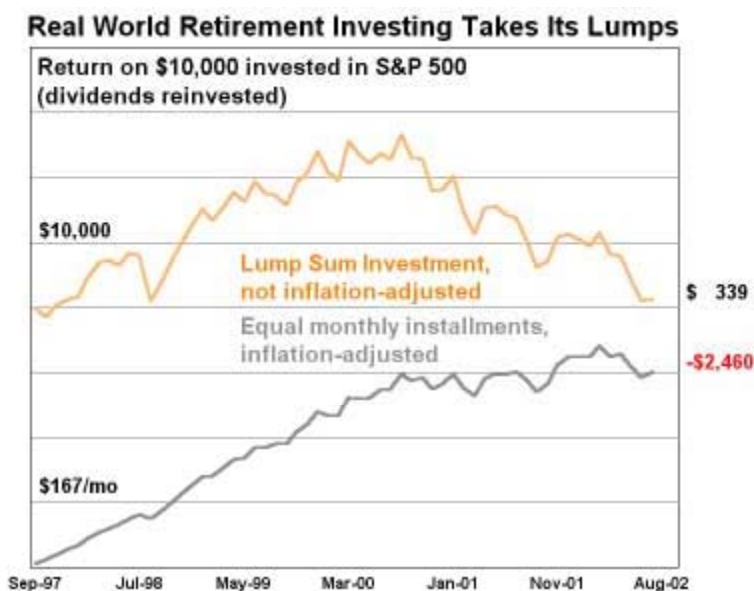


Ugly Market Math

David Simons, Forbes Magazine, September 15, 2002.

Every month you faithfully contributed the same percentage of your salary to an S&P 500 index fund. With the market now where it was in the summer of 1997, you figure you're at breakeven on everything you invested since then. You find hope in the familiar charts showing the growth of \$10,000 over ten or 20 years. Take a deep breath before you read this.

Your monthly contributions since September 1997 actually lost 25% on an inflation-adjusted basis by Aug. 30, 2002. And that's only if your salary increased in line with inflation.



In fact, as the accompanying table shows, you would have done better keeping everything you invested in the index fund since September 1995 under the mattress.

That ugly math is the insidious downside of dollar-cost averaging. In a rising market, your monthly contributions buy fewer and fewer shares. But the dollar amount invested that is exposed to market downturns grows at a constant rate.

There is hope, as we'll see in a minute. But doing what it takes requires fully appreciating what you're up against. In a nutshell, it's tough to make up losses by reducing the risk you took in the first place.

It's tempting to switch into that stodgy, interest-paying stable value fund offered by your retirement plan. After all, stable value funds, which maintain a constant price, creamed S&P 500 index fund returns on cumulative monthly investments made over the past nine years.

For example, the inflation-adjusted return on monthly investments in stable value funds since 1997 is 11%, versus a 25% loss in the index fund. The index fund beat stable value only on investments begun before 1992. Ditto a blend of 60% stocks and 40% stable value.

Stable Value Socked Stocks

Total monthly contributions made from September 1987 through August 2002 of the same dollar amount increased to match inflation grew by an inflation-adjusted 67% in an S&P 500 index fund, 40% in a stable value fund and 56% in the classic 60/40 diversification blend. But if contributions began in September 1996, the cumulative return of the S&P 500 index fund through August 2002 has been -18% versus 13% for the stable value fund and -6% for the blend.

Inflation-Indexed Cumulative Return On Equal Monthly Investments, September 1987 To August 2002

Year	S&P 500 Funds	Stable Value Funds	60% S&P/40% SV
1987	67%	37%	55%
1988	57	34	48
1989	47	31	40
1990	38	28	34
1991	28	25	27
1992	19	22	21
1993	11	20	14
1994	1	18	7
1995	-10	15	0.1
1996	-18	13	-6
1997	-25	11	-10
1998	-27	8	-13
1999	-27	7	-14
2000	-22	5	-12
2001	-15	2	-8

Source: Ryan Labs; S&P 500 = total return index; stable value = average of three- and five-year GIC index

To match the stable value returns on monthly investments starting in years between 1995 and 2000, the S&P 500 needs to increase between 28% and 49%. And of course, stable value funds aren't standing still waiting for stocks to catch up. Their annualized current returns of around 5% compares to many Wall Street forecasts for stocks to grow an average 5% to 7% per year over the next decade.

That looks enticing--especially because stable value funds "let you sleep at night." But if you switch to them and hope to make up your losses in the index fund, be prepared to make like Rip Van Winkle.

Including inflation, it will take up to five years if you keep contributing the same percentage of your salary and allocate all of it to stable value--eight years without fresh contributions. That's if the stable value fund continues to outpace inflation by the same margin as in the past decade. It won't all the time. Like bonds, stable value's handsome returns have resulted from slowing inflation. But when it rises, the premium will narrow.

If you want a shot at making up your index fund losses sooner you'll have to stay with it. The silver lining is the upside of dollar-cost averaging. The S&P 500 needs to rise 66% to return to its March 2000 peak. But if you kept contributing to the index fund during the decline, your inflation-adjusted breakeven on investment made since the top is 37% as of Sept. 4.

All sorts of market history say the index could rise that much within a year. For example, the worst decade of the past century, the 1930s, encompassed two-thirds of the crash that began in 1929. But after losing an average 32% from 1930 to 1932, the market soared an average 34% over the next four years, including a 68% rise in 1933.

There's also plenty of market history, such as relative price-to-earnings ratios, that says today's market could fall further or just stagnate before recovering. Still, for the current decade to equal the average annual return of the 1930s, the market now needs to average 7.7% per year.

There is risk in not being in the market when it does reverse. But your real risk is not having money you need when you need it. That should guide your investment allocation. Just don't look to recoup losses by scaling back the risk that created them