
Avoiding Disappointment in Investment Manager Selection

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- 1** Pension funds and other institutional funds have increasingly turned to consultants to provide research and advice on the best investment managers to appoint to manage various mandates. As a result, the selection of investment managers is a relatively common activity carried out by actuarial consulting firms.
- 2** The word 'best' in this context is mainly measured by the performance of the investment manager. In particular, performance relative to benchmark or *active return* is the main determinant of success. Increasingly, allowance is made for risk by measuring active return per unit of tracking error, which is often referred to as *information ratio*.
- 3** As a general observation, the results of this research and performance analysis of managers have been disappointing. The selection of managers is an activity which frequently produces a poor outcome: that is, the underperformance of the manager selected.
- 4** This paper gives two linked explanations for this problem:
 - the high noise to signal ratio in active manager returns which causes a structural bias towards disappointment in manager selection
 - the diseconomies of scale of active management which produce structural impediments to consistent outperformance.
- 5** The appropriate methods of dealing with this problem are twofold:
 - making realistic allowances for these difficulties in the performance monitoring process
 - diversifying some part of the fund concerned into other investment styles - particularly specialist niche products with smaller firms and also index tracking mandates.

Performance and Skill

- 6 Numerous studies have demonstrated that the performances of managers over most periods of time are very inconsistent. Such studies have been used by many, particularly academics, to suggest that there are no investment managers who have *abnormal skill*. Abnormal skill for a manager is generally defined to be the ability to generate consistently positive active returns, either before or after allowing for style. An alternative definition would be a manager whose expected active return was significantly positive.
- 7 This is a paradox. If abnormally skilful managers do exist, why is the data so reluctant to demonstrate it? If abnormally skilful managers do not exist, how is it possible for so many practitioners to believe that they do? The resolution of this paradox is that *while abnormal skill among managers does exist, it is not very persistent in the long-term or very measurable in the short-term*. This is explained further below.

The Existence of Abnormal Skill

- 8 The expected active return of managers, as defined above, cannot be positive across the whole investment management community when dealing with investment markets in which institutional players are dominant. In a closed group of managers (or closed system) where the benchmark is the average return of the group, the expected active return should sum to zero. Where the benchmark is an appropriately constructed market index, the expected active return will lie a little behind the index to reflect transaction costs. However, such equivalencies will not necessarily apply over shorter periods.
- 9 In such a closed system there must be managers with below average skills. Such managers would have a negative expected active return. In qualitative terms, the investment management firm which has a competitive advantage needs a counter-party to transact with to implement his advantage. That counter-party is a manager with a competitive disadvantage and lower skill. In the highly competitive field of investment management, the investment firm with a competitive disadvantage may look, at least superficially, to be a very competent organisation, but because they have poorer than average investment people and processes they will tend in the long-run to underperform against the average of the group. It is the existence of lower skilled investors that allow firms with abnormal skill to exist.
- 10 The other evidence for the existence of abnormally skilled investment firms comes from directly observing skill. In my research into the qualities of investment management firms, I see clear and frequent evidence of managers producing excellent performance from skilful decisions and processes. However, given the competitive nature of fund management, the influences of transaction

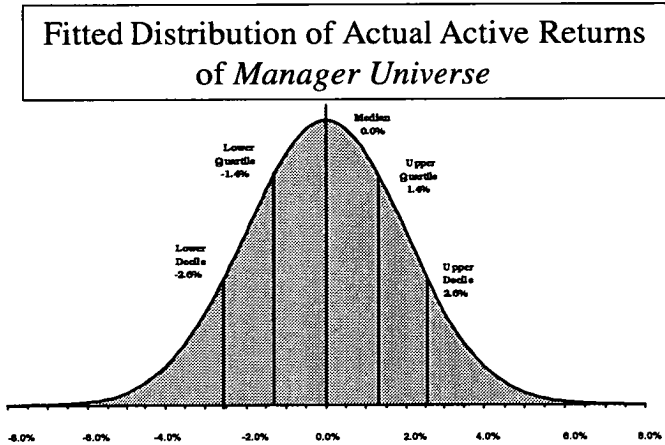
costs and in particular the closed nature of the investment system, we can infer that abnormal skill cannot be substantial.

Short-term Measurement of Skill

- 11 For measurements of performance and evidence of skill we should always examine relative performance per unit of tracking error, i.e. information ratio. This measure shows some consistency in its dispersion. In most mandates in any sample of managers, an information ratio of 0.5 over a one year period would produce results around about the upper quartile level. This is quite a crude rule-of-thumb but effective in the majority of circumstances, even on a world-wide basis.
- 12 Such a heuristic has been turned in the UK into widely applied performance parameters. It has become very common to see the following types of specification of performance targets which uses this information ratio of 0.5:
 - The manager is to achieve a performance target of 1% per annum above the benchmark index subject to tracking error of 2% per annum.
- 13 If we assume that a manager has this level of skill, the key question is how long does it take to demonstrate this skill statistically? Under various basic assumptions of investment data, the skill is likely to be proved at the 5% level after about 12 years.
- 14 There are two significant problems with this. First, can investors wait this long to be sure about skill? Secondly, is it reasonable to expect that the manager's skill will be stable over time?
- 15 With regard to the first point, the answer is that almost invariably investors do not wait long enough for statistical significance to occur. They tend to assume that a three to five year period is long enough for such an evaluation to be made. In making this judgement they are misunderstanding the volatility of performance statistics. In statistical terms, the active returns of managers exhibit a high *noise to signal ratio* and manager performance carries a poor quality of consistency. We examine these points further below.
- 16 It is clear that there is a systematic error at work in the way people consider performance statistics (psychologists term this a 'cognitive error'). Too much significance is attached to short-term results. Good results frequently reflect good luck, even over periods of three to five years, correspondingly bad results are frequently the result of bad luck. However, funds attribute good results to skilful investing, with too high a degree of consistency.

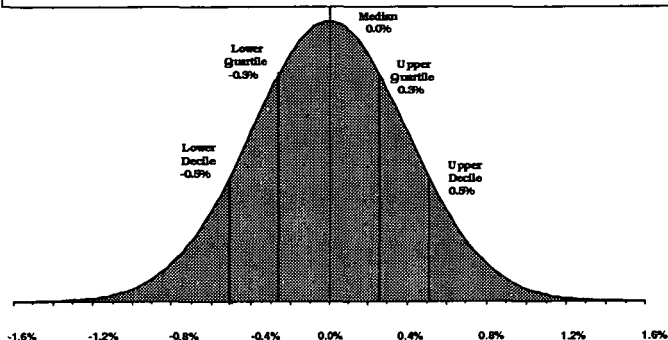
Problems with Noise in Performance Data

- 17 The dispersion of results in any sample of manager performance tends to exhibit normal or lognormal characteristics. The extent of the dispersion is directly related to the amount of active risk taken by managers in the sample. There is no obvious link between the dispersion and the degree of skill exhibited by managers in the sample.
- 18 A typical pattern of dispersion is as shown in the distribution chart below. In this example, the active risk of the sample is 2% per annum and gives rise to an upper quartile result at 1.4% per annum above the benchmark.



- 19 The figures are for a one year period. The crucial point is that the results in this distribution over just one year reflect the influence of chance or luck (this is *noise* in the statistical sense) more than the influence of investment skill (this is the *signal* in the statistical sense). It appears that the noise of one year's performance data is of the order of five times the magnitude of the underlying skill in that performance (ie a noise to signal ratio of 5) in most of the mandates I have analysed. This suggests that the dispersion of skill (as opposed to performance) is much more tightly grouped than the performance data suggests. A distribution of skill as given in the chart below is realistic given this analysis.

Fitted Distribution of Expected Active Returns of *Manager Universe*



- 20** The above position is simply a result of *regression* in observed data. Investment statistics are subject to the same effects as many other examples in business, sport and nature. However, in investment the effects are more profound because of the high noise to signal ratio.
- 21** It is reasonable to ask the question why is the investment system subject to this high noise problem when most other systems we come across in our everyday lives are not? The most plausible explanation lies in the means by which investment market prices are set. Market prices at any point of time represent an equilibrium point between marginal buyers and sellers. Such prices of course directly influence all investment manager performance. This causes a quite arbitrary 'out of process' evaluation of most managers' investment processes and portfolios. One way of looking at this is to say that the market places an 'estimate' on the quality of the investment decisions of managers at any point in time. For many managers such an estimate is quite arbitrary and prone to 'error' as it reflects the *marginal* investment activity of that point in time not the *collective* view.
- 22** Two major issues arise in dealing with this skill and performance issue. First, expectations for active performance have been clearly set too high. In this respect it is clear that the performance target in paragraph 12 above is set at too high a level to be realistically achievable in a majority of circumstances. Secondly, we cannot expect that the signal in investment skill will be stationary over time and this causes additional difficulties. This point is addressed below.

Long-Term Persistence of Skill

- 23** Investment market conditions are constantly in a state of flux. Funds are constantly reviewing their investment manager requirements. Investment management firms are constantly changing in response to these two influences. As a result, it appears very unlikely that the people and processes, and as a result the level of skill of any manager, will stay the same over time. Indeed, in my view, skill will tend to exhibit a mean regressive path over time, principally because of the diseconomies of scale involved with active management.
- 24** Highly skilled managers will generally attract new clients and additional assets to manage. This might either reflect the marketing value of the skill itself or the performance track record generated by the skill. The complications of new clients and funds frequently affect the skill levels of investment firms.
- 25** Generally, an investment firm will tend to increase its research resources, usually through recruitment, to respond to a larger client base. Superficially this is a positive by-product of growth. This is an example of an important *economy of scale* of active fund management. Unfortunately, on balance *diseconomies of scale* are more dominant.
- 26** In addition to increasing research capacity to respond to growth, it will generally be necessary to recruit new fund managers to take responsibility for some of the new clients' portfolios. There are various factors that are likely to cause difficulty:
- new additions to the team may well not be of the same calibre as the original members of the team who developed the high skill levels in the firm
 - the new members of the team may not operate to the same processes as the old members, or may not accept and implement the culture and investment philosophy of the firm
 - the increase in size of the team can reduce the effectiveness of the investment process by making it less responsive and more dysfunctional.
- 27** The above are not universal problems. Indeed, smaller teams that have not reached a critical mass in their resources will normally gain from injections of new blood. However, highly skilled firms which have attained a certain critical mass in their resources will tend on average to suffer from these problems. This is because the best investment processes are those in which decisions are crystallised in small flexible groups operating to a strong set of beliefs and values. Adding new people will inevitably tend to reduce the focus of the investment effort and the synergy of the team.
- 28** The other diseconomy of scale at work is the problem of illiquidity arising from growth in assets. The same team that created portfolios in the past

and generated excellent performance with a certain value of funds will tend to struggle to construct the same quality of portfolios when the value of funds has grown. First, transaction costs will increase as larger transactions attract higher spread and market impact costs. Analyses of the economics of brokers show clearly that large transactions tend to be among their most profitable. Secondly, some transactions which would have been implemented under the smaller asset base, will not be tradable at all once assets have increased. Transaction cost measurement firms refer to this as an implementation shortfall.

- 29** The problems of maintaining competitive advantage in performance as assets grow can also be seen qualitatively. For a manager to produce a good active return he must implement his skill advantage by transacting with a lower skill counterpart. In simplistic terms, a doubling of the asset base, all else being equal, doubles the number of lower skill counterparts he must deal with. In a competitive marketplace for investment managers, this may be very difficult.
- 30** This raises an important distinction between skill and information ratio. We generally use the term skill as an assessment of the quality of the people and processes at work. Skill may be maintained as assets grow, but the information ratio can nevertheless be reduced because of the problems of illiquidity and of finding suitable counterparts in a reasonably efficient market. In fact, it is probably more realistic to think of skill being capable of sustaining a certain level of added wealth in money terms. In other words, the information ratio will reflect the value of assets under management and all else being equal will have an inverse relationship to it.
- 31** Drawing together these points in summary:
- there are diseconomies of scale in active management which result from client growth and the problems of maintaining responsive flexible investment teams as numbers of portfolios grow; these factors tend to affect skill adversely
 - there are other diseconomies of scale in active management which result from asset growth and the problems of liquidity; these factors tend to dilute the highly skill manager's performance advantage
 - taken together these factors suggest that the information ratio of managers will often follow a mean regressive stochastic process.

Summary of the Issues

- 32** There are two major problems - both instances of regression - in considering skill in investment management through the measurement of performance:
- short-term results exhibit too much influence from *chance* to be that helpful in the assessment of skill
 - long-term results reflect the influences of *change* that have taken place in fund management firms which will generally have altered the levels of skill at work.
- 33** These issues of 'double regression' present particular difficulties in the selection of investment managers. Clearly processes that rely too much on past performance are flawed. We have inferred from our analysis above that exceptionally good past performance is associated with lower future performance. This suggests that the only reliable method of selecting managers should be centred on direct research into the people and processes used by fund management firms (so called '*soft research*').
- 34** However, even the use of the highest quality research in manager selection processes runs the risk of disappointment. This is because those working with fund managers still do not reliably take regression into account in making judgements about the future and the past. People seem not to expect regression in this situation, where it is bound to occur and tend to invent spurious causal explanations for regression when it is observed (you might refer to these as *performance myths*).
- 35** In the face of these problems, how should we act? There are two responses:
- being realistic in our targets and expectations
 - being diversified in manager choice.

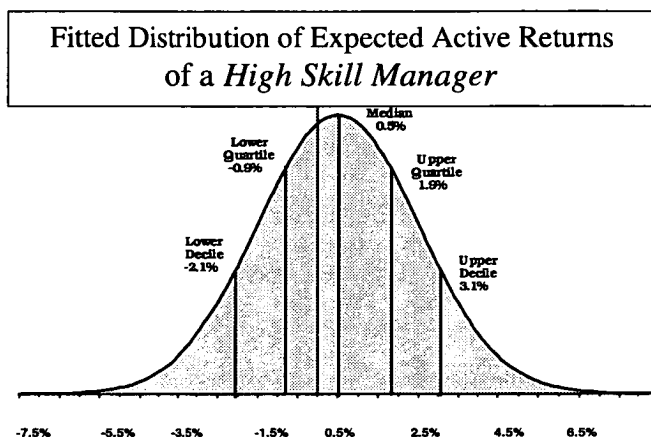
Realism: The Sporting Metaphor

- 36** Realism in recognising these lower levels of fund manager skill at work is difficult. This seems to require a very deliberate re-tuning of our mindsets to take on board some of the peculiarities of the investment world. Comparisons with other competitive systems are helpful in that they bring out the differences that apply in investment. In this regard, sporting metaphors are particularly instructive.

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- 37** We know there are skillful investment management firms. The best investment firms have high quality investment people, who work together well as a team, who focus their efforts on a system or a process, and enjoy the benefits of good management. What is interesting though is that this list could be applied to a number of different areas of human activity, and there are clear parallels with sport. I will use football for the comparison. Football has professionals, teams, tactics and systems, and an increasingly complex management structure. The above description about skill in investment management seems just as apt about skill in football.
- 38** To examine this type of skill, which is also very measurable of course, let us study the results. This is the top club in the UK Premier League with its current record at the three quarter point in the season.
- Manchester United
 - Played 28 Won 18 Drawn 5 Lost 5
- 39** Applying some quite basic statistical tests - the distribution of football scores is Poisson with a mean of about 1.5. We can test the chances of these results being generated by chance alone. Standard statistical tests based on Monte Carlo simulations show that these results are exceptional. If pure chance was at work these results would only occur once every 100 years or so and we infer (because only Arsenal could be that lucky) that Manchester United have more skill than the average team.
- 40** In football, skill can be seen on the pitch, it can be proved statistically and it is persistent over time. Football clubs stay in the top quartile for decades. What can we say about investment management under the same headings? This is altogether a different story. Skill cannot be seen, it cannot be proved statistically and it is not very persistent. Managers do not stay in the top quartile for decades at a time.
- 41** For a low noise system, like football, within half a year or so you have got the information you need to separate the best teams from the pack. The results 'speak for themselves'. The truly skilful teams stand out. In investment, a high noise system with built-in regression to the mean, the results can never 'speak for themselves'. It is vital to remember these essential differences in our use of investment performance.

Realism in Performance Monitoring

- 42 The earlier results in this Paper suggest that a realistic outcome for a highly skilled manager over a one year period should fall in the following sort of distribution (again assuming active risk of 2% per annum).



- 43 Performance targets should be set at a level to be consistent with these expected outcomes. Increasingly, I favour targets being set at the mean expected level (0.5% above the benchmark in this example). Targets set at the customary level of 1% above the benchmark can only be justified as 'aspirations' or 'stretch' figures.
- 44 Furthermore the above distribution may be used more extensively in the monitoring process as a control device to test the continuing skill of the investment manager. The question to be considered is have the results achieved so far been consistent with this distribution pattern. Naturally, the distribution can be projected over longer periods of time than one year allowing for a lower annualised dispersion.

Diversification Opportunities

- 45 The realistic levels of outperformance typical in normal mandates as illustrated above leave substantial scope for disappointment with active management. In the face of this difficulty, there is a strong case for diversifying into other basic investment management styles, of which these two are particularly attractive:

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- active investment in narrowly focused situations where future growth of funds does not represent a problem
 - passive investment using low cost index tracking methods.
- 46** It appears that the size of assets under management is a material constraint to achieving worthwhile information ratios. Investing in niche products managed by smaller firms provides a realistic opportunity to increase the overall performance expectation of a fund. To make such a strategy appropriate for the governance of a fund, it would be desirable to choose an array of several such opportunities which have independent performance characteristics.
- 47** It is also of value to a fund to include diversification in index tracking mandates. This does not improve the information ratio relative to the agreed benchmark. However, it does diversify the risk that active management underperforms the market index which does happen over certain periods (but is not plausible long term). Furthermore, the inclusion of passive management allows direct control over the levels of active risk taken in a fund. This represents a crucial goal in effective investment management arrangements.

Conclusion

- 48** The influences of chance and organisational change on performance have been insufficiently recognised in investment management. As a result, funds are exposed to the risk of disappointment in manager selection on quite a frequent basis. This is not because the decisions themselves are necessarily poor, but simply because the seemingly rational way people make decisions in this area leads them to expect too much.
- 49** Funds need to recognise realistic measures of skill and out-performance. In the face of the reality of lower probability of achieving worthwhile active performance there is a clear case to diversify into other styles of investment.
- 50** Funds should concentrate their attention on what they can realistically control - active risk, rather than what they can only hope to control - active return. As a closing remark I am drawn to the useful maxim *'in an uncertain world, the wise decision is the one you can live with however bad the outcome'*.