IFSWF Subcommittee #2

Case Study #1: Selecting and Monitoring External Fund Managers

Case study objectives

- Review the academic and practitioner literature related to the selection and ongoing monitoring of active investment managers. Summarize findings that offer concrete, practical insights for SWFs.
- Identify “best practices” for selecting and monitoring investment managers. Describe how quantitative and qualitative criteria and techniques complement one another in a comprehensive manager assessment process.
- Discuss the additional complexities that arise when dealing with alternative asset classes; that is, hedge fund, private equity, and real estate managers.
- Identify those approaches to manager selection and monitoring that may be beneficial to the broadest possible set of SWFs, while recognizing that each SWF has unique challenges, constraints, and objectives and that as such, no single framework will be appropriate for all SWFs.
- Given the vast scope of the topic, focus on key, high-level insights.

Questions to be addressed

1. What due diligence should an SWF perform on prospective managers to maximize the likelihood of retaining successful managers?
2. In which cases should an SWF place particular emphasis on quantitative or qualitative criteria? What are the strengths and weaknesses of each approach and what is the best way to integrate these two aspects of manager assessment?
3. How can an SWF work towards the optimal mix of active and passive investment managers? In which asset classes or markets is active management most fruitful? In which asset classes or markets does passive management play a role?
4. Under what circumstances should an SWF consider terminating an investment manager?
5. Where in the manager selection process can outside advisors or service providers contribute?

Outline

1. Selecting active managers: the evidence
2. Selecting active managers: good practices
3. Combining managers to form portfolios
4. Monitoring managers

Selecting active managers: the evidence

Key takeaways from the literature*

1. The median manager underperforms the benchmark after fees and transaction costs are taken into account.

2. It is possible (in theory) to identify outperforming managers in advance by looking at past performance, AUM, fees, and other factors.

3. Studies focused on pension plans and other “manager selectors” indicate that there is significant scope to improve the manager selection process.

** There is a vast literature on manager performance and manager selection. The conclusions are nuanced, but the three stylized statements above are consistent with most findings. Please refer to the Appendix for a selection of supporting articles.*

Selecting active managers: good practices

Manager selection in perspective

1. Assess the institution's mandate, characteristics, and constraints
2. Define investment objectives that are consistent with mandate
3. Identify appropriate mix of asset classes or risk premia to meet objectives
4. Select fund managers that provide exposure to asset classes or risk premia
5. Monitor portfolio and manager performance continually relative to objectives

Combining quantitative and qualitative tools

Sound Qualitative Judgment

- What is the underlying source of the manager's performance?
- How stable can we expect this performance to be in the future?
- What is the quality of the investment staff, process, risk controls, etc.?
- Are the manager's incentives aligned with ours?
- What other benefits (e.g., knowledge transfer) can the manager offer?

Rigorous Quantitative Analysis

- Is there evidence that the manager possesses skill?
- Has the manager diversified other sources of return?
- Are the manager's returns predominantly "alpha" or "beta"?
- How much risk could the manager contribute to the portfolio?
- How resilient was the manager to periods of market stress?

Comprehensive Manager Scorecard

A framework for developing conviction

Conviction: The level of confidence in the manager's competence to execute on an investment opportunity and in the general quality and 'fit' of the institution

VIABILITY

STRUCTURE AND FOCUS

TRUST

RISK AWARENESS AND MANAGEMENT

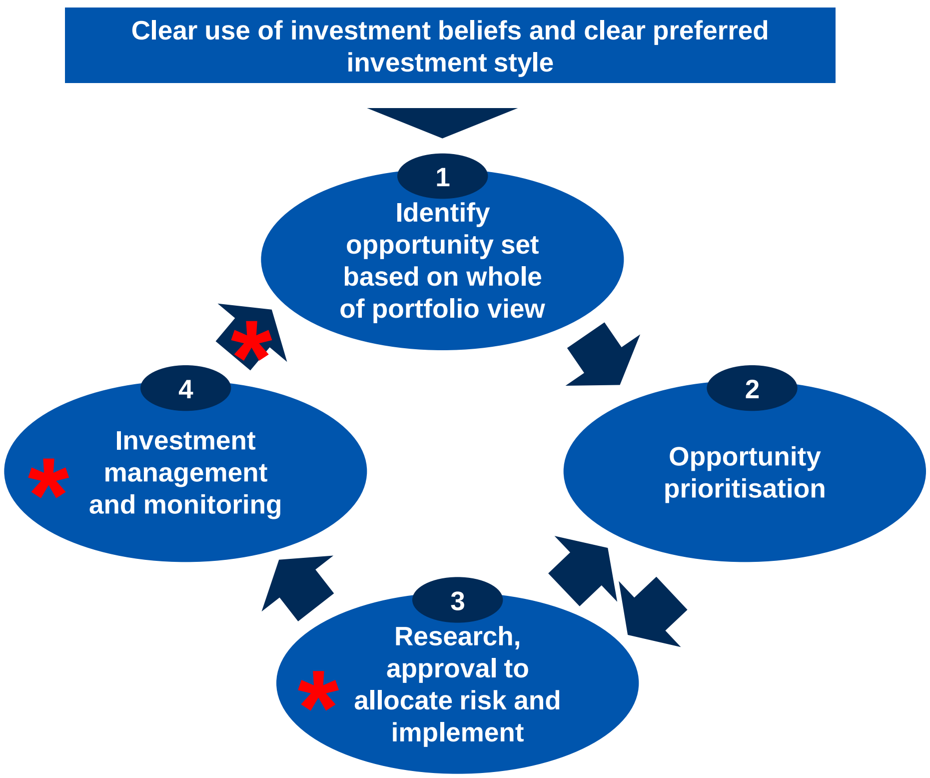
PEOPLE CAPABILITY

PROCESS CAPABILITY

OPPORTUNITY MATCH

PERFORMANCE

High Level Search, Evaluation, and Monitoring Process



Source: New Zealand Superannuation Fund

* Points in the process where conviction plays a role

Quantitative metrics for manager assessment

- When evaluating managers based on quantitative metrics, it is advisable to:
  - ✓ consider a range of metrics, as each provides different information,
  - ✓ understand how the various metrics interact with one another,
  - ✓ compute the metrics during specific time periods of interest, and
  - ✓ recognize that all metrics are by definition backward looking.
- This list of six metrics is a good starting point, but is by no means exhaustive.

Information (or Sharpe) ratio
The manager's excess return above a benchmark, normalized by the standard deviation of relative returns

Sortino ratio
The manager's excess return above a benchmark, normalized by the standard deviation of downside relative returns

Win-Loss ratio
The manager's average positive relative return divided by the manager's average negative relative return

Hit ratio
The percentage of periods where the manager's relative returns were positive (a.k.a. the "batting average)

Up- and down-market capture ratio
The manager's excess return during up (down) markets divided by the benchmark's return during up (down) markets

Correlation coefficient
The correlation of the manager's excess returns with the returns of other existing (or prospective) managers

Disentangling alpha from beta

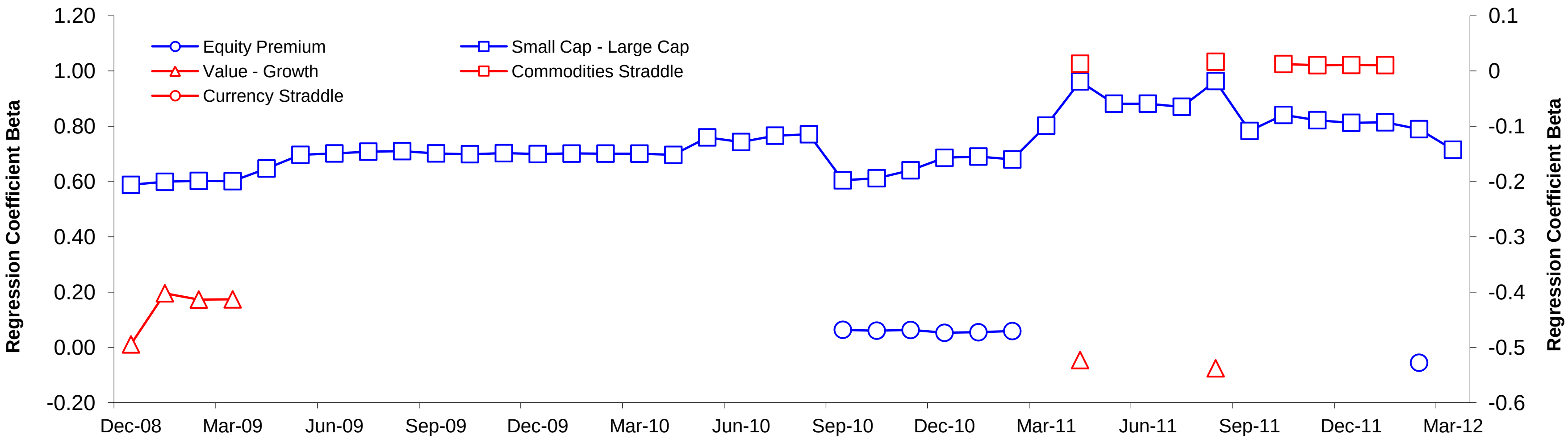
- **Alpha** is return that is derived from security selection, tactical asset allocation, or other investment skill. Alpha is scarce, and therefore, should be expensive.
- **Beta** is return that is derived from exposure to a passive index (such as the MSCI World equity index) or a risk premium (such as the small cap or value premium). Beta is abundant, and therefore, should be cheap.
- It is essential to understand whether an active fund manager's returns are true alpha, or whether they could be replicated through inexpensive beta exposures.

- **Risk factor analysis** allows us to answer three questions:
  1. How much of the manager's return came from beta?
  2. To which betas did the manager have exposure and at what times?
  3. Were the beta "bets" constant or did the manager adjust them dynamically?

Manager 1: A "closet indexer”

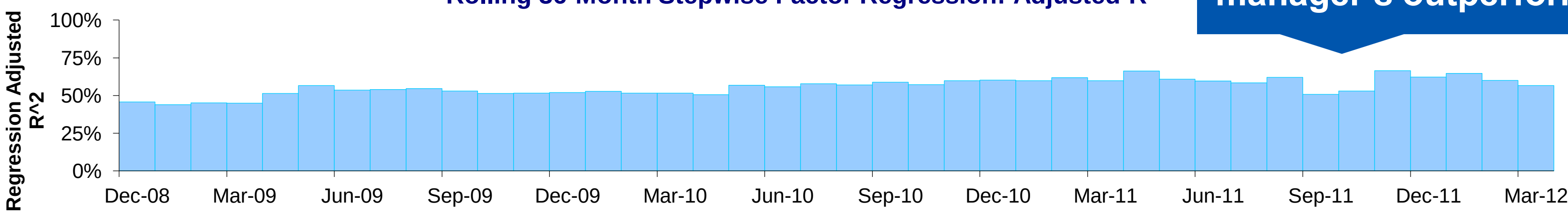
Excess returns show a constant exposure to the small cap beta factor…

Rolling 36-Month Stepwise Factor Regression: Betas



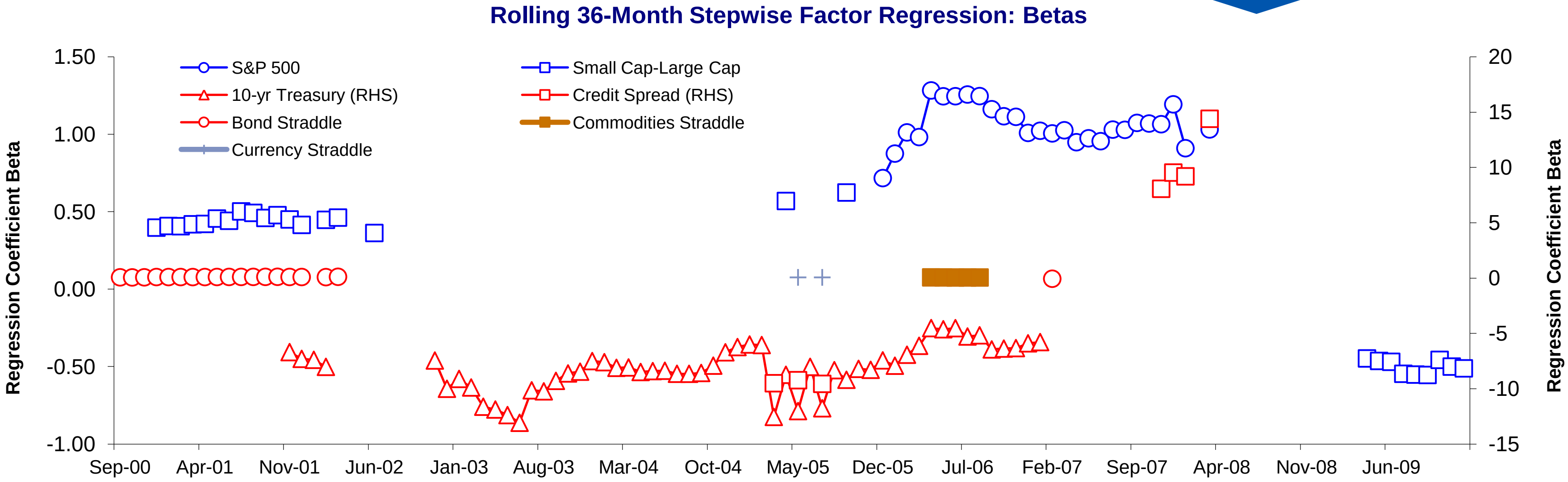
… this exposure explains approximately half of the manager’s outperformance

Rolling 36-Month Stepwise Factor Regression: Adjusted R^2

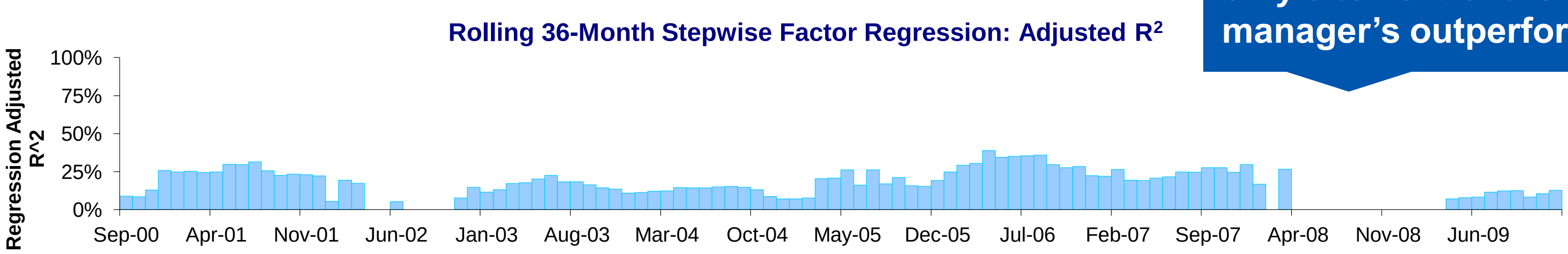


Manager 2: Evidence of alpha

Excess returns show dynamic exposures to a variety of beta factors…



… these factors explain only 5 to 25% of the manager's outperformance



Additional complexities with alternative investments

- **Performance fees** cause the standard deviation of a fund's returns to be biased downward; they cut off the upside, but do not reduce the risk of loss! They also reduce the expected return of a fund of funds more than a single fund.
- **Real estate and private equity benchmarks** are often appraisal-based. This introduces artificial smoothing that can dramatically understate risk. These indices must be adjusted to estimate risk accurately.
- **Illiquidity risk** has long been a concern among investors. But they have struggled to determine how to account for it when picking managers and forming portfolios. It is critical to determine how investing in a particular manager impacts overall liquidity.
- **Survivorship bias and backfill bias** in manager databases can be significant and lead investors to overestimate expected returns.

See Kinlaw et al (2013) for a detailed description of how to account for performance fees, appraisal-based pricing, and liquidity in portfolio formation.

The role of outside advisors

- Outside advisors can provide support in circumstances where the SWF is resource-constrained or wishes to supplement its internal capabilities.
- Benefits of working with an outside advisor include:
  - ✓ Access to manager databases
  - ✓ Due diligence (risk, process, people, organization, etc.)
  - ✓ Relationships and interaction with managers
  - ✓ Peer / benchmark comparisons
  - ✓ Performance certification
  - ✓ Additional perspectives and insights
  - ✓ Periodic and event-driven updates
- It is essential that the advisor be unconflicted and have a comprehensive understanding of the SWF's unique circumstances and investment beliefs.

Combining managers to form portfolios

Market efficiency and the active-passive decision

More efficient markets - hold more passive

Less efficient markets - hold more active*

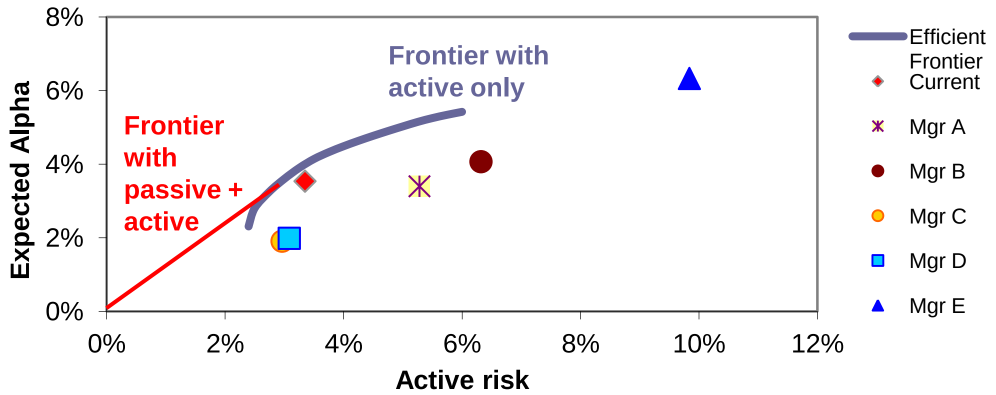
- Sovereign bonds (G7)
- Large cap & developed equities
- Investment grade credit, MBS, ABS
- Small cap & emerging equities
- High yield & EM bonds, private equity, real estate, timber, infrastructure

* Ordering is approximate and is not exhaustive. In certain asset classes (e.g. private equity), passive management does not exist.

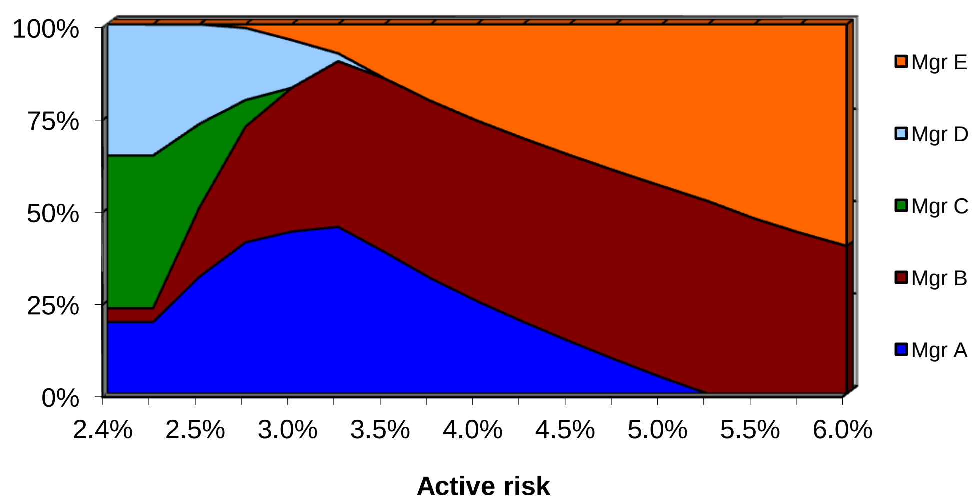
Constructing optimal portfolios of managers

- Objective: construct a manager allocation that delivers a stable, diversified alpha stream
- A portfolio of managers can offer superior risk-adjusted return than a single manager in isolation
- For the same alpha, managers with low correlation should be receive more assets
- Depending on risk appetite, the optimal mix could include passive in addition to active managers

The Efficient Frontier with Passive Management

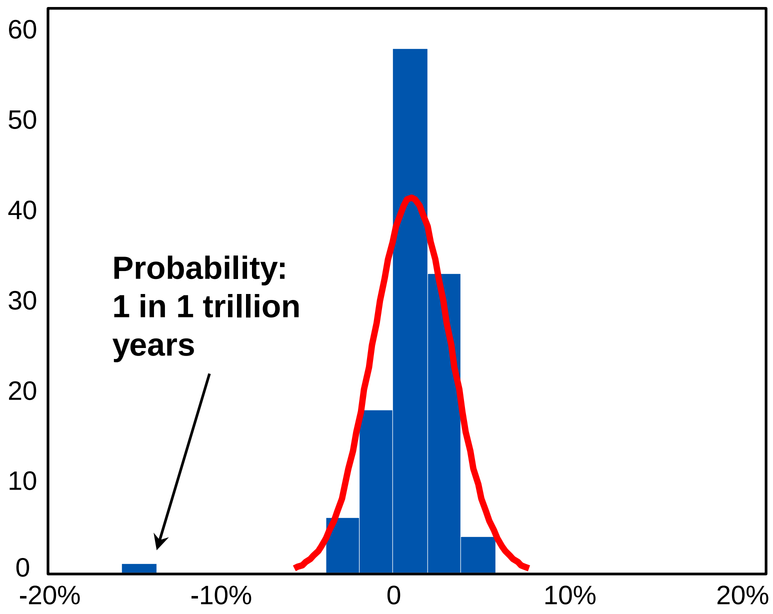


Optimal Manager Allocations

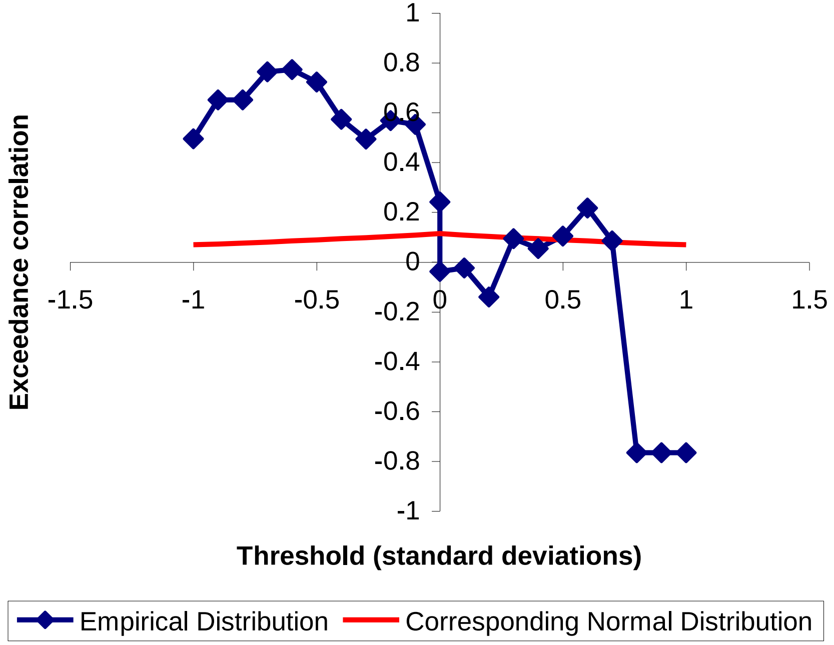


Beware of fat tails and asymmetric correlations

Example: Manager experiences large losses much more often than standard deviation suggests



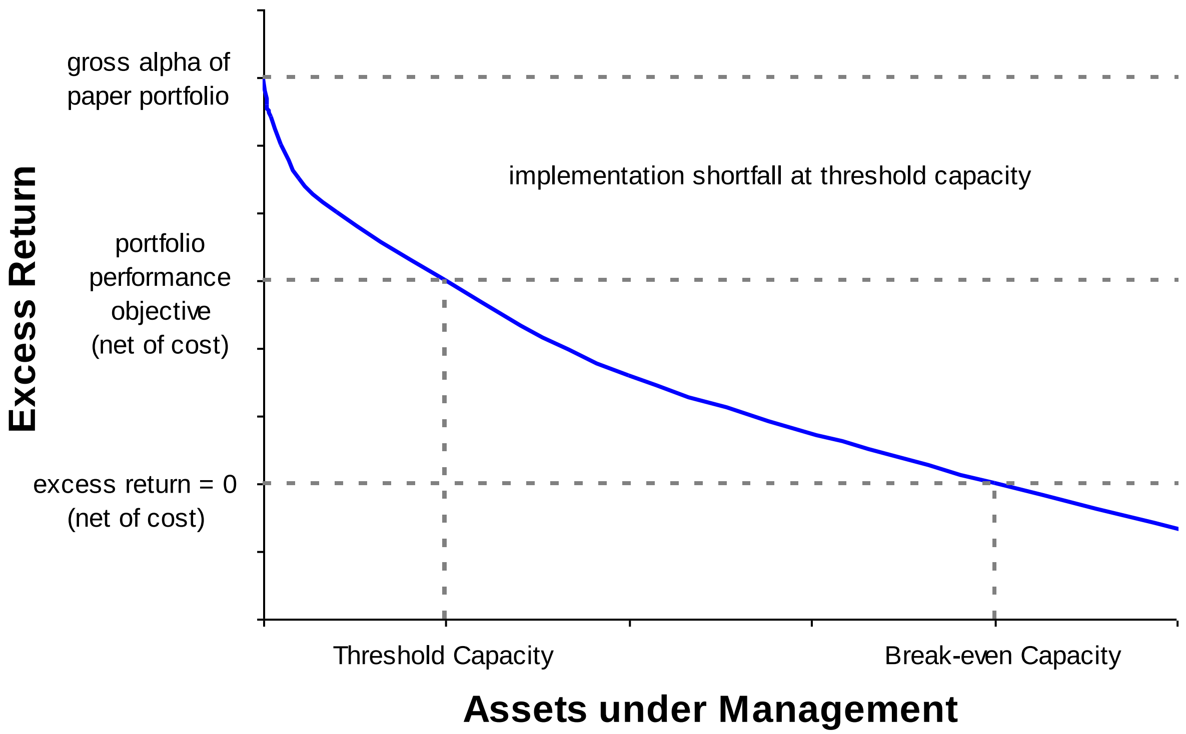
Example: Managers have high downside correlation and low upside correlation (undesirable!)



See Chua et al (2009) for a comprehensive discussion of asymmetric correlations and Cremers et al (2005) for a primer on optimization with fat tails.

A note on capacity

Each active manager has a unique turnover profile. Turnover subjects the strategy to market impact costs… which can erode the strategy’s return as assets under management increase.



Monitoring managers

Components of manager monitoring

Performance components

- Relative to passive or public market benchmark
- Relative to other managers engaged in same activity
- Relative to a hurdle (to account for, e.g., illiquidity)

Non-performance components

- Key person departure
- Adherence to reporting commitments
- Consistency with stated strategy
- Change of ownership
- Regulatory action
- Environmental, social, or governance issues
- Other reputational issues

Sources of information

- External consultants and advisors who meet regularly with the manager
- Relationships cultivated with other investors who retain the same manager
- Impressions from investment (and non-investment) staff's meetings with the manager
- Social media (e.g., LinkedIn)
- Google Alerts or similar
- The manager's own reporting

Source: New Zealand Superannuation Fund

Reasons to terminate

- Investment objectives change such that the strategy is no longer suitable
- The manager underperforms the benchmark over a meaningful period of time
- Doubts arise about the manager’s trustworthiness
- Changes in the manager’s strategy, staff, or organizational structure
- Portfolio or performance is inconsistent with the manager’s stated strategy
- The manager exhibits poor or inconsistent risk control
- Reputational risks arise with the manager
- The manager neglects to provide promised reporting in a timely manner

Appendix

Selected papers: active managers & manager selection

- Harlow and Brown (2006) document relationships between **mutual fund** characteristics and future alpha. They show that by considering variables such as past alpha, turnover, fees, and AUM, it is possible to increase the probability of choosing a manager with superior future performance to as much as 60%.
- Busse et al (2010) analyze 4,617 **institutional funds** between 1991 and 2008. Controlling for value, size, and momentum factors, they find modest evidence of persistence in three-factor models and little to none in four-factor models.
- After adjusting for survivorship and backfill bias, Ibbotson et al (2011) find statistically significant alphas across all **hedge fund** styles for all years except 1998, and even during the financial crisis of 2008-2009.
- Waring and Ramkumar (2008) find that plan sponsors hire investment managers after large positive excess returns but this return-chasing behavior does not deliver positive excess return thereafter.
- Aiken et al (2012) find no evidence that Funds of Hedge Funds (FOFs) select superior performing hedge funds. However, hedge funds held by FOFs are 57% less likely to fail than other comparable hedge funds.
- Pareek and Zuckerman (2013) find that hedge fund managers whose photographs are rated as more trustworthy are also able to attract more capital, are more likely to survive, and generate lower risk-adjusted returns relative to peers who are perceived as less trustworthy.
- Hochberg and Rauh (2013) find substantial home state bias in the private equity portfolios of U.S. institutions; public pension funds' in-state investments perform 2-4% worse than out-of-state investments and in-state investments held by others.

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