



AVERAGES ARE NOT YOUR FRIEND

Consider this 5-year segment of market performance.

+10% -32% +40% +12% +10%

Add those together and divide by 5 to get an annual average rate of return.

$$\underline{\hspace{1cm}} / 5 = \underline{\hspace{1cm}}\% \text{ annual average}$$

Now, apply this same market performance to an actual \$1,000 investment.

Year 1	\$1000.00 + \$_____ (+10%) = \$1100.00
Year 2	\$1100.00 - \$_____ (-32%) = \$ 748.00
Year 3	\$ 748.00 + \$_____ (+40%) = \$1047.20
Year 4	\$1047.20 + \$_____ (+12%) = \$1172.86
Year 5	\$1172.86 + \$_____ (+10%) = \$1290.15

$$(\$290.15/\$1000) \times 100 = 29.01\% / 5\text{yrs} = 5.8\% \text{ average per year}$$

Market averaged 8% but the investor received 5.8%.

The future Value of variable products cannot be accurately projected.

All retirement planning software is designed to “stack” the assumed rate of return each year to arrive at a future value. Below is a 5-year projection of an 8% stacked return.

Year 1	\$1000.00 + \$_____ = \$1080.00
Year 2	\$1080.00 + \$_____ = \$1166.40
Year 3	\$1166.40 + \$_____ = \$1259.71
Year 4	\$1259.71 + \$_____ = \$1360.49
Year 5	\$1360.49 + \$_____ = \$1469.33

Your advisor produced a retirement plan that said if you invest \$1,000 and average 8%, in 5-years you will have \$1,469.33. What do we already know about \$1,000 that was invested in a market that averaged 8%? It was worth \$_____ after 5 years.

\$1,290.15 - (\$1,469.33) = -(\$179.18) a shortage of 17.92%

Your retirement projection is not worth the paper it is written on because you cannot accurately predict the future value of a variable product.



AVERAGES ARE NOT YOUR FRIEND – ANSWER KEY

Consider this 5-year segment of market performance.

+10% -32% +40% +12% +10%

Add those together and divide by 5 to get an annual average rate of return.

$$40 / 5 = 8\% \text{ annual average}$$

Now, apply this same market performance to an actual \$1,000 investment.

Year 1	\$1000.00 + \$100.00 (+10%) = \$1100.00
Year 2	\$1100.00 - \$352.00 (-32%) = \$ 748.00
Year 3	\$ 748.00 + \$299.20 (+40%) = \$1047.20
Year 4	\$1047.20 + \$125.66 (+12%) = \$1172.86
Year 5	\$1172.86 + \$117.29 (+10%) = \$1290.15

$$(\$290.15/\$1000) \times 100 = 29.01\% / 5\text{yrs} = 5.8\% \text{ average per year}$$

Market averaged 8% but the investor received 5.8%.

The future Value of variable products cannot be accurately projected.

All retirement planning software is designed to “stack” the assumed rate of return each year to arrive at a future value. Below is a 5-year projection of an 8% stacked return.

Year 1	\$1000.00 + \$ 80.00 = \$1080.00
Year 2	\$1080.00 + \$ 86.40 = \$1166.40
Year 3	\$1166.40 + \$ 93.31 = \$1259.71
Year 4	\$1259.71 + \$100.78 = \$1360.49
Year 5	\$1360.49 + \$108.84 = \$1469.33

Your advisor produced a retirement plan that said if you invest \$1,000 and average 8%, in 5-years you will have \$1,469.33. What do we already know about \$1,000 that was invested in a market that averaged 8%? It was worth \$1,290.15 after 5 years.

$$\mathbf{\$1,290.15 - (\$1,469.33) = -(\$179.18) \text{ a shortage of 17.92\%}}$$

Your retirement projection is not worth the paper it is written on because you cannot accurately predict the future value of a variable product.