, but here we try to recreate the manager's performance over time. We need to understand how a manager has driven performance, so we can explain the track record and assess whether it is consistent with the manager's investment style and process characteristics.

For a long-only manager, we look at the individual holdings and analyse the contribution of each security to performance, as well as the contribution of each sector and of cash holdings. This allows us to assess the consistency of the results and what has driven performance over a distinct period (we typically look at calendar years). This analysis is key to validate the description of the investment process as provided by the investment team. For alternative funds, we generally look at the long positions or key contributors to the performance of a given period, such as the top 10 contributors and detractors.

Performance statistics versus assets under management growth: As outlined above, we believe the size of a manager's asset base can have a critical impact on performance – with bigger not necessarily better. To make sure that, as the manager's asset base has grown, the quality or nature of the manager's track record has remained consistent, we compare excess returns, standard deviation, alpha and profitability with growth of assets over time.

Review of historical holdings, styles and exposures: This information may vary greatly based on the type of investment manager and product that we are researching. For a long-only manager, this is generally a simple data request for historical securities on a quarterly basis back to inception or at least through a full market cycle. For equities, we use a system called Style Research to help us analyse the past biases and risks of a portfolio. For bonds, we use Bloomberg PORT for the same purpose. Managers tend to maintain their style biases over time and there is persistency in this. For alternative investment managers, there may be issues with transparency or the complexity of the underlying portfolio. Alternative investment managers tend to be more secretive regarding their investments on the short side, but we can obtain overall levels of exposures and historical information. This analysis serves as the basis for many of our questions to the manager to assess information, judgement and portfolio construction.

Idea generation and ongoing monitoring

Idea generation

Given the strength in depth and experience of the team at Barclays, the members are allocated two or three asset classes each in which they are experts. As such, the team has a deep knowledge of their respective areas and the good, bad and ugly managers within them on an ongoing basis. Nonetheless, the investment universe available to implement our manager selection process is large. This characteristic of the investment management industry is a direct justification of the need for a robust and consistent manager selection process aiming to identify a limited number of managers across asset classes. Quantitative screening is a useful tool in idea generation. The quantitative screening has two key characteristics:

The screening criteria must remain sufficiently broad such that it does not over-concentrate on certain manager styles during favourable price regimes in our sample period, i.e. short-term momentum managers during bull markets.

The quantitative screen cannot solely verify who is a skilled manager, but identifies characteristics expected during observation of a skilled manager's track record.

The aim of our quantitative screening is not to filter managers out but to throw up additional names that may be of interest. We rank investment managers by using a limited number of statistics deemed necessary over both three and five years, with a preference towards longer track records.

Ongoing review

Each member of the team is a specialist in their allotted asset classes. Having identified a manager that they believe is among the most likely to outperform in the future in their space, a set '5 P' template research note is completed and scored before it is presented to a monthly meeting of peers for robust challenge. Only once it has been approved, does it move into the operational due diligence process.

The preceding discussion of our investment due diligence details the due diligence we perform prior to investing with an investment manager or recommending the manager to our clients. However, a reliable manager research process requires extensive ongoing monitoring to make sure continued investment with a given manager is advisable. After an initial investment, we continue to perform the following for each time period:

Daily/monthly: We monitor news and information on our managers, in real-time, in industry publications and news alerts, to glean any information on the manager, its employees or its key investments. We also monitor performance updates that we receive for any unexpected developments. For our managers with whom we have mandates, we receive full portfolio holdings daily so we can perform risk analysis and performance attributions. In addition, we monitor a portfolio's holdings or levels of exposures, such as gross and net exposures, top positions, or sectoral, regional, or asset class concentrations. If there are any concerns we can't resolve, we discuss them with the investment manager.

Quarterly: We undertake a more detailed formal performance review focused on the relative performance, market factors that affected the portfolio, and positions that had the greatest positive or negative impact. We also update our factsheets and commentary.

Semi-annual: We speak to all our managers on a regular basis; the frequency depends on the complexity of their process and the transparency we have into the underlying investments. The greater the transparency, the less the need for direct communication. At a minimum, we speak with each of our managers formally at least once every six months, even if performance and results are completely within our expectations. We formally review any changes to the organisation, investment process, portfolio and performance.

Ongoing evaluation: Throughout various steps of ongoing monitoring, we keep our internal scoring or internal rating of managers up to date. This is implemented to ensure that, at any point, the appointed managers remain above the thresholds we have defined to be present in our roster of external managers.

Operational Due Diligence

In this section we turn our attention to the second component of the manager research process: Operational Due Diligence ("ODD")

"Any informed borrower [or investor] is simply less vulnerable to fraud and abuse," Alan Greenspan

Typically financial advisers offer a 'supermarket list' of active/passive funds to investors using criteria such as 'investment' capabilities, past performance, stock picking skills, the costs of implementing the strategy, etc. Very rarely will they take into consideration the business and operational risks associated with any fund. By this we mean the business resources and processes needed to support the investment activities and operational know-how needed for the manager to execute and sustain the investment strategy.

We believe, and have experience to show that, the operational 'set up' can hinder or positively support the ability of the fund to deliver performance. A skilled portfolio manager would not be able to execute to the best of their abilities if the firm is not adequately resourced to manage and oversee their business processes or regulatory responsibilities, and manage the daily processing of investment decisions. Put another way, there is no premium or return for taking unacceptable business or operational risks in the long run, and so these should be minimised wherever possible. On the flip side, well managed businesses create a better environment for investment managers to perform and, in return, help foster long-term investment success for our clients.

We define ODD as a rigorous independent review of the firm's operations and product offering that, at its core, seeks to assess and mitigate business and operational risks.

We regard due diligence as both a **science** and an **art**. Like science, the process should be formal, structured and repeatable to ensure consistent and accountable analysis. Like art, the process should be principle-based supported by a house philosophy and deep analyst experience. We deploy an independent team of analysts with collectively over 30 years practical experience across a range of investment strategies. In excess of 200 managers have been through our reviews and this invaluable experience enables the team to be well prepared to consider businesses of all shapes and sizes, and from a myriad of different jurisdictions, experience, rules and regulations.

We benchmark all managers to our own expectations derived from market practices, and our thought leadership. Each manager must pass the ODD review before being made available to clients, and periodically assessed thereafter. While risk can never be fully mitigated, identified critical sub-par controls are not accepted.

Our understanding of risks and deep knowledge of operational processes is why ODD at Barclays is positioned alongside Investment Due Diligence at the heart of our manager research process. Structurally, we believe that this service is uncommon in the Wealth business and yet fundamental to sustainable long-term investment success for our clients.

Breaking a business down into Operational Pillars

Barclays Savings, Investments and Wealth Management sources managers and funds across a broad range of strategies and fund types in order to meet our client needs. Regardless of size or whether a manager is based in New York, London or Paris, business and operational risks are distilled and organised into a set of Operational Pillars. From here the risks are scrutinised and evaluated in isolation, and then collectively, to consider as a whole. Only then will we consider if we have attained what we call 'Operational Conviction' in the manager's operations. Listed below are the Operational Pillars we focus on:

Ownership and Structure: Ownership, business strategy, corporate governance, individual accountabilities and financial health all provide a foundation from which a fund is managed. Business and operational risks can either be more prominent or, alternatively, mitigated by these foundations. For example, financial distress can increase the likelihood of malpractice, errors and staff turnover.

Fund Structure: The funds themselves adhere to the appropriate regulatory jurisdiction and are subject to country nuances. Furthermore, there are varying approaches to fund governance, disclosures, terms and conditions, and fees, depending on the manager and the jurisdiction.

“Whether investing in a US bond, a Fortune 500 company listed on a national stock exchange… a smart investor will always conduct due diligence on the investment.” US Securities and Exchange Commission, Investor Bulletin – World Investor Week 2018.

Operational Infrastructure: The backbone of a business. The operational infrastructure or architecture provides the tools for the manager to oversee the front, middle and back offices. Threats continue to evolve whether they be in the form of cyber and digital data, or simply the changing complexity of a business. There are many sub-sections of this Pillar that entwine and we believe a good ODD review is one that not only considers operational risks in isolation but as a sum of their parts. Managers need to pass on both counts.

Trading and Execution: Trading platforms come in varying states of design and automation, and fund liquidity will vary between strategies.

Regulation and Compliance: Financial businesses have never been subject to so many regulatory requirements and rules in order to protect markets and investors. That said, we believe being regulated is not a cast iron guarantee of how a firm may operate and conduct themselves. Regulatory culture or attitude within a business is, we believe, just as important as the documentation and policies that support it. How does a business go about meeting its regulatory needs in ways such as training, culture, resourcing and policies to avoid fraud?

Custody and Counterparty Risk: When Lehman Brothers defaulted on its obligations to creditors and to clients the unthinkable happened – a major institution defaulted. Among the many consequences that reverberated around the world, large losses incurred for those who had assets with the broker. Understanding how the manager monitors counterparty risks is a key part of our process.

Valuation and Pricing Methodology: Valuations and pricing methodology drive asset valuations, and fees are keyed off valuations. Most assets are easy to value but illiquid or esoteric assets can be subject to assumptions and estimations which brings a level of uncertainty. Valuation policy, internal challenge and accountability are important factors in managing the conflicts of interest that may inevitably arise in the valuation process.

Fund Auditor: Recognised or known auditors and the services they perform provide an independent insight into the fund’s activities.

Fund Administration: Sometimes outsourced or co-sourced, and other times managed in-house, fund administration can be delivered in different ways and so the design is important to understand.

Transparency and Document review: Transparency, disclosure and openness enable us to perform our reviews. We take a dim view when these standards are not met.

In Focus: Keeping a check on liquidity

At a fundamental level, liquidity is all about how quickly and at what price you can exchange an asset, such as an equity or fixed income security, for cash. Generally speaking stocks and bonds are liquid, but we believe it is important to assess/monitor liquidity at both the onboarding stage and ongoing. We do this by using our own measures.

In Focus: Cyber Security

Much has been reported in the press about the threats of cyber crime. There have been many examples of disruption, including data thefts and ransomware attacks, notably against Facebook, Sony Pictures, Equifax, Voya Financial Advisers as well as the WannaCry malware that targeted the NHS Windows systems, and yet, the level of cyber protection varies from one manager to another. There is no doubt that this is a significant concern we all face in our daily lives as individuals, from how we use digital media to how we invest and whom we invest with. We conduct significant research into understanding the threats and how they can be combated, and discuss and afford our experience with managers.

Using technology to deliver a highly effective Operational Due Diligence solution

In our experience the two main executional challenges faced by ODD professionals are:

1) Collecting and efficiently managing large amounts of data that are both quantitative in nature (facts and figures, documents, emails, etc) and, more challenging still, qualitative (comments, opinions, descriptions), and ensuring that these are all captured in the final analysis.

2) Updating and keeping relevant due diligence questions, whilst ensuring they are consistently applied across all relevant and applicable product types for the benefit of clients. This is particularly important in a fast changing environment where external threats to managers such as cyber security, data management, and a rapidly evolving regulatory environment need to be understood and incorporated.

Barclays successfully addresses these challenges through a single integrated platform that manages the entire due diligence process, from start to finish. There are no 'bolt-ons' or multiple systems to manage that may or may not 'talk' to each other. All aspects from creating a single repository for all related ODD information/data needs, consistent process application and data management to ensure effective oversight and governance, are embedded and repeatable. This enables us to deliver our reviews in a timely manner, consistently and responsibly.

Completing the review

Upon completing the review we conclude if we have reached 'operational conviction' so that the fund/mandate can proceed to the next stage of onboarding and ultimately onto our monitoring program. In each review we reserve the right of veto.

Our experience: common business and operational risks

Assessing risk is very much a science and an art because no two managers are the same and risks continue to evolve. We apply a principle-based approach using our deep knowledge of business and operational risks whilst remaining alive to new threats. The following are some examples where the business or operational risk had not been acceptable but, as in the final example, changes were made to address the risks identified.

We know that every manager will run their business in their own way but, in most cases, we will feed back our observations as we believe this is beneficial to the manager and the industry as a whole. In a few cases we have worked directly with managers to improve their operational practices before investing, and only investing if the changes recommended are implemented. This demonstrates, for example, how we are able to engage with talented new emerging managers that have, where appropriate, the willingness and means to improve their operational infrastructure, and that would otherwise not be investible and available to our clients.

Type of Risk	Observation	Implication
Operational	Lack of appropriate segregation of duties between key staff	Inadequate segregation weakens internal controls, heightens potential conflicts of interest and may infer inadequate skill types.
Business	Significant decline in assets under management Operational staffing losses with insufficient replacements	Financial stress can lead to a less stable business environment which in turn increases the risk of operational errors possibly harming client capital and returns.
Operational	Inadequate disclosure over a key man departure Inaccurate client reporting and a number of related concerns	Our due diligence revealed important information that should have been disclosed and errors in reporting. We simply lost 'operational conviction' in the manager.
Business and Operational	Improvements should be made to compliance oversight, segregation of duties and governance	Both the manager and Barclays agreed to work together so that these improvements could be implemented.

In Focus: Responsible Investment

As signatories to the PRI, Barclays has integrated Responsible Investment considerations into our selection process for individual managers and funds. While this has been useful to assess specific strategies, we believe it necessary to also consider the maturity of Responsible Investment practices across the wider asset/fund manager organisation – a natural extension of our Operational Due Diligence practice.

Sell discipline and termination process

Our goal in selecting managers is to be invested with them for long-term time horizons, because that will result in the highest returns, and we recognise that excessive manager turnover is detrimental to performance. However, not all investment teams or processes continue to meet our standards, or manage their organisations properly. The following outlines our thoughts on the criteria which would give rise to considering terminating an investment manager.

When we are analysing a manager's performance track record as part of our due diligence process, we focus on three- and five-year rolling periods. We believe this time horizon gives managers a long enough period to prove their investment acumen, and avoid short-term market cycles. Given this time period in analysing returns, we use the same period in evaluating a manager's actual performance. It is important to understand this time period prior to investing. Our patience in analysing a manager's returns or dealing with poor performance assumes other aspects of the organisation and investment process are consistent with our initial investment.

We believe the following occurrences are detrimental to a manager's ability to repeat their historical performance:

- Departures of key investment professionals
- Unsustainable growth in assets (or asset decreases affecting business/product viability)
- Negative change in a firm's ownership structure
- Unexpected change in investment process
- Mismanagement of human capital (talent management, retention, succession)
- Deterioration in compliance procedures

We review these factors on a continuous basis and, if needed, the strategy will be placed on 'hold' status on the following cases:

- Departure of key professionals requiring analysis of new team structure
- Deterioration of performance requiring detailed analysis and specific review with the investment team
- Change in corporate structure requiring analysis of impact on investment team and process
- Deterioration of liquidity conditions due to portfolio allocation or strategy

Once we decide to terminate a manager we make every effort to be as judicious as possible in managing the transition. We have a roster of transition managers in place to manage this process in the most efficient manner possible. We do not believe that most managers' performance will suffer immediately from organisational issues or the criteria listed above, nor is it in our clients' best interests to 'run for the exits'. More often, we attempt to move our clients out in a methodical manner. We always make our recommendation known immediately, so that clients and their advisors can manage their priorities around taxes and performance.

Blending

Having chosen which managers we wish to employ, it is often the case that we then wish to combine the talents of different investment managers to achieve an optimal blend of investment expertise in a range of investible products.

Why do we blend managers?

Within each asset class there are multiple ways in which an investment manager can seek to generate returns with contrasting strategies and styles co-existing and competing to deliver the best possible outcome.

Take, for example, global equities. Within this broad category, some managers might take an active approach, others passive. Some will invest only in large cap stocks, others in small or mid-sized companies. Geographical allocations could vary between managers. From a style perspective different managers, when assessing opportunities, might focus on specific factors such as relative value, earnings growth, balance sheet quality, price momentum or income generation. These style variations can leave much for the investor to consider given that their impact on portfolio returns can be significant. Each style and strategy bias can generate diverging outcomes at different points of the economic cycle even within the same market sector.

The high degree of specialisation within the industry means most managers consistently implement a particular style or investment philosophy with relatively few managers willing or able to rotate their approach or style to alpha generation as economic conditions change. A ‘value’ manager, for example, will typically continue to deploy this approach even as economic conditions evolve. Forecasting which style will perform best for any extended period is a difficult endeavour and for many investors it is an active bet they do not wish, or are ill-equipped, to make.

We believe that carefully blending different managers that display contrasting investment styles, each of which we expect to outperform over the economic cycle, is an effective means of addressing these challenges. This approach introduces diversification at the style level meaning outperformance can be generated from more than a single investment source with reduced volatility across the economic cycle.

In our manager blends, each manager makes a specific contribution to the overall risk and return profile of the fund with focus placed on identifying complementary security selection techniques. This approach has proved a successful means of generating consistent returns over the long-term, delivering downside protection through diversification across a range of asset classes and geographies.

How do we blend managers?

When constructing a blended portfolio, the first task is to identify those managers that have been ‘buy’ rated within the ‘5P’ research framework who we feel will blend well together. We evaluate how these managers can be combined to produce a complementary portfolio. Having two outstanding managers that invest in similar ways with a significant degree of portfolio overlap would not, for example, prove an effective blend. Instead, we seek to combine managers where their investment philosophies and idea generation are differentiated, with limited portfolio overlap and that, when combined, will deliver a single naturally diversified portfolio and downside protection.

This process draws on a quantitative analysis of each manager’s historical holdings and returns. Through this we can evaluate a number of portfolio characteristics including how each manager has allocated money on a regional and ‘market cap’ basis, portfolio concentration, turnover, portfolio changes in times of market stress and active share of the relevant benchmark. We also evaluate each portfolio’s exposure to fundamental factors indicative of particular investment styles such as ‘value’ (for example, price/book, dividend yield) and ‘growth’ (for example earnings growth, return on equity) and construct return attributions that examine how managers have made and lost money e.g. through style bias, sector bets or stock selection. For equities we use a tool called Style Research.

Through this process we can create an independent and comprehensive picture of each manager’s investment profile and the risk factors each exploits to generate a return. Importantly, with this information, a complementary blend can be constructed which mitigates or diversifies unwanted risks leaving investors exposed to a single core portfolio.

How are fund weights constructed?

Once satisfied with the complementary nature of each manager within a particular blend, portfolio weights are assigned to each one. Given our focus on downside protection, in general, a greater weight will be given to the least risky manager in the blend based on an assessment of factors such as portfolio concentration, tracking variance and observed volatility. A lower weight will be given to managers with a less predictable range of return outcomes and which display, for example, higher conviction portfolios via greater portfolio concentration.

Other factors which play a role include the geographical spread within the funds' benchmarks, with specialist managers sometimes included in the blend to ensure significant countries or regions are appropriately represented.

Does blending diversify away returns or deliver the equivalent passive return?

A challenge sometimes levelled against blended portfolios is that they can either diversify away returns or end up delivering de facto index returns.

On the first charge, it is certainly the case that for the investor able to identify and rotate between those top performing managers utilising the highest returning strategy (and style) across the economic cycle, returns in excess of those expected of a blended portfolio are available. Successfully executing such a strategy is extremely difficult and would require intensive analysis and a fair amount of good fortune.

Our view is that, for many investors, a sensible approach to achieving returns over the long term across asset classes is to harness the power of diversification across styles and retain a sensible focus on downside protection.

On the second challenge related to 'index hugging', we monitor factors such as active share, sector exposure and deviation and tracking error at an individual manager and on an aggregate portfolio basis to ensure the funds are appropriately differentiated to each underlying benchmark so that the active skill of each manager is delivered to the investor.

How are the blends implemented?

Across our flagship single asset class range, market exposure is achieved through the use of segregated managed accounts with each manager delegated with the authority to invest on behalf of a particular sleeve of fund assets. This structure offers a number of benefits, one of which is full transparency over the underlying holdings. With this data, we are able to continuously monitor each manager's positioning, as well as that of the aggregate fund, and evaluate the ongoing effectiveness of the blend.

This structure provides an analytical and risk management edge over fund of funds products which invest directly in the external manager's comingled funds without the same degree of daily position level transparency.

Our single asset class funds allow us to calibrate each mandate to suit our specific investment requirements while drawing on the skill of our target managers. Particular securities, regions or instruments can be ruled out from a particular mandate if we determine that this is best for the fund's overall exposure.

Also, these funds provide access to investment expertise from institutions across the globe which do not necessarily offer fund vehicles available for third party investment.

Another practical benefit of this structure is that managers can be changed without crystalising a tax event for investors. This would not be the case for a typical investor holding a range of funds in their own account.

Across the range, we handpick some of the world's best investment managers and blend them in order to deliver outperformance from multiple sources while reducing volatility. We can exploit correlations and divergences between styles to create all-weather solutions that eliminate many of the risks inherent in investing in a single manager.

Our portfolio construction and risk management capabilities are built on our unique segregated mandate platform which also brings operational benefits to investors and at a comparable cost to single manager products.

Conclusion

The stated goals of our manager research process are to identify: (1) long-only investment managers capable of producing excess returns over relevant market indices after management fees and, if applicable, after taxes; and, (2) alternative funds producing positive returns, as well as risk-adjusted results and excellence among their identified peers. Consistently identifying these types of managers and investing in them is not an easy task, and the difficulty is compounded by the nature of the industry, especially in the way in which success in the past can work against performance in the future. Thus, we believe success in selecting managers requires having a process that differs from what other investors in the marketplace are using.

Our research philosophy and process has a distinct view on the types of organisations that are likely to create environments for long-term investment success, and we actively seek investment managers that fit this perspective. At the same time, we believe there are multiple types of investment processes that can provide sustainably strong performance, and our investment process review is designed to be as flexible as possible to identify a range of investment firms that can provide our clients with long-term satisfactory results. In researching managers, we emphasise tangible qualitative factors that are backed by rigorous quantitative research. Most importantly, we do not let past performance determine our decision-making. We believe this approach yields a roster of top-quality external investment managers which, in a variety of combinations and when used within an appropriate asset allocation, provides our clients with the best chance of achieving each of their unique investment goals.

Glossary and definitions

Alpha: A measure of performance on a risk-adjusted basis. Alpha takes the volatility of an investment and compares its risk-adjusted performance to a benchmark index. If a Capital Asset Pricing Model (CAPM) analysis estimates that a portfolio should earn 10% based on the risk of the portfolio, but the portfolio actually returns 12%, the alpha is 2% (the excess return).

Alternative Funds: Regulated funds that cover a range of investments but are generally known as being able to use leverage and short securities, and aim to provide absolute return not directly linked to market indices.

Beta: A measure of volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. Simply, the tendency of a security's return to respond to swings in the market.

Company Float: Refers to the total number of shares outstanding for a public company that are actually available for trading. Calculated by subtracting restricted shares from outstanding shares.

Consistency Ratios: A measure of manager performance that compares similar rolling periods, such as quarters or years, to a benchmark, and reports the % of the periods that the manager return has exceeded the benchmark return.

Correlation: A statistical measure of how two securities move in relation to each other. The computation of correlation ranges between -1 and +1. Perfect positive correlation is +1, and implies that securities move completely in lockstep. Perfect negative correlation is -1, and implies that securities move in complete opposite directions.

Excess Returns: Excess return refers to the performance of a security, portfolio, or investment product's return for a stated period minus the return of the benchmark. Excess return implies a positive number, but can be negative if a portfolio returns less than a benchmark.

Information Ratio: A ratio of portfolio returns compared to the returns of a benchmark focusing on the volatility of excess returns. The more consistent excess returns are over a period, the higher the information ratio will be per unit of excess return.

Mandate: A segregated pool of money dedicated to Barclays' clients as distinct from investing in a pooled fund alongside other investors.

Sharpe Ratio: A ratio developed to measure risk-adjusted performance. Calculated by subtracting the risk-free rate from the portfolio's return and dividing the result by the standard deviation of the portfolio's returns.

Standard Deviation: A measure of the dispersion of a set of returns from its average. The more spread apart the returns, the higher the deviation.

Traditional/Long-Only Managers: Refers broadly to the long-only or separate account investment manager universe investing in equities and bonds. Generally defined by Separate Accounts, Mutual Funds, and ETFs.

Up/Down Capture Ratio: A statistical measure of a portfolio's performance in a specific market (up or down). Down-market capture ratio is used to evaluate how well or poorly an investment manager performed relative to an index during periods when that index has dropped. Expressed as a percentage.

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