Advanced
Insurance Brokerage

ADVANCED INSURANCE BROKERAGE · CLIENT EDUCATION SERIES · NO. 3

The Long Way Up: Volatility Over Time

A Return Percentages Analysis (RPA) of $1,000 held in the S&P 500 (TR) for 35 years, 1990–2024. Even a patient, long-term investor saw years of growth erased, more than once.

01 Three ways to report a return

02 When value goes backward

03 Adding a 1% fee

04 The year-by-year record

05 Questions to ask

12.11%
average annual return reported over the 35 years

10.60%
what the investor actually compounded (CAGR)

13 years
from year 10 to year 23 when the value grew just 1.7% a year

RETURN PERCENTAGES ANALYSIS

01 Three ways to report a return

The same 35 years can be described with three very different numbers. Product illustrations and marketing materials often use the most flattering one. Only the compound rate tells you what your dollars actually did.

Annual return

The gain or loss in a single calendar year. Ranged from −37% to +38% over this period.

−37% to +38%

Average annual

The simple average of the annual returns. It ignores the order of gains and losses, so it overstates growth.

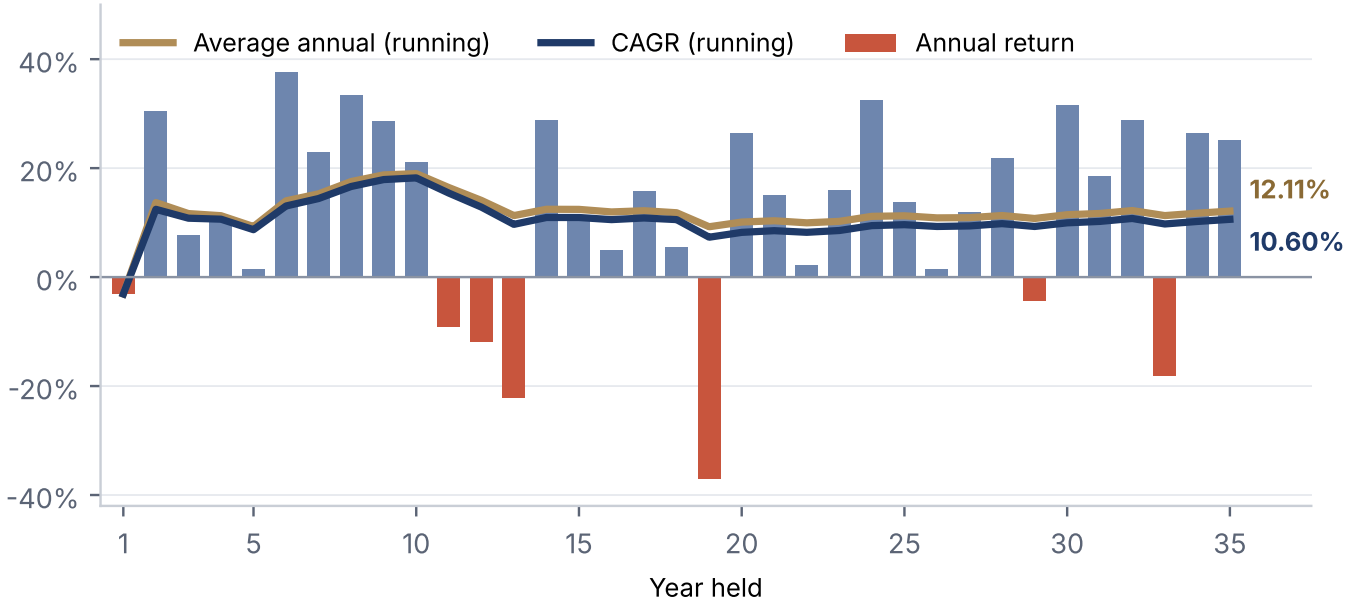
12.11%

CAGR

The compound annual growth rate: the single steady rate that turns $1,000 into the actual ending value.

10.60%

Annual, average and compound returns, years 1–35



Why the gap? A **−50%** year followed by a **+50%** year averages 0%, but $1,000 becomes $750. Losses cost more than equal-sized gains earn back.

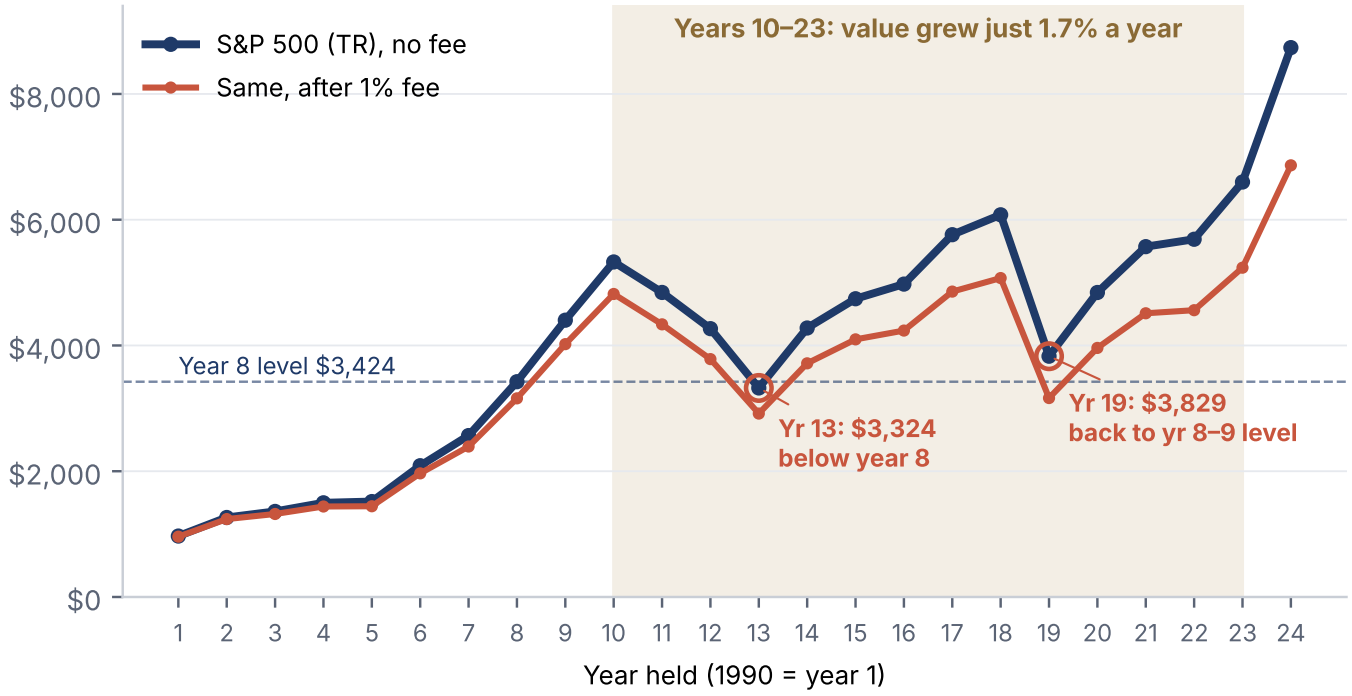
Over 35 years the 1.51-point gap between the average (12.11%) and the CAGR (10.60%) is worth **about $20,600 on a $1,000 start**: $54,645 at 12.11% vs. $34,029 actual.

WHEN VALUE GOES BACKWARD

02 Long-term doesn't mean straight up

Holding for the long term does not protect earlier gains. In this period, a market decline repeatedly sent the account back to a value it had already reached years earlier. The investor kept waiting, paying fees and taking risk, just to get back to where they had been.

$1,000 invested in 1990: account value, years 1–24



Year 13

After 13 years, the value ($3,324) had fallen below where it stood in year 8

Year 19

After 19 years, the value ($3,829) was back to its year 8–9 level, barely above year 13

1.7% a year

Growth from year 10 ($5,328) to year 23 ($6,600). With a 1% fee: 0.6% a year

Every setback in the 35 years

Year held	Calendar year	Annual return	Value	Value fell back to the level of	Years of growth erased	Prior high regained
11–13	2000–2002	−9%, −12%, −22%	$3,324	Below year 8	**6**	Year 17 (7 years after the peak)
19	2008	−37%	$3,829	Years 8–9, just above year 13	**6+**	Year 23 (5 years after the peak)
29	2018	−4%	$13,134	Year 27	**2**	Year 30
33	2022	−18%	$21,552	Year 31	**2**	Year 34

S&P 500 (TR), no fees or taxes. "Years of growth erased" counts back to the most recent year with an equal or lower value.

THE FEE DRAG EFFECT

03 Adding a 1% fee to the same ride

Fees don't take a break in down years. The 1% fee is charged on the account balance every year, including the years the value is going backward, which makes each setback deeper and each recovery longer.

$1,000 over 35 years: no fee vs. 1% annual fee



9.50%
CAGR after the 1% fee, down from 10.60%. A 25% tax on the ending value lowers it to 8.60%

$2,111
Total fees paid over 35 years

$10,092
Ending value lost to the fee, nearly 5× the fees paid, because those dollars stopped compounding

The setbacks get worse with a fee

- Year 13: **$2,917**, below the year 8 value of $3,159
- Year 19: **$3,164**, almost exactly the year 8 value, 11 years earlier
- Years 10–23: value grew only **0.6% a year**, from $4,819 to $5,237
- The fee was still charged in every losing year: $51 in 2008 alone

After **19 years** of investing and paying fees, the account was worth what it had been worth after **8 years**.

RPA ANNUAL TABLE

04 The year-by-year record

Negative year Flat value zone, years 10–23

Yr	Year	Annual	Average	CAGR	Value, no fee	Value, 1% fee	Fee paid	Setback
1	1990	−3.10%	−3.10%	−3.10%	**$969**	$959	$10	
2	1991	30.47%	13.68%	12.44%	**$1,264**	$1,239	$10	
3	1992	7.62%	11.66%	10.81%	**$1,361**	$1,320	$12	
4	1993	10.08%	11.27%	10.63%	**$1,498**	$1,439	$13	
5	1994	1.32%	9.28%	8.70%	**$1,518**	$1,443	$14	
6	1995	37.58%	14.00%	13.05%	**$2,088**	$1,966	$14	
7	1996	22.96%	15.28%	14.42%	**$2,567**	$2,393	$20	
8	1997	33.36%	17.54%	16.63%	**$3,424**	$3,159	$24	
9	1998	28.58%	18.76%	17.90%	**$4,402**	$4,021	$32	
10	1999	21.04%	18.99%	18.21%	**$5,328**	$4,819	$40	
11	2000	−9.10%	16.44%	15.42%	**$4,843**	$4,336	$48	Back to year 9
12	2001	−11.89%	14.08%	12.85%	**$4,267**	$3,783	$43	Back to year 8
13	2002	−22.10%	11.29%	9.68%	**$3,324**	$2,917	$38	Below year 8
14	2003	28.68%	12.45%	10.94%	**$4,278**	$3,716	$29	
15	2004	10.88%	12.43%	10.94%	**$4,743**	$4,097	$37	
16	2005	4.91%	11.96%	10.55%	**$4,976**	$4,237	$41	
17	2006	15.79%	12.18%	10.85%	**$5,762**	$4,857	$42	
18	2007	5.49%	11.81%	10.55%	**$6,078**	$5,072	$49	
19	2008	−37.00%	9.24%	7.32%	**$3,829**	$3,164	$51	Back to year 8–9
20	2009	26.46%	10.10%	8.21%	**$4,842**	$3,961	$32	
21	2010	15.06%	10.34%	8.52%	**$5,572**	$4,512	$40	
22	2011	2.11%	9.96%	8.22%	**$5,689**	$4,561	$45	
23	2012	16.00%	10.23%	8.55%	**$6,600**	$5,237	$46	
24	2013	32.39%	11.15%	9.45%	**$8,737**	$6,865	$52	
25	2014	13.69%	11.25%	9.62%	**$9,933**	$7,726	$69	
26	2015	1.38%	10.87%	9.29%	**$10,070**	$7,755	$77	
27	2016	11.96%	10.91%	9.39%	**$11,275**	$8,595	$78	
28	2017	21.83%	11.30%	9.81%	**$13,736**	$10,367	$86	
29	2018	−4.38%	10.76%	9.29%	**$13,134**	$9,814	$104	Back to year 27
30	2019	31.49%	11.45%	9.96%	**$17,270**	$12,775	$98	
31	2020	18.40%	11.68%	10.22%	**$20,448**	$14,974	$128	
32	2021	28.71%	12.21%	10.76%	**$26,319**	$19,081	$150	
33	2022	−18.11%	11.29%	9.75%	**$21,552**	$15,469	$191	Back to year 31
34	2023	26.29%	11.73%	10.21%	**$27,219**	$19,340	$155	
35	2024	25.02%	12.11%	10.60%	**$34,029**	$23,937	$193	
35-year result			**12.11%**	**10.60%**	**$34,029**	**$23,937**	**$2,111**	

$1,000 invested January 1990, no additional deposits or withdrawals. S&P 500 Index (TR) annual returns per Morningstar. Fee at 1% of account value, deducted annually.

RPA SUMMARY

05 Questions to ask before you commit 20–40 years

This period included two of the worst bear markets in modern history and some of the best bull markets. Both are normal. Before you commit to any market-linked product for 20 to 40 years, make sure its illustration shows the full ride, not just the average.

Ask	Why it matters
Is the return shown as an average or a CAGR?	An average overstated this 35-year period by 1.51 points a year.
Is it the S&P 500 Total Return or the Price index?	Many products are linked to the Price index, which leaves out dividends: a large share of the market's long-term return.
What are all the fees, in dollars?	A 1% fee cost $2,111 in payments and $10,092 in ending value here.
What happens in a year like 2008?	A −37% year sent 19 years of investing back to the year 8 level.
What if I need the money in a down year?	Withdrawing after a loss locks it in. The timing of your need may not match the market's recovery.
What will taxes take at the end?	A 25% tax lowers the CAGR here from 9.50% to 8.60%.

Volatility isn't only about bad years. **It's about how many good years a bad one can take back.**

Start the conversation

Ask us for an RPA of your own accounts, or a side-by-side with a guaranteed-value alternative (see Series No. 1).

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IMPORTANT DISCLOSURES

Please read

Hypothetical illustration. All figures are hypothetical and for educational purposes only. They do not represent the performance of any specific investment or product. Past performance does not guarantee future results.

Index. The S&P 500 Total Return Index is an unmanaged index of large-cap U.S. stocks that assumes reinvestment of dividends. Annual returns were obtained from Morningstar Research. An index cannot be invested in directly. The S&P 500 Price Index excludes dividends and has historically returned less than the Total Return Index.

Assumptions. $1,000 invested at the start of 1990 and held through 2024, with no additional deposits or withdrawals. The fee example deducts 1% of account value annually. The tax figure applies a 25% rate to the ending value after fees. Actual fees, taxes and results will differ.

Return definitions. Average annual return is the arithmetic mean of annual returns. CAGR (compound annual growth rate) is the constant annual rate that produces the actual ending value from the starting value. "Years of growth erased" and setback comparisons refer to account values in this illustration only.

Not advice. This material is not a recommendation to buy or sell any security or insurance product. Market-linked and insurance products have different features, costs, risks and guarantees; review a full product illustration before purchasing. Insurance guarantees are based on the claims-paying ability of the issuing insurer. Advanced Group does not provide tax or legal advice.

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