

Importance of Cash Preservation and the Difficulty of Coming from Behind | Alroya

Question: If a person makes an investment that loses twenty per cent in 2008, and gains twenty percent in 2009, then are they back to even?

Answer: The investor would NOT be back to their original amount, and would be four percent below their original investment; in order to get back to even, the investment would have had to have a twenty-five per cent gain.

This result surprises some investors (and even some traders), although it is an application of simple arithmetic. Dennis Gartman, author of The Gartman Letter, refers to this as “The Viciousness of Percentages”. The table below helps to shows how difficult it is to recoup one’s capital after a loss.

Percent Loss	Percent Gain Needed to Get Back to Even
5%	5.26%
10%	11.11%
20%	25%
25%	33.33%
30%	42.86%
35%	53.85%
40%	66.67%
45%	81.82%
50%	100%
55%	122.22%
60%	150%
65%	185.71%
70%	233.33%
75%	300%
80%	400%
85%	566.67%
90%	900%
95%	1900%
96%	2400%
97%	3233.33%
98%	4900%
99%	9900%

The above table helps to demonstrate the importance of cash preservation, and the risk involved in trying to make an investment that “swings for the fences”. The formula used to generate the above is that a loss of k , requires a gain of $k/(1-k)$. For instance, a loss of 50 per cent ($k=0.5$), needs a subsequent gain of 100 per cent.

Investments that have very high returns, may also experience large losses. Living by the sword can lead to dying by the sword. It becomes increasingly difficult of recovering from a large loss. The above table does not take the time value of money into consideration (i.e. that a dollar two years from now, is worth less than a dollar today), and consequently is conservative in its assessment of

the increase required in order to come back.

The table is also purely quantitative, and does not take qualitative issues into consideration which also may make it more difficult to gain back the original capital. For instance, large losses may hurt the morale of the trader, or lead to less resources being available for the company.

It is important to note, that all of this must be taken with some moderation. An investment that never experiences a negative return is of course a red flag in itself, and rebounding from modest losses is entirely possible for most investment firms. This is more applicable as the losses become higher.

The mathematics of cash preservation and the difficulty of coming from behind are simple yet very important. It is also connected in flavor to a deeper and more famous (for mathematicians) problem in mathematics aptly called "The Gambler's Ruin".

The Gambler's Ruin, which has its origins to work done by French Mathematician Blaise Pascal in 1656, was influential in the early development of probability theory. The Gambler's Ruin essentially proves that "doubling down" until a favorable outcome occurs is a losing strategy unless one has an infinite bankroll.

Conducting proper and prudent due diligence is definitely helpful in understanding the risk-reward potential of an investment, and reducing the probability of investing in a programme that falls to the point of no return.

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