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FINC 301 Investments

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Portfolio Management Project Proposal

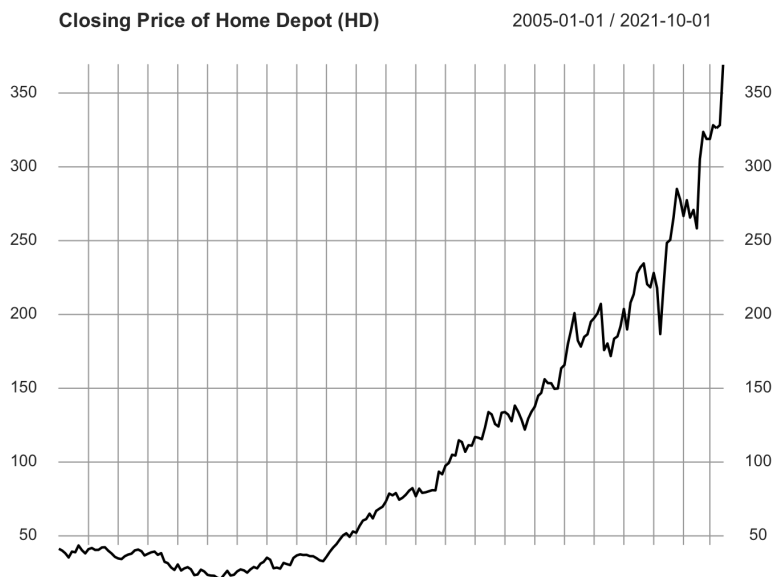
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In this project, we aim to create a defensive portfolio which generates a relatively steady return in the short term. The two equity securities in this portfolio are Salesforce (CRM) and The Home Depot Inc (HD). Despite having only two securities, we still take diversification into consideration to smooth out some possible risks because equity securities have relatively higher risks than other types of securities.

The holding period for this portfolio is the month of November. Considering this short period, we decided to choose companies that will keep stable performance for this one-month period and give out relatively high returns. The U.S. market is in a great turbulence right now. Some reasons for the turbulence are: the two circuit breakers which halted the trading in 2020. Therefore, the systematic risk is hard to get rid of and it is harder to make predictions on the market.

In choosing the companies, we, first, looked at their market values to see whether they are overvalued, undervalued, or fair-valued. This is to make sure that within this month, the companies will not go through a big drop in their stock price. CRM is somewhat overvalued according to Yahoo Finance and HD has a fair value. Although CRM is overvalued now, we are confident in this company because we have looked at its performance for the past 5 years. The stock price steadily increases in general and the recent news about the company and industry growth is positive. For HD, it is in the retail industry which is gradually starting to recover from the pandemic.

## Data



Home Depot went public in 1981 and has a wider time-period data available. Closing price data starting January, 2000 is used.



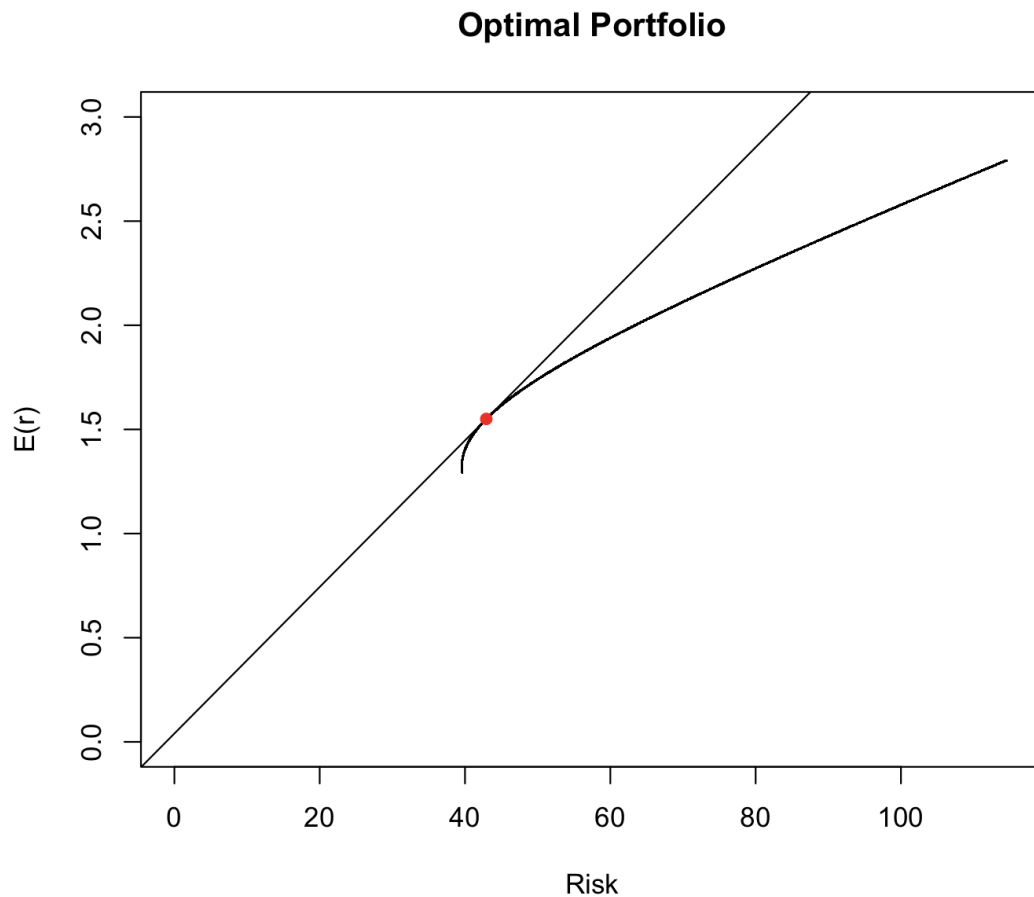
Salesforce went public in June, 2004 so closing price data starting June, 2004 is used on a monthly time-period. The fluctuation of the stock price of each asset is demonstrated in the graphs.

Data is sourced from yahoo finance using the “quantmod” library.

## Analysis

We conducted analysis on the structure of the portfolio using Rstudio.

Expected return and Standard Deviation: To find the expected return of the portfolio, we use the method of calculating the holding period return. It turns out that  $E(r)$  for HD is 1.29% and 2.79% for CRM. The total expected return is 1.55%. The sharpe ratio for the portfolio is 0.035, which indicates a low risk related to this investment return.



Weights: Applying the Portfolio Theory, we construct the efficient frontier and capital allocation line in order to find the tangent point, which indicates the most optimal weights of each securities. The weight that we need to invest in CRM is 0.172, and for HD, it is 0.828.

Therefore, we will invest \$828,000 into CRM and \$172,000 into HD.

Investment strategy: The most ideal situation for this investment is that we will not need to make any changes to it and both securities can perform well as we expect. First, we will not buy the securities at one time. To reduce the average buying prices, we will smooth our cost by investing different amounts within the buying period when we observe that the price is relatively lower on that day. This increases our returns when we sell them because we will look at the average buying price. By the time we need to sell our holdings, we will still try to sell them at prices as high as possible throughout the whole selling period. Like how we bought them in the first place, we may not need to sell them all in one day.

If it comes to a moment when we need to consider to make any changes to our securities, here are some indicators we will look at:

1. The weekly trend of the stock price: If the price of the security keeps dropping and has no sign of rising for the rest of the holding period due to the systematic turbulence for the whole industry, then we may consider switching that into other industries. Especially when the prices have dropped below the average buying price, then it also raises our attention and consideration on whether to keep on holding that particular stock.
2. News and reports: During our holding period, if we notice that there is optimistic news indicating the booming of the company itself or the industry, which can possibly lead to a rocket increase in the stock price, we will consider to increase the weight of that security.