



## Why **passive** dominates **active** management in equity portfolios

The evidence  
driving the world-  
wide trend in  
equity markets  
*from*

picking stocks  
and timing  
markets *to*

passive tracking  
of equity indices

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# Active Equity vs Passive Equity

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## SUMMARY

Investors of all kinds in the UK should recognise that they are in step, not out of step, when preferring advisers who prefer passive management of their equity exposures, tracking a representative market index. Those out of step, whether they realise it or not, are the ones resisting the global exodus from traditional active management, where fund managers pick securities and time their increasing or decreasing exposure to any one market, in an attempt to outperform the market index.

Focusing on the money flows, rather the stock, is not always a good idea in fashion-driven public markets but this is no transitory fashion. It is a rational and evidenced-based mass movement spreading from institutional to retail investors, and from the world's largest and most efficient equity markets to all markets. The majority of the flows are already into passive, even though active still accounts for the majority of equity exposure.

The theoretical and practical arguments for tracking an equity index are not the same for bond markets; they are not the same for multi-market equity portfolios; and they do not apply to multi-asset type portfolios, combining equities and other asset classes, such as bonds and alternative investments. This paper therefore sits within a set of three, based on our preferred approach to portfolio management at each of three levels:

1. Active asset allocation using portfolio separation: dynamically combining equity risk with risk free assets (or risk hedges) that are specific to each client's goal plan
2. Active country selection within the globally diversified equity element of the whole portfolio
3. Passive implementation of the equity market exposures, using funds that replicate individual markets (in the case of the UK, USA, Japan and Australia) and capitalisation-weighted regional indices (in the case of Europe ex UK and Emerging Markets).

The top level dominates because the exposures at this level will determine the greater part of the real outcomes clients experience, and the probability therefore of breaching or exceeding tolerance levels that they get to choose.

The second level allows for a small extra return over extended periods, with a relatively high probability, without significantly altering the risk assumptions in the top level.

The third eliminates the incremental return or risk effects of actively selecting managers or securities and timing markets but it also eliminates the additional costs associated with that effort. This paper explains the data evidence and behavioural theory that make this worse than a zero-sum game: most investors paying to play, lose. They lose more than the extra costs. This is about the decisions that owners, not just their agents, make.

The second and third levels are optimally combined in an approach called Active/Passive, (explained in a separate paper), also a growing trend in international equity management.

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## Why pay extra for active equity?

Most contributions to the debate about Active Equity versus Passive Equity focus on either theoretical explanations or empirical data based on actual manager performance. Both are important but they focus on the actions of professionals and ignore the end investor, whose own behaviour will also affect the payoffs, after all expenses, of their choosing to play one or other game.

The theoretical position rests heavily on market efficiency, which is itself a bone of contention. The data evidence is compelling but there are bound to be periods (or market environments) in which the average performance of active managers is better or worse than the index for long enough to shape the efficiency debate. This is not necessarily evidence of skill and may only arise randomly because there are general and persistent differences between the distribution of holdings by size (or 'weight') in a portfolio compared with an index. Period-specific empirical data comparing portfolios with indices is therefore never going to be a satisfactory proof or otherwise of the market efficiency theory. The preference of academics is to focus on statistical analysis that seeks to differentiate between randomness and skill, such as persistence of performance over multiple time frames.

Our suggested reasoning is different. From an agnostic position, we can start by asking ourselves what it is that would make active management at the security level appealing. Why would we pay more for active management at the market level than the cost of a tracker?

Part of the answer is that the payoffs to security selection are, by definition, uncorrelated with the market return. The expected incremental return, which has its own probability distribution, is more attractive than adding equivalent risk magnitudes at the asset-allocation level because it is not correlated with the market returns. Security selection is therefore a 'diversifier', and we value diversification.

### *The Greeks: why security selection is a diversifier*

*The diversification effect of active security selection has a technical explanation. The correct way to identify the added value of security selection is to measure the risk-adjusted relative return, known by the Greek letter alpha. Alpha is calculated by identifying the beta return, or risk-equivalent market return, where the risk is forced to be equivalent to the risk of the securities held rather than the market as a whole. This prevents 'false alpha', where the securities selected have either higher or lower risk than the index as a whole (beta less than or greater than 1) such that the observed reward is partly one to risk rather than solely to the skill of security selection. The risk difference can be replicated by cash or leverage, and so belongs to asset allocation. By definition, therefore, risk-adjusted relative performance must be uncorrelated with the return to asset allocation.*

*Identifying the correct beta is critical to measuring the alpha accurately and unfortunately is not as straightforward as the 'skill' versus 'chance' debate really requires.*

Whatever the possible distribution of payoffs before costs, they are skewed by costs. While we may value being in with a chance of outperforming, or 'earning alpha', we must pay to play. We therefore need the expected payoffs before costs to be similarly skewed. The greater the cost to play, the more the chance of outperforming before costs needs to be greater than 50%, or better than a coin toss.

This line of reasoning is important because the cost to play is specific to the investor type and the location of the game. A UK private client plays in the UK and has a choice of hiring an active manager (in which case they are probably active at both the asset allocation and security selection levels) or picking an actively managed equity fund. They will pay more for both than a much larger institutional investor would pay and

even UK institutions typically pay more than the larger and more competitive US market, for example, but less than their equivalents pay in many European countries.

The data evidence we are interested in is for the population of funds, active and passive, investing in the same markets and regions we invest in, and available for distribution to UK retail investors. For the active versus passive comparison, it does not matter if the individual funds take more or less risk than the market as alpha is adjusted for these risk differences. Beta differences could, if need be, be adjusted for in the market allocation.

Because observed alpha has its own variance or inconsistency, we need to adjust for that variance, to obtain a measure of more comparable 'plausible alpha' (alpha adjusted by its own standard deviation). We also need to allow for differences in data length, short fund histories being penalised relative to long histories. The larger the deviation, the less plausible any assumption that observed alpha will persist. Persistence is what makes the strategy successful.

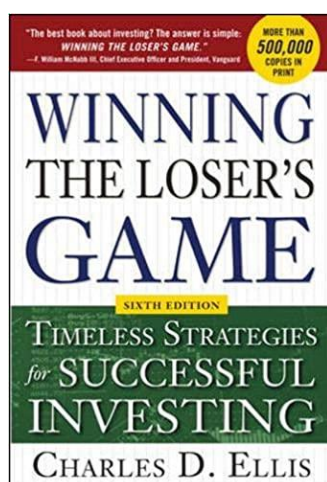
This analytical framework was easy for us to apply when we formed the business in 2004 as we had used it to build a fund-selection model that Stuart Fowler and Chris Drew (as investment consultants) had developed in 2002 for a fund supermarket.

Applying this model did not require us to decide whether for all fund managers the process was more luck than skill, which is a purely academic exercise. We were primarily interested in whether there appeared to be an investable group of *exceptional* managers we (as professional agents) could identify in advance. It did not even matter if there were very few, as we could always mix the exceptions with trackers. The model adjusted for the optimal combination of active and passive funds, based on the expected returns of the market: the lower the expected return, the more you would value the possible increment from security selection.

Agnostic though we were, and hard as we tried to allow for some exceptions, not enough funds passed our threshold tests of plausible alpha to make this a viable alternative. Virtually no funds passed in any of the major markets. We could simply weaken the test but that would be to negate the point of a threshold as a determinant of whether it was worth paying to play the active game.

We decided it was not worthwhile. But that was partly because we did not see an obvious solution for the rebalancing rules and frequency. That left us vulnerable to some random effects and possibly even to some non-random effects we could observe in the actual behaviour of active investors. That really scares us.

## Behavioural effects: the loser's game



Charles Ellis is one of a small number of writers on investment that are by any standard best sellers. His book 'Winning the loser's game' is in its seventh edition. It was based on an article in the Financial Analysts Journal in 1975, before either the active versus passive debate or behavioural finance had gained much traction in the mainstream of the investment profession, let alone in individual-investor circles.

Rather than focus on the academic evidence about the rewards to active management, Ellis chose to pinpoint the characteristics of investor behaviour that make most investors bad players of the game. His game was tennis and he noted professionals won by making fewer mistakes and pouncing on the mistakes of their opponents. 'The amateur duffer seldom beats his opponent, but he beats himself all the time. The victor gets a higher score because his opponent is losing even more points.' Investors too are good at making mistakes and bad at learning from them.

They buy stocks for the wrong reasons and sell for the wrong reasons. That can be equated to buying and selling funds for the wrong reasons. But it isn't just our emotions getting in the way here. It has a more precise explanation in logic that we would add to Ellis's observations. It follows automatically from the mistake of assuming the game is characterised by skill more than chance, whereas it is more, possibly even entirely, a game of chance. This is an important insight, because it means the pros are just as vulnerable as the amateur duffers.

The logic runs as follows. Any investor who typically selects a manager or a fund after a period of strong performance and reacts to a subsequent period of poor performance by parting company with them or switching into another fund will be subject to non-random performance effects. If the game itself is largely random, then most good performers in one period will revert to the mean in a later period. That mean reversion necessarily translates into a period of underperformance. So, anyone following this pattern of repetitive behaviour will lock in underperformance, rather than the average performance that might otherwise have been the best assumption.

Any private client reading this should ask themselves whether they have in fact shown this tendency themselves, if either picking advisers or picking funds, or have observed this behaviour in their own advisers or discretionary managers. Are most of the 'buys' funds with top quartile performance in some past period, like 5 years? Are most of the funds they have then sold only sold after a period of underperformance? If so, they are destroying wealth by systematically turning randomness into negative returns.

There is a way to measure the cost of this behavioural error. There are several industry estimates of the cost of 'performance chasing', for instance. They rely on weighting fund relative performance (typically not risk-adjusted) by the flows into and out of them. Typically, more damage is done when a fund has grown large by 'good' performance, and then does badly, than if performance had previously been very ordinary and performance-chasing flows in were not particularly large. Think Woodford. Much more money was exposed to the drop than to the good performance on which his reputation relied.

The surveys are often US-orientated but the general scale is comparable, as both fund returns and investor behaviour are similar in each. One annual survey, Dalbar, is often quoted in the press with an estimate of a negative performance effect of about 5-6% pa. This doesn't allow properly for fund flows due to regular savings rather than performance chasing. Estimates by the US investment company Vanguard of a 1.5% pa loss are probably nearer the mark. These estimates are net of the cost of playing the game, being based on fund returns, except to the extent there is a layer of adviser fees on top. Often it is the adviser making these decisions and acting like the amateur duffer.

Noting that the historical mean real return before expenses from equity markets is about 5-6% pa, misreading the nature of the active management game could be costing investors nearly half their return (average additional costs of 0.7% and behavioural costs of 1.5%). If you consider that the excess return over the risk-free rate is normally about 3-4% pa, over half the reward for risk is being gifted to the industry, which bears none of the risk.

## Six degrees of implausibility

If, in spite of the evidence to the contrary, it were in fact a game of skill rather than chance, it is instructive for you, as the end investor, to consider what has to go right to win. Then you can consider how plausible this is.

There are in fact six degrees of implausibility you will need to get over to harness your own skill and that of others you will depend on.

- 1 For a portfolio manager or self-directed investor in stocks to beat the market, he or she needs to be able to make good forecasts of the economic influences on equity markets.

- 2 That then needs to be translated into good forecasts of the impact on individual companies' trading performance.
- 3 To turn that into better forecasts of share-price performance requires a correct estimate between the difference between his or her own view and the aggregate opinion of all other investors that is already reflected in the current share price.
- 4 The requirement for outperformance against an index is to turn that set of broadly correct opinions about a large number of share prices into the right particular construction of relative weights: differences in exposure to each relative to the proportion each represents in the index.
- 5 These are the activities a fund manager needs on balance to succeed in, if they are skilled. But somebody else has to be skilled enough to identify the skilled fund managers and separate skill from luck. That could be a wealth manager, fund of funds manager or financial adviser. But what about the client himself or herself? Don't they need the same or similar skill in order to identify whether their appointed agent has the right skill?
- 6 Finally, each activity will be tested by the way information comes at us about earlier selections, including stuff that looks like it is information but is really just statistical noise. How each agent and client reacts to that noisy information flow, which is subject to significant emotive pressures, will determine whether success in 1-5 can be captured not wasted.
  - Has a poorly-performing manager lost his touch or did I simply make a mistake?
  - Will I avoid compounding an error by doing nothing?
  - As an adviser, will I look stupid to the client if this shows up in the 'dog' funds list?
  - As a client, am I encouraging an adviser to act on noise, not information, by my own reaction to noise?

Nearly 50% of institutions in the USA and UK have opted out of the six degrees of implausibility. Can we single out any one level of implausibility that was decisive in explaining the shift to passive? Probably it was 6: the realisation by the end investors that the decisions they themselves made (hiring and firing managers or putting their managers under perverse performance pressure) were not only 'unskilled' but were actually making matters worse. Opting out of active management therefore reduced their own capacity to harm performance.

They did not need to wait for the knock-out blow or even to decide on whether the game was one of skill or chance. They know what it cost to play and what they could save by opting out. And they knew how implausible it was that the extra cost, and the extra risk, would in practice be rewarded.

**Our advice to individual investors in the UK is to opt out, whatever you think about the underlying nature of the game. Bank the cost saving and avoid the hassle, the emotional turmoil and the risk of mistakes that come with the noisy flow of active performance data. That will in turn free you up to focus, in your time with your adviser, on the things that really matter.**