# Investment Risk Portfolio Report

Here are my selected stocks and optimized weights.

| | Ticker Symbol | Portfolio Weight | Current Market Cap |
|---|---|---|---|
| 1 | NVDA | 21.17% | 685.4B |
| 2 | AEE | 27.59% | 23.352B |
| 3 | TSLA | 6.18% | 520.781B |
| 4 | WMT | 17.61% | 407.219B |
| 5 | NFLX | 8.45% | 146.667B |
| 6 | JPM | 18.99% | 403.979B |

My portfolio creates alpha, which is the coefficient of y-intercept and the value of the rate of return when the risk taken is judged to be zero. My FF 5 Factor model's alpha is 0.00925 and FF3 Factor model's alpha is 0.00849. As the significance of alpha are both smaller than 0.05, the models are meaningful. Since returns are typically regarded as a reward for taking on risk, it is frequently assumed that the return on a portfolio with no risk will be zero. My alpha numbers indicate that I can expect 0.8-0.9 percent returns with taking no risk. My conclusion indicates that my portfolio has outperformed the overall market and outperformed the expected returns.

Here are the results of my regressions here.

| Model | Alpha | Significance (p-value) |
|---|---|---|
| FF 3 Factor | 0.00849 | 0.01504 |
| FF 5 Factor | 0.00925 | 0.01327 |

My FF5 factor model does not add any explanatory power over the FF3 factor. The evidence is from the F test's P-value was 0.79, which is larger than 0.1 (10% significance level). Therefore, we fail to reject the null hypothesis, which indicates robust minus weak (RMW) and conservative minus aggressive (CMA) have no additional explanatory value. This means that these two additional factors have no impact on the performance of the portfolio and don't add any new information about what drives the value of the assets in our portfolio over time.

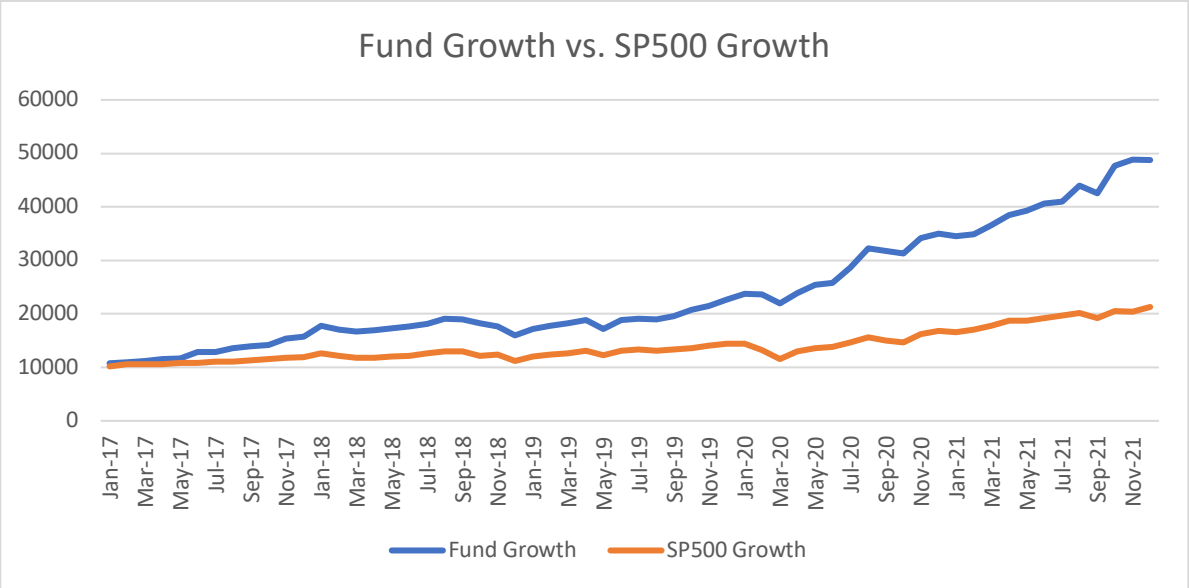
We will use the FF3 Factor results for further analysis.

Here are the coefficients and significance on the three factors.

| Factor | Coefficient | Significance (p-value) |
|---|---|---|
| MKT-RF | 1.07348 | 1.7659E-23 |
| SMB | -0.42909 | 0.00134 |
| HML | -0.11871 | 0.13744 |

The value of a $10,000 account be if a client invested in my fund for for 5 years will be $48757.9059

Here is a plot of my fund's growth vs. the SP500




Here is the 5% VaR of your $10,000 portfolio? (using last 5 years)

| | |
|---|---|
| Portfolio Average Return | 0.01695 |
| Portfolio Standard Deviation | 0.06276 |
| 5% VaR | $862.81 |

Here are five other statistical measures and reasons to help you understand more about my fund.

| **Statistical Measure Name** | **Data** | **Reason for inclusion, Interpretation of statistic** |
|---|---|---|
| *Example: Portfolio Standard Deviation* | *15%* | *Helps investors understand total risk of the investment. Useful for explaining the probability of loss and value at risk. Allows return to be scaled by a risk measure. Assuming a normal distribution, a standard deviation of 15% means that 68% of the time you should expect this portfolio to have a return +/- 15% from the mean.* |
| Portfolio Skew | -0.29957 | Portfolio Skew assists investors in understanding how returns are distributed. In this case, -0.29956 as a negative skew means that the distribution is right-skewed rather than left-skewed, which makes the left side of the distribution's tail appear "fatter." The |

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| | | distribution's left-end tail is slightly longer than its right-end tail. As a result, the portfolio is more likely to experience little losses than minor profits. |
| Portfolio Kurtosis | -0.30178 | Portfolio Kurtosis refers to the peakedness or flatness of the tails of the distribution. Kurtosis <0 means the data is flat with a wide degree of dispersion. Portfolio Kurtosis of -0.30178 indicates that the tails of the portfolio's return distribution are lighter than those of a normal distribution. The returns of the portfolio are less likely to deviate from the average return. This can imply that the portfolio is less risky than one with a larger value of Kurtosis. |
| Portfolio Sharpe Ratio | 0.25453 | The Portfolio Sharpe Ratio indicates the excess return earned by a portfolio per unit of risk taken. According to a portfolio Sharpe Ratio of 0.25453, the portfolio has produced an excess return of 0.25453 units for each unit of risk taken above the risk-free rate of return. Better risk-adjusted performance is indicated by a greater Sharpe Ratio. Because the Portfolio Sharpe Ratio in this instance is not excessively high, there may be some risks, but there also may be higher returns. |
| Portfolio Sortino Ratio | 0.42284 | The Sortino Ratio measures the return of an investment in relation to its downside risk. The downside deviation is a measure of the volatility of returns that go below a specific threshold, such as the risk-free rate. A Sortino Ratio of 0.42284 indicates that, after accounting for downside risk, the portfolio's returns are 0.42284 standard deviations above the risk-free. In this scenario, the portfolio Sortino Ratio suggests superior risk-adjusted performance because it signifies the portfolio generates greater returns per unit of downside risk. |
| Correlation(NVDA, AEE) | 0.12834 | As NVDA and AEE have the highest two weights in the portfolio, which is close to 50%, correlation can show their relationship with each other. A correlation of 0.12834 indicates that there is a relatively weak positive linear relationship between the |

| | | |
|---|---|---|
| | | portfolio's asset returns, which tend to move in the same direction. This means that the assets in the portfolio are somewhat related, but they are not highly correlated with each other. Because low correlation can lower the portfolio's overall volatility, this could be good for the risk and return of the portfolio. |