Disciplined Investing: Value Averaging versus Dollar Cost Averaging

By Arohan on December 11th, 2009

Investing in stock markets (stocks or mutual funds) require a great deal of discipline. If you invested based on emotions or a hot stock tip, you will very likely end up buying when the stock price is high and selling when the stock price is low, precisely what you want to avoid.

Dollar Cost Averaging (DCA) will help instill discipline in your investing process

Dollar Cost Averaging requires you to invest the same amount to your stocks or funds every time you add money to your investment portfolio. This means that when the prices have risen, your money will buy less number of shares and when the prices fall your money will buy more number of shares. The process helps to reduce the average cost basis (average price paid per share) of your holding over time compared to the situation where you might buy the same number of shares (or even random number of shares) when you add new money. This is because the average price is pulled down by the more number of lower cost shares.

Consider an example assuming monthly investment in a stock where the share price is volatile:

		DCA		Buying Same Number of Shares Approach	
Month	Share Price	Investment	Shares bought	Shares bought	Investment
1	20	100	5	5	100
2	40	100	2.5	5	200
3	25	100	4	5	125
4	12.5	100	8	5	62.5
5	25	100	4	5	125
Totals		500	23.5	25	612.5

Average share price during this period is $24.5 per share which is what an investor would have achieved if s/he bought the same number of shares every month. The total investment would have been $612.5. The final value of the holding is $625 (Price:25 x No of shares:25) giving an IRR of 0.64%

Under the dollar cost averaging method the investor only spent $500 in the 5 months with an average cost of 500/23.5 = $21.28 per share. The final value of the investment is $587.5 (23.5 x $25) giving an IRR of 5.42%

As you can see, DCA (albeit in this made up example) has the effect of greatly reducing the average cost and therefore improving the returns.

While DCA is not the full expression of buy low sell high (there is no selling rule in this method), it does come close to forcing the investor to lower his average cost and at the same time helps the investor to invest consistently and regularly

Value Averaging beats both random investing and Dollar Cost Averaging

If DCA does such a good job of improving returns and reducing average cost by forcing to buy more when the prices are low and buy less when the prices are high, than, one may very well ask, wouldn't buying even more when the prices are low and actually selling when the prices become sufficiently high work even better than DCA? Value averaging process does just that and goes even further than DCA in implementing a buy low sell high strategy. Recall that DCA does not give any guidelines for when to sell an investment. For that you are on your own if you are following a DCA strategy. However, if you follow a Value Averaging strategy, than the strategy forces you to sell a portion of your investment when the price rises high enough.

The strategy works like this: Instead of buying a set dollar amount worth of security every period, you decide to buy (or sell) enough so that the value of your total investment increases in a constant manner. So in our example, instead of deciding to add $100 worth of new money every month, you add (or subtract) just enough money every month that the total value of your holding increases by $100. Let's illustrate this with the same example but modified to use Value Averaging.

Value Averaging Strategy

Month	Share Price	Total Value	Shares Needed	Shares bought	Investment
1	20	100	5	5	100
2	40	200	5	0	0
3	25	300	12	7	175
4	12.5	400	32	20	250
5	25	500	20	(12)	(300)
Totals		500	20	20	225

Let's look at what happened here. When the share prices rise or fall, the buys or sells suggested by the strategy are more extreme than DCA strategy. There are periods when you are not investing at all or even selling, and than there are some periods when you are investing more than your customary $100 for the period.

In the end, you would have only invested a total of $225 in the 5 months and ended up with a total value of $500. Your average cost is now $11.25 per share and the IRR for the 5 months is 17.47%, handily beating both random investing and dollar cost averaging methods.

How to make Value Averaging work?

As far as mechanical investing methods go, Value Averaging is much more complicated strategy to implement than a straight DCA. You will need to figure out your investment every period and it is going to be different every time. Since the amounts every time will differ, you will need to build up a buffer in a money market fund from where you add or remove funds depending on what you need to do that month. But I believe the benefits are well worth it.

Regardless of what method you end up using, the key to better investing is discipline. If you have discipline, you will be better off than the majority of the investors in the stock market.

Note on the example used: This example was chosen to illustrate the differences between the strategies and therefore may not be representative of the real market price changes. Value averaging works better than DCA in almost all market conditions but the benefits are really accentuated in a highly volatile market. For a blue chip stock with very little volatility, VA will still work better but the benefits may not be as great. For a more theoretical review of the two strategies and examples of how they compare under different market conditions, you can refer to the paper ' A Statistical Comparison of Value Averaging Vs. Dollar Cost Averaging and Random Investment Techniques' by Paul Marshall.