

Value-averaging Investment Plan with Indian equity funds – An analysis

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A relatively new method of making periodic investments for regular investors has caught the interest of financial advisors and the investing public. This new method, called Value-averaging investment plan (VIP, in short) is a close cousin of the Systematic Investment Plan (SIP). The main difference between the approaches is that in VIP the monthly amount of money invested varies according to a formula as opposed to SIP wherein the invested amount remains constant.

Internationally, the VIP method has been implemented successfully using, primarily, mutual funds. It has out-performed comparable SIPs yielding, according to published results, 1% better IRR. (Reference: <http://www.sigmainvesting.com/advanced-investing-topics/value-averaging>)

We set out to test the premise of VIP out-performance in the context of Indian mutual funds. One mutual fund – Benchmark funds – has already implemented this method with one of their funds (an index fund), with promising results. In this article, we present our results with a broader set of managed equity funds and suggest a couple of ways an investor can implement the protocol themselves for their portfolio.

About Value-averaging investment plan

First, a few words of explanation about VIP. This method was first identified and designed in 1988 by Michael Edelson, a professor at the Harvard University. The basic premise is that money is invested in periodic intervals in a portfolio in such a manner that the portfolio value keeps tending towards a pre-determined value based on a target rate of return. Since a portfolio might grow in a particular month, and shrink another month, the targeted value for the portfolio might come nearer to or recede farther from the actual value. The subsequent investment tries to compensate for this movement by investing less or more in the portfolio. The idea is to keep the value of the portfolio at an average value during the tenure of the investments, and hence the name.

Let's take an example. To establish a VIP, we need to decide on a few parameters:

1. An investment vehicle, say, a mutual fund scheme
2. A starting amount to invest
3. A minimum amount for the periodic investments, could be zero
4. A maximum amount for the periodic investments

5. An expected rate of return.

Let's assume that we choose to invest in mutual fund scheme A with a starting amount of Rs. 5000. We intend to invest a minimum amount of Rs. 1000, and a maximum of Rs. 10,000 every month. Let's fix the expected rate of return is a healthy 15% annually.

Now after making the first month's investment of Rs. 5000, we wait a month and come back the next month to see how much to invest. Suppose the investment has grown by 2% over the course of the last month. The value of the portfolio is now Rs. 5100. The expected value at the one-month point, however, is (given the target return of 15%), Rs. 5063. Hence, the value of the investment is Rs 37 more than the targeted value. Consequently, the current month's investment would be Rs. $5000 - Rs\ 37 = Rs.\ 4963$.

Similarly, if the investment had decreased in value by say, 10%, in the past month. The value of the portfolio is now Rs. 4500. The expected value remains the same, at Rs. 5063. The current month's investment would try to compensate for the loss of value by investing Rs. 5563.

We would do this continuously month after month taking into account the growth target for the portfolio, and the actual value of the portfolio at that time point.

This is the basic idea of Value-averaging investing method. If the investment vehicle chosen for implementing this method is a well-diversified equity fund (as we do later in this article), the growth of the portfolio value will co-relate to the movement of the broader stock market. Hence, essentially, the investor ends up investing more when in a sliding market and less in a growing market. Over the long run, assuming the equity markets generally trends upwards, this process holds the promise of better return over an equivalent SIP.

Road-testing VIP: The parameters

Well, theoretical understanding of the method is one thing, However, as the saying goes, when rubber meets the road, we need to take into account a few details while we put VIP to the test of Indian market conditions. Let's look at the parameters we used for the testing.

Most importantly, we wanted a practical test. We wanted to test VIP in a manner that would be practical and relatively simple for real investors to implement for themselves. To this end, we designed the parameters of this test as follows:

1. We used diversified equity funds for the test.

2. The testing period was the five-year period between October 2004 and October 2009. The Indian equity market saw both bull and bear runs in this period, and was interesting enough for the purposes of this test.
3. We used the growth option of these funds (avoiding dividend payouts, and the resultant portfolio value and growth calculation issues)
4. We tested with four different popular schemes from four different fund houses. We chose one index fund, and three managed funds.
5. We pegged the target returns at 15%.
6. The opening investment was set at Rs. 7,500
7. The maximum monthly investment was set at Rs. 15,000
8. The minimum monthly investment was set at the scheme's minimum required additional investment – typically Rs. 1000.
9. The comparable SIP was set at Rs. 7500 every month.
10. The monthly investment date was set at the 10th of every month. Normal holiday rules were applied.

The actual amounts used above could be varied without causing material impact to the comparisons. The schemes that were used for this back testing were HDFC Top 200, Reliance Growth (Equity), DSP BlackRock Equity and, the one index fund, Franklin Templeton Nifty Index Fund.

The Results

Given that the recommended minimum holding period for an equity fund is three years, we used rolling three-year periods over the five-year period of our testing to arrive at performance results. Hence, we used the three-year periods of 2004-07, 2005-08, and 2006-09 for the four schemes using both VIP and SIP to come to comparable numbers.

Also, to remove any exit timing bias, we looked at rolling monthly returns across the three-year periods and averaged the returns. Essentially, we assumed that the investor could exit at any point in time in the three years and averaged the returns over the different exit points.

The results are summarized in the table below:

Average out performance of VIP over SIP (CAGR)

| | HDFC Top 200 | FT Nifty Index | DSPBR Equity | Reliance Growth (Equity) | Average |
|----------------|-------------------------|---------------------------|-------------------------|---|----------------|
| First 3 years | 2.554% | 2.004% | 2.876% | 1.602% | 2.259% |
| Second 3 years | 1.280% | 1.314% | 1.639% | 1.602% | 1.459% |
| Third 3 years | 1.125% | 1.266% | 1.108% | 1.602% | 1.275% |
| Average | 1.653% | 1.528% | 1.875% | 1.602% | 1.664% |

As you can see, VIP outperforms SIP on a global average across funds and periods by 1.664% CAGR.

Detailed results of this back-test can be obtained from the source spreadsheet used for the calculation. This spreadsheet is available at:

<http://spreadsheets.google.com/ccc?key=0As2tv00PSaa4dDNzLWo3OGFLMGUyVXInbHpwRFB4UEE&hl=en>

The out-performance results are, indeed, healthy. However, we must temper our enthusiasm with a couple of caveats about these results and VIP in general:

1. The usual disclaimer – past out-performance is no guarantee of future out-performance.
2. Also, given that the VIP method invests a range of money from a minimum to a maximum every month, it is likely (as was the case in the study above) that an investor could get under exposed in the market. For example, this could happen when fewer amounts are invested in a sustained bull run in the market. In such a situation, VIP will still outperform SIP with respect to the rate of return, but the overall quantum of rupee gain might be lesser.
3. The back-testing was done with a set maximum investment amount every month. The results could differ if an investor chooses to invest without any such maximum (based purely on the value-averaging formula outcome).

Having said that, we do think that VIP is an interesting and promising method of investment that savvy investors can choose to adopt as part of a well-rounded financial plan.

How to go about implementing VIP

How can a regular investor go about implementing VIP? Well, there are three ways to do so, each of which offers some flexibility and some convenience.

The first method is the DIY method – do it yourself. The algorithm for VIP is widely available in the Internet, and the Benchmark mutual funds site offers a handy presentation that explains the method in detail. To implement VIP on an equity fund, the investor would need to choose and set the parameters as described in the preceding section. Plugging these in to a spreadsheet with applicable NAVs of the scheme would yield, on a monthly basis, the sum of investment that needs to be made in any particular month which can be made as additional investment in the scheme. The advantage of this method is the complete flexibility offered – the investor could choose a minimum of zero rupees a month, or even withdraw funds if the target has been crossed. The disadvantage is that, well, it is a lot of work. Periodic investment plans are supposed to make life easier for investments, and not more complicated.

The second method is to subscribe to Benchmark's VIP program. This program is offered on its Nifty index scheme, and uses a target rate of return of 15%. The advantage of doing this is that it makes the life of the investor

simple since all the calculations are taken care of by the fund house. The disadvantages are that the choice of schemes is limited (to one scheme) and the flexibility of customizing the investment parameters is also limited.

The third method is relatively new. Our investment platform, FundsIndia.com, has introduced VIP protocol across all the equity (growth) schemes on offer with us. It uses the target rate of return of 15% as well. Once you choose a scheme, set the opening and maximum investment amount, the monthly investment work is automatically taken care of by the system. The advantage of using this method is the choice of schemes and ease of use. The disadvantage is that it offers less flexibility with the monthly investments when compared to the do-it-yourself method.

In summary, VIP is a promising new investment technique that merits broader attention from both the financial institutions and the investing public.