Bell/Chesser/Durar
Three Blind Mice
23-Nov-2019

**PROPOSAL**

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 businesses or industries demonstrating appreciating price potential. With that said, 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 for their quality. Furthermore, investors and non-investors alike are familiar with the names and business operations of these companies. Your group also decides that the time-tested advice of "buy low, sell, high" may give this new fund more 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."

**DATA**

Kaggle:

- "Dow Jones 1/jan/200 to 6/dec/2017": https://www.kaggle.com/dantest232/dow-jones-1jan2000-to-6dec2017.
- "EOD data for all Dow Jones stocks": https://www.kaggle.com/timoboz/stock-data-dow-jones.

More data study is needed.

**VISUALS**

- Interactive bar chart (drop-down) illustrating the annual performance of the thirty Dow Jones Industrial Average companies from 1-Jan-2000 to 15-Nov-2019. The three worst performing companies could be identified using a color different than the other twenty-seven.
- Line graph illustrating the performance of Three Blind Mice to commonly used benchmarks like the Dow Jones Industrial Average Index and the S&P 500 Index.

More visuals study is needed.

**PRACTICE**

- The thirty Dow Jones Industrial Average components of today aren't the same as twenty years ago. In fact, these components have changed many times in our study time period.
- Seventeen of the thirty Dow Jones Industrial Average components have been consistent looking back to 1-Jan-2000.
- These are the seventeen companies that we used for our study.
- While the data can be obtained for these past years, it very expensive (like five-figures expensive).
- The Kaggle data (free) limitation was the need to pull from two distinct data sources. From a data analytics perspective, we were able to merge these sources together. However, one set did not have all the data that was needed to accurately present the study.
- Adjusted open/closing price versus open/closing price: **The closing price of a stock is the price of that stock at the close of the trading day.**
  **The adjusted closing price is a more complex analysis that uses the closing price as a starting point, but takes into account factors such as dividends, stock splits and new stock offerings to determine a value.**
- We found Quandl to be our best (price versus information) data source option. A one-month subscription (forty dollars) was purchased.
- Python/Pandas analysis to obtain the first and last business day activity for each of our seventeen companies.

- That data allowed us to build an SQLite database with three data tables used to present our results:
    - The financial performance of each of the seventeen companies for the years 2000 to 2019.
    - Metadata stating the three worst performers from each year.
    - Combined performance data showing the Three Blind Mice Portfolio versus the Dow Jones Industrials Index and the Standard & Poor's 500 Index.

Note:

**An index fund is a portfolio of stocks or bonds designed to mimic the composition and performance of a financial market index. Index funds have lower expenses and fees than actively managed funds. Index funds follow a passive investment strategy.**