

Lies, Damned Lies and Statistics

Past performance may not be all that it seems

By David Crozier



While past performance may not be a reliable guide to the future, for most of us it's certainly the starting point of our research. But should we believe what we read? David Crozier suggests that there may be more to historic tables than meets the eye.

When making investment decisions it is important to be in possession of all the facts. A properly-advised client will, as part of the financial planning process, be deciding how much of their funds to allocate to the four main asset classes: cash, bond, property and equity. Once this is done, the decision about which fund populates each asset class is very important; it needs to reflect the risk and return characteristics of the asset class as closely as possible, otherwise the carefully-constructed asset allocation is a waste of time. So information about both asset classes and funds is a fundamental part of giving investment advice and, therefore, one would expect it to be accurate.

As part of this, although past performance is not a reliable guide to the future, it is not unreasonable for your clients to want to know how a fund has performed compared to its peer group over various time frames. Checking this out is part of good due diligence on fund selection, and investors and their advisors access such information through well-known databases such as Morningstar, Lipper or Financial Express to compare the performance of a client's investment with benchmarks such as the FTSE All Share Index, or the average of the Balanced Managed sector.

Unfortunately, this data needs to be treated with extreme caution. Please note that this article is not in any way

intended to be a criticism of the data providers as all they can do is catalogue the information available to them. It is, however, important for advisors and investors to understand that the published data can be misleading. One of the biggest distortions lies in the fact that, over time, funds go out of business.

The key fact to grasp here is that, when a fund closes, its entire history disappears from the reported figures and therefore the databases. The result is that the databases reflect only the performance of those funds that survive. As a result the returns that we may expect from any given asset class is likely to be substantially overstated. This effect is known as Survivorship Bias. The most detailed study of survivorship bias examined the period between 1962 and 1995 and found that, of the 2,071 funds in the study 725 (around 35% of all funds) closed.¹ During this period funds disappeared at 3.6% per annum; since the study, fund attrition rates are estimated to be running at 5%.

Consider the following simplified example. Suppose that Monkey Business Fund Management, a fictional investment manager, operates three Balanced Managed funds (Balanced, Growth and Exciting). For the sake of simplicity we will assume these three funds represent the entire Balanced Managed sector so their combined performance represents the sector.

Three investors Tom, Dick and Harry, each invest £5,000 in a different fund.

Tom selects the Balanced fund, a medium risk fund that invests in a broad range of asset classes. The manager's bonus is based on his performance relative to the benchmark so he makes sure that the fund is well diversified and never takes big bets on any individual stock. He probably also operates a buy and hold strategy to keep down the costs of trading. In contrast, Dick and Harry prefer a gamble and select the Growth and Exciting funds which are higher risk 'Alpha' or 'Best Ideas' funds where the manager is free to invest as he sees fit. These funds may be quite concentrated, often taking large bets on a relatively small number of shares. If the manager is right in his stock selection the fund will beat the benchmark by a substantial margin; however, if he is wrong the fund will underperform its peer group by a large margin.

Over a 10 year period Tom achieves growth of 5% per annum from Balanced while Harry's Growth investment manages 10% p.a. However, Exciting makes a loss of 5% p.a. for the first five years then closes to new business as its poor performance starts to affect Monkey Business' overall figures negatively. As an investment house, Monkey Business aims to have most of its funds in the all-important top quartile ranking, as this looks good in

TABLE 1: FUNDS RETURNS FOR MONKEY BUSINESS						
		Fund			Average of all 3 funds	Average reported by databases
		Balanced	Growth	Exciting		
	Original Investment	£5,000.00	£5,000.00	£5,000.00	£5,000.00	£5,000.00
After 5 years	Value	£6,381.00	£8,053.00	£3,869.00	£6,101.00	£6,101.00
	Annualised Return	5%	10%	-5%	4.06%	4.06%
					Exciting merges with Growth & disappears from databases	
After 10 years	Value	£8,144.00	£12,968.00	£6,231.00	£9,114.33	£10,556.00
	Annualised Return	5%	10%	2.23%	6.19%	7.76%

the firm's marketing literature and advertising. Exciting is merged with Growth at the beginning of year 6. Exciting no longer exists and Dick's investment has been moved to Growth.

It can be seen from Table 1 (above) that after five years Balanced has returned 5% p.a. while Growth and Exciting have managed 10% p.a. and 5% p.a. respectively, but consider the figures at the end of year 10. As a result of the merger of the Exciting and Growth funds, the database shows that Dick, who originally bought the Exciting fund and now holds Growth, should expect to have achieved growth of 10% p.a. (remember that Exciting no longer exists and its performance history has been replaced by Growth) when in actual fact he has really only received a return of 2.2% p.a. over the 10 year period. His pocket does not reflect the information in the databases.

It is also worth pointing out that the sector average of the three funds over the 10 years in question was 6.19% p.a. However, the merger of Exciting and Growth has miraculously increased the sector average return quoted by the databases to 7.76% p.a.

But surely, you are thinking, nothing this obvious goes unremarked and unadjusted in the real world. The following story is in no way exceptional. Just weeks before tech funds crashed in the late 1990s, Gartmore launched a new internet fund called Tech Tornado. Investors lost around 70% of their money

almost overnight. A quick look at any of the investment databases will reveal that this fund no longer exists. It was merged with the Gartmore UK & Irish Smaller Companies fund. Investors looking for performance data on their fund will discover that, according to the databases, they have only lost 3.23% p.a. over the last 5 years and have managed growth of 3.66% p.a. over 10 years (source: Financial Express). They are entitled to wonder why, then, the money now in their fund is still only a fraction of what they invested.

Another trick sometimes used is where an investment house starts off a number of funds internally, with a small amount of company money – remember 'off balance sheet'? – and monitors the situation for a couple of years. If a fund does well, it will be opened to the public with an instant history, from the time it was started as a fledgling fund. As only the successful funds ever make it to the databases, this skews the performance of the average fund upwards. This is a particular trick of hedge fund managers, but they are by no means the only culprits.

Not directly related to our topic, but nonetheless important, is the fact that it is much easier to run a small fund than a large one. The larger the fund, the more money there is in motion at any time, and the bigger impact any buy or sell decision has on the price of the security being traded. One of the reasons that past performance is less persistent on the

upside than the downside is that when a small fund does well, it is advertised and promoted heavily – by the fund manager, by the media, and by financial advisers who operate a 'flavour of the month' approach to investing – and the subsequent inflow of funds overwhelms the ability of the fund manager who was doing so well with his small fund.

It is estimated that statistical anomalies such as survivorship and backfill bias collectively contribute to the reported returns from equity funds being overstated by over 2% p.a. This may not sound much, but due to compounding it can overstate the cumulative returns over a 15 year period by around one third or 45% over 20 years.

Just as we know that losing weight ultimately depends on eating less and exercising more, sound investment boils down to a handful of principles – accepting that markets work, understanding that risk and return are related, diversifying, keeping costs low and maintaining a long-term perspective. The problem is that once that story is told, what does a financial journalist (or a health journalist) say next month? Much more interesting to speak about the latest fad, and to have something to write about when the next one comes along than to keep telling the same boring facts, even if they happen to be the truth. Oh, and it keeps the advertisers happy; you know, the ones who tell you about how great their funds are doing!

Next time an investment adviser tells you about the fantastic past performance of the funds they have selected for their clients, be very careful that you get the whole story. If you are referring a client to an investment adviser make sure that they are aware of these issues and can explain the impact they have on their recommendations. Unfortunately, many advisers are completely unaware of the problem.

Past performance is most certainly not a guide to the future. It may not even be a guide to the past!

¹ *Mutual Fund Survivorship* by Mark M Carhart et al. September 2000.

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