PGIM
India Mutual Fund

The Lily Pond Riddle

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Dear Investors and Partners,

Let me start this month's letter with a thought experiment. Let's say that an investor is evaluating two equity-oriented schemes viz A & B, for long-term allocation and is looking at YoY performance for back-testing, for say the last 7 years.

YoY Returns (%)	Scheme A (%)	Scheme B (%)
Year 1	-22.9%	-4.4%
Year 2	17.9%	25.6%
Year 3	25.6%	10.7%
Year 4	30.8%	6.6%
Year 5	-2.0%	-20.7%
Year 6	185.9%	99.4%
Year 7	-47.9%	28.7%
Last 7 years return (CAGR)	11.8%	16.3%
Return Per unit of Risk	0.16	0.42
Rs 10 lakh invested in year 1, would have grown to	Rs. 21.8 lakh	Rs. 28.8 lakh

(The above table is for illustration purpose only)

As you can see :

- In 4 out of the last 7 years, scheme A has outperformed scheme B.
- In good years, scheme A has really capitalized and in one particular year, scheme A outperformed scheme B, by an absolute margin of a staggering 87%.
- There have been only 2 down years in the market in the last 7 years.
- Overall, the last 7 years have been a bullish phase for the equity markets, with intermittent volatility.

With the above information in mind, the question is, which scheme is an average investor most likely to prefer for investments? Or in other words, which scheme do you think ended up outperforming at the end of the 7th year? Well, the answer is a little surprising because it is scheme B which outperforms on a 7-year CAGR basis. But the real revelation is when one looks at the risk-adjusted returns. The difference in CAGR returns is around 4.6%, however, the return generated per unit of risk by scheme B is almost 2.7x of scheme A. Of course, there are lot of other factors to consider before choosing a scheme, but the long-term, steady compounding aspect, with good downside protection, is sometimes not given its due importance by investors/advisors.

The very important aspect during any scheme evaluation - which is not given its due importance, especially during good times - is the risk undertaken for generating a particular level of return. In our example above, if scheme A had undertaken a higher risk to generate returns, then the likelihood of falling more when the cycle turns is quite high. Thus, in my opinion, investors should look at risk-adjusted returns as a starting point and not standalone returns or even rolling returns. This assumes even more importance for those categories of products where there is flexibility to do asset allocation and dynamic rebalancing between equity, debt and other asset classes, as the portfolio can be then optimized for various desired levels of risk.

In my opinion, it is more of a mental bias that one may have to overcome. This idea is to achieve and protect your "compounding at trend". The idea of not disturbing the compounding process over the long term is difficult to comprehend, because the benefit (almost magical) is only felt very late. Consider this old riddle of the Lily Pond to understand this further.

Riddle: Lily is a lily pad in a small pond. Lily doubles her size each day. On the 20th day she covers the whole pond. On what day was Lily half the size of the pond?

Lot of people in a hurry to get the right answer might say it's the 10th day, however the right answer is - the 19th day. The 10th day answer feels right because the human brain assumes linear growth for most things and is not able to comprehend when there are instances of exponential growth.

When it comes to investing, in my assessment, this could make the difference between doing it yourself versus having an experienced advisor to help you select funds. Because of our biases, a direct investor is likely to choose the best performing funds in a particular year, rather than a risk-adjusted choice which is a bit more complicated. Spending time in selecting a good advisor, who may have his or her own biases, but most importantly, has a process for selecting risk-adjusted funds holds a higher probability of being consistent over the long term. With a trusted advisor, therefore, you can improve your odds of achieving most or all your wealth goals, no matter how improbable it may look today. This is because you have mitigated the risk of human bias in chasing high performers that could also have higher drawdowns which can destroy the magic of consistent compounding. Thus the idea is to stay in the game for as long as possible till the 19th day so to speak as in our lily pond riddle above, and by the 20th day we can rely on the magic of compounding to do its job.

Stay safe & happy investing.