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Group-HW:

o From Yahoo Finance!: choose all stocks from your portfolio; choose S&P 500 (proxy for the market portfolio).

o Choose the time window 1/1/2018-12/31/2018 and daily frequency. Download the stock price and index.

o SAS: Find Safety first ratio, Probability of Safety first ratio, and Sharpe ratio.

o WORD report:

|  |  |  |  |
| --- | --- | --- | --- |
|  | SF ratio (The SFRatio provides a probability of getting a minimum-required return on a portfolio.) | Probability of a return below our minimum | Sharpe ratio (the greater the value of the Sharpe ratio, the more attractive the risk-adjusted return) |
| ADBE | 0.0494118924 | 0.4802955255 | 0.0520712243 |
| ANIP | -0.06955847 | 0.5277274537 | -0.066885905 |
| CHGG | 0.0860616394 | 0.4657087089 | 0.088148706 |
| JPM | -0.023271858 | 0.5092832901 | -0.019004797 |
| SBUX | 0.0361904559 | 0.485565248 | 0.0402170755 |
| S&P500 | -0.03235104 | 0.5129039 | -0.03229639 |

Based on this above analysis, which stock would you want to invest, why?

Sharpe-ratio is used here to evaluate a portfolio’s return on investment compared to its risk based on its past performance. The Sharpe-ratio for all the stocks are under 1, so it is considered as sub-optimal.

Safety-First Ratio criterion states that the optimal portfolio minimises the probability that portfolio return, RP, falls below RL, the minimum required return. According to the criteria, we selected the portfolio with the highest Safety First Ratio. Chegg has the highest Safety-First Ratio.

Based on our analyses from the above table we decided to go with Chegg. We calculated the probability that the actual portfolio return will fall below the target return and Chegg had the lowest probability. The Sharpe-ratio for Chegg is also the highest.