

California State University, Fullerton

Portfolio Project

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Introduction

In the portfolio project, we are given \$100,000 to invest in ETFs and instructed to choose a minimum of five individual stocks during the game period. As we progressed through the semester, we had the opportunity to study the topic of diversification which is a technique that reduces risk by allocating investments among different financial instruments, industries, and other categories. This approach aims to maximize the investor's return by investing in various areas that would each react differently to the same event. Investors will confront two main types of risk when they start building their investment portfolios, and the threats can belong to undiversifiable and diversifiable risks.

An undiversifiable risk is also known as systematic or market risk, and it is inevitable to avoid, and it will impact every company. Things like exchange rates, inflation rates, interest rates, war, and political instability are going to affect the business or industry that you are invested in and cannot be eliminated or reduced through diversification and it is a risk that all investors must accept. On the other hand, diversifiable risks also known as unsystematic risk are risks that are specific to a market, industry, economy or country and diversification through a portfolio can reduce the risks. Typical examples of unsystematic risks are financial, and business risks a company will take that might adversely shape their value on the market. Hence, the primary goal of building a diversified portfolio is to reduce risk and investors must understand that it is not possible to eliminate the risk of losses and must apply strategies such as diversification to limit the downsides while securing levels of growth.

Stock Selection and Portfolio

When the game first started, we decided to buy shares in the companies we are familiar with and those that are popular worldwide, such as Tesla and Amazon. We chose to invest in companies that we were comfortable with and knew that they were doing well, and would continue to, in the market. We progressed with this trading style for a few weeks, and it performed well enough but was not impressive. A problem with these types of popular companies is that their stock prices are high due to the demand of others. When given a strict budget, it would be impractical to spend all of our allotted money in a few firms. We let this type of trading continue for a few weeks, but we soon realized we needed to change our strategy.

After noticing our ranking in the game go lower after each day, we decided a new tactic, research historically well-performing companies and studied them to see if they will continue. We also researched on companies that were trending in the news of any acquisitions or mergers or any new projects. After investing in these type of companies, our rank in the game and our overall performance started to improve. The companies we added after researching range from safe to risky comparing their betas (see Appendix A and B for more details on beta). These company stocks became our biggest gainers and helped the most in our overall returns. These companies ended up being our top performers in the overall portfolio. After we finished adding more stocks to our portfolio, it became more diversified, with not just technology companies in the mix. We now have investments towards companies in the healthcare, wholesale, consumer credit reporting, and oil industries to our portfolio, balancing out the technology-heavy portfolio.

Characteristics of Resulting Portfolio

Our resulting portfolio was a lot more diverse. Instead of keeping our portfolio to the same or similar industries, we added different types of industries to decrease the correlation, so if

one firm were doing poorly, we would not expect our whole portfolio to go down too (see Appendix C for Portfolio Allocation). After increasing our diversity in our portfolio, we were able to decrease the nonsystematic risk.

Performance

Our diversified stock selection has outperformed Professor Bhootra's portfolio which had a one hundred percent holding in the SPDR S&P 500 ETF Trust. The S&P 500 index is perhaps the most well-known stock index, and it includes a vast array of mutual funds and ETFs, which makes this a good benchmark to compare our portfolio to see how well it measured to the overall market. Warren Buffett is a famous face in the business world, and he praises the S&P 500 index, and he even bet on it over the most significant hedge funds and won the wager at the end of the year. In this case, over a span of four months, our diversified portfolio gained an overall return of 14.51% which amounted to \$14,510.99. Whereas, the portfolio invested fully in S&P500 acquired an overall performance of 5.81% which constituted a total gain of \$5,806.00.

It was not always the case as we started to invest in well-known companies like Nike, Snapchat, Tesla, Amazon, and Mazda at the beginning of the project and thought it was doing well at first. It was doing well momentarily, but our gains started to turn into losses into the second week and stayed as losses for a while due to personal behavioral biases such as overconfidence and conservatism biases. (see Appendix A for more information on our portfolio performance). For example, the disposition effect happened towards Tesla stocks when they were losing a lot of value which caused significant losses on our portfolio as we had about half our profile vested into Tesla because it did so well in the short-run of a couple of days in the beginning. We tend to hold onto losers too long and did not sell them, but when we started to sell

them, we started to get overconfident and have conservatism. It led us to underreact to information and also to have excessive trading which shows in the poor investment performance. The companies that we held onto longer than we should have are rather well-known companies and are known for doing well in the market, and the hope that it will go back up kept us from letting them go.

Risk Measures

In trading, beta is the measure of the volatility of a portfolio or security when compared to the broad market, and the market itself holds a beta of 1.0. Individual stocks get ranked according to how much they deviate from the macro market. High-beta stocks that are greater than 1.0 are seen to be riskier investments but also provide the potential for higher returns. On the other hand, low-beta stocks are the less risky option that imposes lower returns. For example, our top three performers: NKTR, INTC, SLCA all have betas over 1.0 and show high returns compared to the other ones in our portfolio. (see Appendix B for Top Five Performers to see beta comparisons) We also wanted to pick stocks with lower betas: EFX, SRAX (under 1.0) to even out the portfolio to prepare for volatile market conditions and help reduce our portfolio's overall sensitivity to market changes.

Conclusion

Working on this project taught us how to trade shares of stock in a real-world situation. One of the primary goals was to learn how to appropriately construct a diversified portfolio and apply the knowledge we gained from the course. We learned that you couldn't just buy from companies that we like and leave it like that and expect it to do well. We had to learn from our bad performance and to research companies that have an excellent recent history of outstanding

performance. We also learned there is a learning curve on what strategy of trading we should use depending on the stock and that it is easy to hit the wrong button and waste money accidentally.

If we get the chance to do this project again, we would be more conscious of the companies we choose to invest. We would make sure nothing wrong is going on in the news regarding the company and see if any rumors are hanging around that may affect the performance. Overall, the project was a great inside to the world of stock exchange and provided an excellent example of what it would be like in the real world of trading.

References

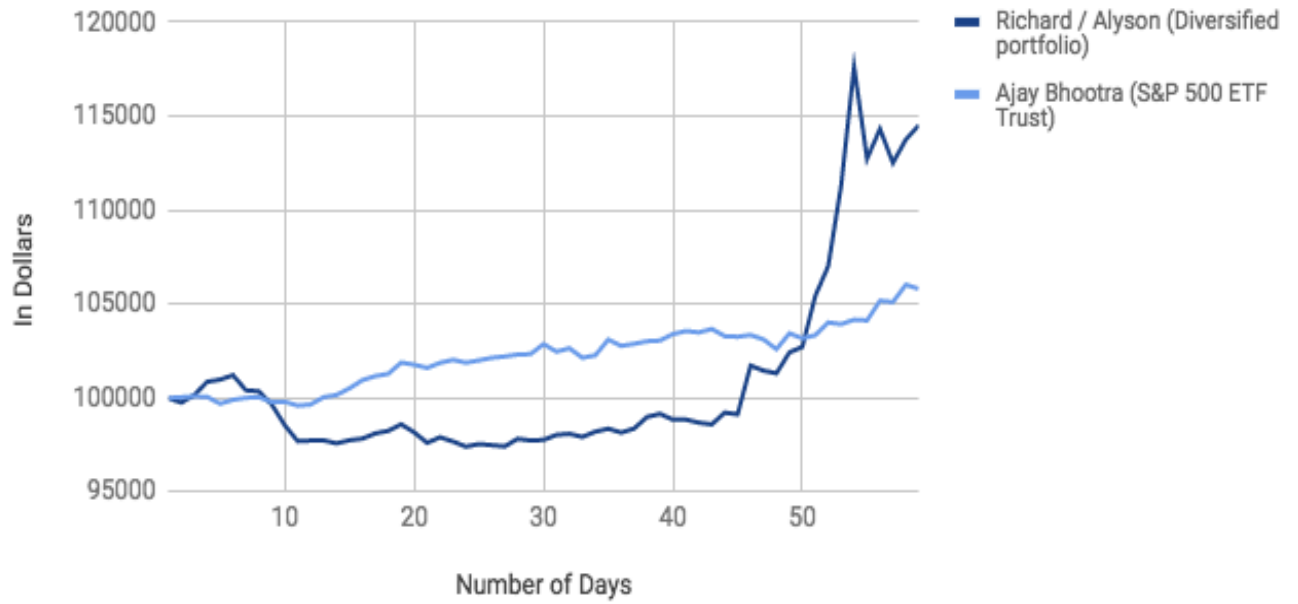
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Appendix A

Individual Portfolio Performance versus S&P 500

Portfolio Performance (9/12/17 - 12/01/17)



Appendix B

Top Five Performers

Symbol	% Holdings	Price	Value	Beta
NKTR	18%	\$51.92	\$21,336.00	1.83
INTC	17%	\$43.44	\$19,882.60	1.25
SLCA	14%	\$32.95	\$16,960.00	1.84
EFX	14%	\$114.39	\$16,939.50	0.91
SRAX	14%	\$5.16	\$16,500.00	0.83

Appendix C

Portfolio Allocation

Portfolio Allocation

