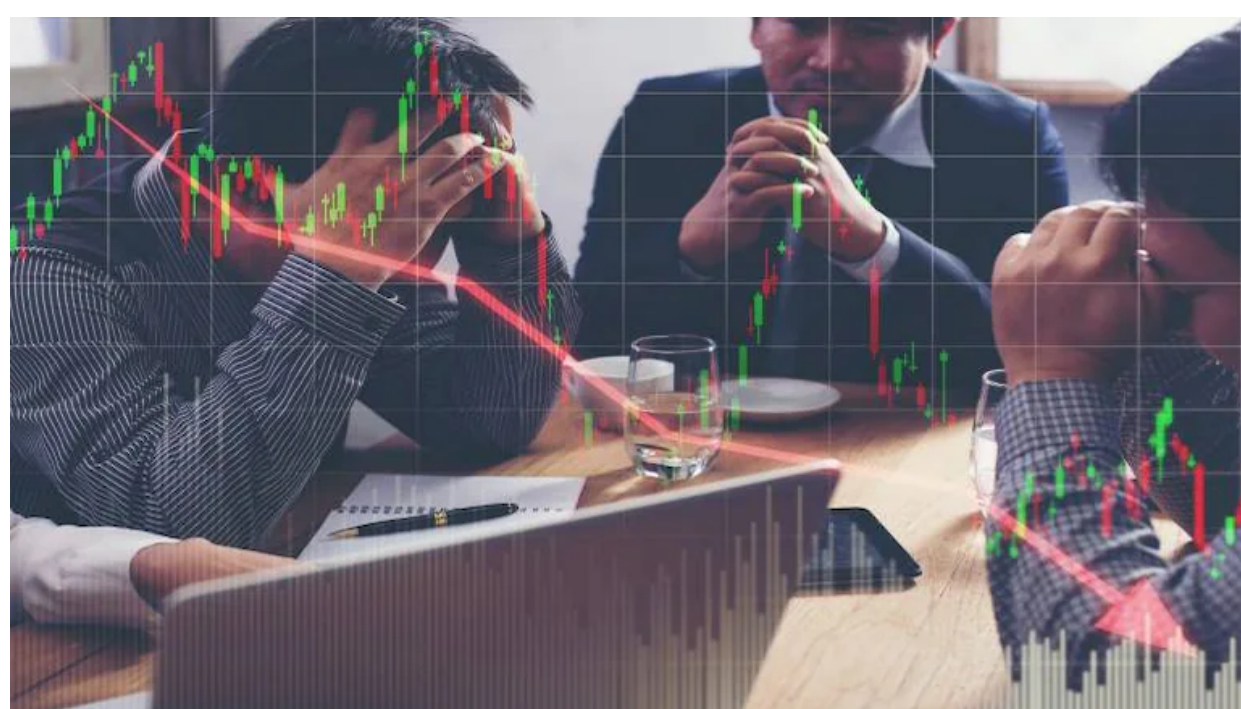


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Why following successful investors sets you up for failure, Devina Mehra of First Global explains

Even if you are studying an index or backtesting any strategy, survivorship bias is the use of a current index membership set rather than using the actual constituent changes over time.

DEVINA MEHRA | JULY 05, 2021 / 01:30 PM IST



Suppose you want to know how to become rich or how to become a good investor or to run a successful company. How would you go about it?

A logical way to do it appears to be look at the richest people in the world or the most successful investors/companies, study the techniques that they have employed, and use them in your own life.

The Huge Logical Fallacy

This strategy, in fact, is not logical at all! It has an inherent and major logical fallacy that can lead you to absolutely erroneous conclusions.

In the analysis given above, your starting point is investors or companies that are/ appear successful today. Then you look backward at the past strategies they have employed.

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You are starting with a success story, whether it be a successful entrepreneur, or a billionaire stock investor, and attempting to reverse-engineer a personal pathway to similar success. The presumption is that if I follow their strategies, I will see similar levels of success.

Now suppose some of these entities had opted for extremely high-risk strategies, where most of those using these strategies went out of business. However, the few that were left standing became successful or rich beyond their wildest dreams!

But your analysis does not take into account the entities which followed the very same strategy but went out of business. This, in short, is survivorship bias.

This is the third in my series on Investing, or rather cognitive biases (you can read the earlier two [here](#) and [here](#))

You are starting from the wrong end of the problem

You think you are answering the question as to which strategies lead to success but your actual analysis is inverted in order.

Instead of starting with what happens to investors or fund managers or companies who follow a particular strategy, you are instead looking at the strategies followed by the successful entities.

It is the equivalent of saying that if you want to become as successful as Bill Gates, you should drop out of college.

It is a core principle of probability that the probability of an event A given that event B has occurred is not the same as the probability of an event B given event A has occurred. By inverting the pathway, you are ending up with a completely wrong result.

An example will make it clearer. Suppose there is a way of investing which is extremely higher risk and high return so every year 90% of the people opting for it will go bust and the balance 10% will make 10 times their money.

Suppose 100,000 people start playing this game. 5 years later there will be only one person left out of these but this person would have made \$1,000 into 100 million dollars. She will be the most successful investor in the market.

Now when you are evaluating options and know of this person who has converted \$1,000 into 100 million dollars, you would naturally want to emulate her methods except that due to survivorship bias you will not realise that 99.999% of people opting for this method or system are likely to go bust.

Think about this very deeply when you hear that all the richest investors in the world are optimistic or risk takers or whatever the defining characteristic is supposed to be.

In general, of investors that follow the most aggressive strategies, a few of them will make extraordinarily high returns whereas the others will flame out.

Outliers take extraordinary risks to produce those magnificent returns

The most successful outliers on Dalal Street or for that matter, Wall Street over any given short-term period almost always took some extreme amount of risk that just happened to pay off big.

But, just because a particular strategy worked one time for one person doesn't mean it's a good strategy for others.

It's extremely unlikely that someone who has an investment strategy that generates a significantly higher return than the market has found a strategy that is safe and consistent.

More than likely, that he or she has simply "survived" a very dangerous approach to investing - in short they got lucky.

It is like meeting a centenarian who has been drinking and smoking and eating lavishly all her life and assuming that following a similar lifestyle will get you to live to 100. It is not going to happen.

That particular person may have been extraordinarily lucky in terms of her genes or some other factor and is actually the exception that proves the rule

Even when the odds are not as extreme as in the example above, there is a general rule that holds. If you look at only the picture of who has made the most returns we would say that being extremely aggressive is good.

In reality, maybe 90 or 95% of those who these aggressive positions lost all their capitals there are maybe 5% who made outsized returns.

Even for systems that are not as high risk as this, due to the sheer chance, there will be some people who will make extraordinary amounts of money but does not mean that the system that they followed was the best system to follow or would give the best risk-return trade-off.

Have you accounted for the Mutual Fund Schemes that have folded or merged?

Survivorship bias does not distort only the evaluation of investment Styles or methods but also many other things. For example, an analysis of mutual funds often looks at the mutual funds as they exist today and looks at the past data for these mutual fund schemes but these do not take into account fund schemes that have gone out of business or have merged with other schemes due to non-performance.

Many losing funds are closed and merged into other funds to hide poor performance.

For example, a study in the US showed that smallcap funds had outperformed significantly on average.

However, when the study was adjusted for the funds that did not exist any longer, the picture was different, because many more smallcap funds had gone out of business than large-cap ones.

Adjusted for the survivorship bias, there was actually little or no outperformance by the smallcap funds. Even in India, many smallcap fund schemes have shut shop whereas people talking about performance usually consider only the surviving schemes.

Could your parents have left you a better legacy?

Similarly, we get caught up in anecdotes of people who got rich because the parents or grandparents have bought shares of Hindustan Unilever, HDFC, etc because that small investment has now grown into a nice little nest egg.

Then start to regret the fact that your parents did not start investing in the share market a few decades ago instead of sticking to FDs as that would have provided you with retirement money. In reality, it would have helped you far less than you thought!

This was brought home to me recently when I client shared his mother's portfolio that had remained nearly untouched for 20 years and what did I find there: no HUL, no HDFC Bank, not even an ITC...instead there were DSQ Software, Silverline Technologies, NEPC Micon, etc.

You may say these are purchases during a particular boom but the issue is not as narrow as that. Even the Sensex companies of decades ago were weighted towards textiles, shipping, paper & pulp, old car companies etc.

Scindia Steamships, Hindustan Motors, Ballarpur Paper, Zenith, etc were the blue chips of the day that your parents would have likely bought - that have largely faded into oblivion.

How not to Backtest

Even if you are studying an index or backtesting any strategy, survivorship bias is the use of a current index membership set rather than using the actual constituent changes over time.

Consider a test to find the average performance going back 3 decades for the Sensex or the S&P 500 members. Or a test on a particular ratio like the dividend yield.

To use the current composition of the index and creating a line of these companies historically either for returns or any financial ratio would be adding survivorship bias to the results.

All major market indices like the Sensex, Nifty, S&P 500, FTSE etc aim to maintain an index of healthy companies, removing companies that no longer meet their criteria.

Companies that had healthy growth on their way to inclusion in the index would be counted as if they were in the index during that growth period, which they were not.

Similarly, companies that fell out of favour because of any reason and went out of the index would not be included in the analysis.

The only way to actually calculate what happened to the index or its constituents would be to go back in time and apply entry and exit dates of the stocks that were in the index at that point in time and then calculate the appropriate return for the period that the security was actually included in the index. That is the only bias free way to do this analysis.

Be very wary even when someone is talking up a sector or a category of stocks. For example, a fund manager extolling the virtues of branded businesses with low capital requirements, high cash flows, moats around the business will often talk of Nestle but not of a Gillette India or ITC which meet the criteria but haven't performed for years.

The discussion is only of the 'survivors' ie those which have performed of late.

Similarly, someone analysing banks/ NBFCs will leave out the ones which have gone out of business or which have had to be bailed out. This seriously overstates the returns from the sector.

How should this change your investing pattern?

Of all the biases this is a relatively simpler one to fix.

Like meditation, it only requires you to be conscious: to pause and think. Look at any analysis through this lens of whether you are analysing the results for everyone who used a strategy or only those of the survivors.

This will hold whether you are analysing types of companies, sectors, indices Investing Styles or fund schemes.

Until now we have dealt with survivorship bias as if it is something exclusive to investing but of course it is not. It is found in every field of humans in the world. Here are a few other examples that will make you think

Was everything better built in the past?

When we look at a building that is a few hundred years old or a piece of furniture at our grandparents' place or even a century-old machine, we often sigh and say, "Wasn't everything more beautiful, stronger and built better in the past? "

But this is also a survivorship fallacy. As old buildings are constantly being torn down and new structures built, a cityscape follows the process of constant renewal and renovation.

Only the most beautiful, useful, and structurally sound buildings survive this process. The ugly, crumbling, badly built buildings are long gone and what remains leaves the visible impression, seemingly correct but factually flawed, that all buildings in the past were both more beautiful and better built.

Early usage of the Survivorship Bias

This is a really fascinating story where during World War II the US military was examining where to reinforce its bomber aircraft.

The aircrafts returning to the base were examined to see which parts had taken the maximum hit and plans were afoot to reinforce these parts.

That is when mathematician and statistician Abraham Wald pointed out that this analysis could be totally off because it did not take into account the aircraft that did not return to base.

The parts which showed no hits were probably the parts where if the aircraft took a hit it would not survive and be able to return to base. The bullet holes in the returning aircraft, then, represented areas where a bomber could take damage and still fly well enough to return safely to base.

Thus, Wald proposed that the Navy reinforce areas where the returning aircraft were unscathed, inferring that planes hit in those areas were lost. It was a brilliant piece of analysis that totally inverted the way of looking at a problem and brought Survivorship bias into focus.

A not-so-happy piece of trivia: Wald died in an air crash over Kerala in the 1950s while going from a talk at Indian Statistical Institute at Calcutta to one at the Indian Institutes of Science. But his legacy lives on.

Part 1

Part 2

(This is the third article in Devina Mehra's Investing Biases series for Moneycontrol. She is the Chairperson & Managing director of the global quant Asset Management Group, First Global. She tweets at @devinamehra)

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