

## What Returns Will We Earn?

Very frequently the question is asked of us, “what kind of return will we earn on our investment?” Unfortunately, the question has no answer. But that will not stop us from writing a 1300-word newsletter. The reason is the answer could be very different for two individuals investing in exactly the same investment for exactly the same period. Of course, the actual returns for two individuals investing in the same investment will be the same, but the anticipated returns – the returns they plan on receiving – are different. The reason is risk.

### Risk

Imagine an elderly lady who wishes to pay for her critical living expenses in ten years, such as food, utilities, and rent. She estimates the expenses will be \$20,000 and she is intent on investing in an S&P 500 index fund. For the sake of the illustration, set aside the thought that the S&P 500 may not be an ideal investment for her. According to her risk level, her anticipated return is -34% after the effects of inflation. She is advised to invest at least \$30,300 so that if she were to lose 34% (including the increasing cost of living), she would still have her \$20,000 and be able to meet her goals.

On the other hand, a young man wishes to purchase a \$20,000 motorcycle in ten years, and he also will invest in the same S&P 500 index fund. With his risk level, his anticipated return will be 25% after inflation and he is advised to invest \$16,000.

These two individuals are investing in the same investment for the same period, yet their anticipated returns are drastically different. How can this be? The reason is that their goals have very different risk characteristics. If the elderly lady has a shortfall she will suffer dire consequences. She will go without electricity or food, or she might be evicted. She must invest with a very low risk of a shortfall, such as 5%. That roughly means that her needs will be exceeded in 95% of the future market conditions, but in 5% of the conditions she may face financial difficulty.

In contrast, the young man may be disappointed if he cannot afford his motorcycle in ten years, but he will not suffer any dire consequences. Perhaps he will purchase a less expensive bike, or postpone the purchase until he has saved more money. He may even choose to forego the purchase altogether. Therefore, his risk of shortfall might be 25%. For this investor, the anticipated return is, coincidentally, 25% after inflation. In 75% of the market conditions he will earn more than 25%, but in 25% of the conditions, he will earn less.

Again, these two investors have exactly the same investments and periods, yet the returns they should anticipate are considerably different. The driving difference is the risk of their *goals*. Notice that the risks are associated with the goals, not the individuals. If the elderly lady were saving to purchase a motorcycle, the risk chosen might also be 25%. Regardless, the risk of the goal is an important factor in the return estimations, and the higher the risk, the higher the anticipated return.

### Time

Time is also an important factor. When considering time, the annualized returns should be considered rather than the total returns. This is conceptually similar to the average returns, although there are some mathematical differences. The motorcycle man’s ten-year investment is anticipated to return a total of 25% after inflation, or an annualized return of 2.3% per year (5.3% if inflation is ignored). Suppose instead he wants the bike in five years instead of ten. For this purpose, his anticipated returns will be 0.6% per year – far lower than the 2.3% per year if he held it for 10 years. In both cases, the risk of falling short of the goal is the same, 25%, and the investment is the same, the S&P 500 index fund. The only difference is the length the investment will be held. All other things being equal, the longer an investment is held, the higher the anticipated returns will be.

### Anticipated Returns of S&P 500

Figure 1 shows the anticipated returns (solid lines), adjusted for inflation and annualized (averaged) for an investment in the S&P 500 over various time periods. For a one-year investment for a critical investment (solid red line), the anticipated return is -22.9%. If the one-year investment was for a discretionary goal (solid blue line), the anticipated return would be -6.5%. Again, the money is for each goal is in the same investment, but the anticipated return depends on how critical the goal is. Figure 2 shows the end value of

a \$1 initial investment in the S&P 500 (solid lines). After one year, the anticipated value of the dollar is \$0.94 for discretionary goals (solid red), but \$0.77 for critical goals (solid blue).

For a 10-year investment, the anticipated annualized returns are much higher. For critical needs, the S&P 500 is anticipated to lose 4.1% per year. That is far better than the -22.9% per year for a one-year investment, but still far from positive. For discretionary needs, the S&P 500 is anticipated to return 2.3% per year. The value after ten years of a \$1 initial investment is anticipated to be \$0.66 for critical needs, and \$1.25 for discretionary needs.

Obviously, the S&P 500 is not an ideal investment for critical needs. It is not even anticipated to break even for over 30 years. There are better choices for discretionary investing as well, and the optimal investments are discussed in the next section. Nonetheless, these charts provide some guidelines on how much one should anticipate from an investment in the S&P 500 for various goals.

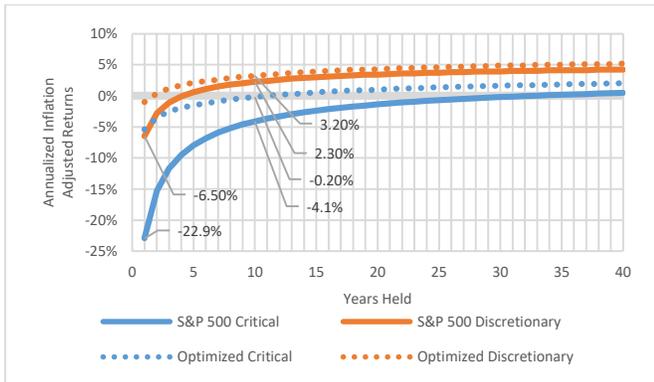


Figure 1

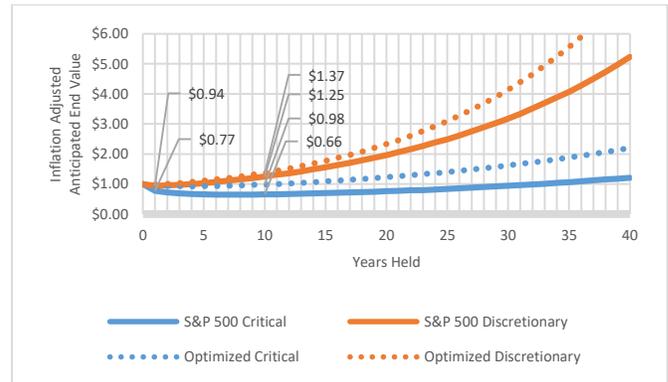


Figure 2

## Investment

Of course, investments are not limited to the S&P 500. Utilizing a proper blend of various types of assets can significantly improve the anticipated returns, as shown in Figure 1 (dashed lines). Over a ten-year period for critical goals, the optimal blend (dashed blue line) is anticipated to almost break even at -0.2%, compared to a -4.1% loss per year with the S&P 500. For discretionary goals, the optimal anticipated return (dashed red line) is 3.2% versus 2.3%. That increase from 2.3% to 3.2% represents a 40% increase per year in anticipated returns. Asset allocation matters!

Figure 2 shows the anticipated end value of a \$1 initial investment. The values at the end of ten years are labeled. For critical needs, the S&P 500 investment (solid blue) is anticipated to be worth \$0.66, a 34% loss. With an optimal investment (dashed blue), the anticipated end value is \$0.98 and the loss is limited to 2%, which is a 94% reduction in the loss. For the discretionary investment, the anticipated value of an S&P 500 investment (solid red) is \$1.25 while the optimal investment (dashed red) is anticipated to be worth \$1.37. In this case, optimization provides a 48% increase in total returns (\$0.37 vs \$0.25). Selecting the proper investment can have enormous effects on anticipated returns. For longer periods, the improvements are even more dramatic.

## Summary

There is no simple answer to how much an investor can anticipate earning on an investment. The factors that affect anticipated returns are risk, time, and the investment choice. For critical needs, one should anticipate losing money with the S&P 500 for 30 years or more. Using an optimized portfolio for critical needs, one should anticipate breaking even in 11 years. For discretionary needs, the S&P is anticipated to lose money for five years, while an optimized portfolio is anticipated to be positive within two years.

Bear in mind that the actual returns are five times more likely to fall short of the anticipated returns for discretionary goals as for critical goals. Also, all returns are adjusted for inflation to better understand the future purchasing power of the dollars earned. If inflation were not accounted for, the anticipated returns would be much higher.

If you have questions or comments, feel free to call us or email us.

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