Bell/Chesser/Durar
Three Blind Mice: Project 3
21-Dec-2019

BACKGROUND

You and the members of your group are employed by an aspiring financial services company. Given the recent popularity of professionally managed investment funds that mimic the composition and performance of financial indexes, your group has been tasked with brainstorming alternative investment fund ideas to attract more assets to the firm.

At one extreme is the investment philosophy that random selection (no skill) often outperforms the financial professionals (skill) at finding individual businesses and industry sectors that demonstrate appreciating price potential. Investment folklore also plays a part in behavior. For example, the "buy low, sell high" approach is so obvious that it may not be taken seriously.

It is noted that it will be difficult to compel investors to purchase a fund that either chooses its investments at random or conversely follows a philosophy that is so complex that most investors simply lose interest.

Your group deems that the thirty "blue-chip" companies that make up the Dow Jones Industrial Average deserves further study. As previously mentioned, the companies in the Dow have been vetted (by an organization named S&P Dow Jones Indices LLC) for their quality. Furthermore, investors and non-investors alike are familiar with the names and business operations of these companies. Your group also adopts the "buy low, sell, high" approach with the promise that it may give this new fund better marketability.

This proposed fund will take the three worst performing Dow companies from the previous year and make a balanced (one-third allocation for each company) purchase of those same companies on the first business day of the current year. All the proceeds from the current year will be used to buy the worst performing Dow companies of that same year on the first business day of the next year. This process is to repeat for subsequent years: the group will begin its study for an approximate twenty-year window beginning on 1-Jan-2000 and ending on 15-Nov-2019.

While a study of this kind may have been done before, your group cannot find publicly available information of the same. It is also reasonably concluded that ample data exists for this study as the measurement known as the Dow Jones Industrial Average has existed since 1896. Your group decides to pursue this study. Internally, the company name for this project is "Three Blind Mice."

PROPOSAL

Analysis has concluded that there is merit to the Three Blind Mice (TBM) philosophy. To further legitimize the TBM approach, the group intends to use its newfound knowledge of intelligent algorithms that use machine learning to predict future outcomes.

The linear regression model will be applied to the past performance of the TBM portfolio in attempt to predict its value two, five, and ten years into the future.

To determine the relevancy of politics to investing, the logistic regression model will be applied to the past performance of the Dow Jones Industrial Average industry sectors. Is there a correlation between "good" or "bad" years of investment performance and the political affiliation of the President in office at that time?

DATA

Quandl (https://www.quandl.com/).

VISUALS

- Interactive bar chart (drop-down) illustrating the annual performance of the Dow Jones Industrial Average companies from 1-Jan-2000 to 31-Dec-2018. There is still the intent to identify the three worst performing companies using a unique color.
- Line graph illustrating the performance of Three Blind Mice portfolio to the Dow Jones Industrial Average Index and the S&P 500 Index benchmarks.
- Scatter plot illustrating the performance of Three Blind Mice portfolio to the Dow Jones Industrial Average Index and the S&P 500 Index benchmarks along with their corresponding trendlines for two-, five-, and ten-year predictive values.
- An "as yet to be determined" visual showing the Dow Jones Industrial Average industry sectors performance for each year against the political affiliation of the President in office for that same year.