

Proof That Active Investors Must Average The Market Return Pre-Cost

$$\text{Return} = \text{Return} \times (\text{Act. \$s} / (\text{Act.} + \text{Pas. \$s})) + \text{Return} \times (\text{Pas. \$s} / (\text{Act.} + \text{Pas. \$s}))$$

An example helps.

Let's say we know:

- Market return = 8%
- Passive dollars / total dollars = 20%

$$8\% = \text{Unknown} \times 80\% + 8\% \times 20\%. \text{ Unknown must} = 8\%$$

What are we looking at?

- This is pre-cost.
- Money invested by passive participants is 20% of all participants money. If money invested by passive participants represent 20%, active participants represent 80%. Why? Each participant is either a passive or an active participant in any market they invest in.
- Each passive participant receives the market return per the definition. The group of passive participants therefore average the market return. Or, in other words, the total money invested by passive participants must grow by 8%.
- The only unknown in the equation is the return to active participants. Looking at the equation it is obvious that the group of active participants must average 8%. Or, in other words, the total money invested by the active group must grow by 8%.
- Individual active participant's returns will vary around the market return but are a zero-sum game around 8%. Outperformance is offset by underperformance. And, this is pre-cost. Cost makes performance worse.

Negative return example:

- Market Return = -12%

$$-12\% = \text{Unknown} \times 80\% + -12\% \times 20\%$$

- It is obvious that the group of active investors must average -12%