

# Portfolio Report

## Project for Financial Modeling I

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### Executive Summary

#### Introduction and Methodology

- In recent years, index investing has gained popularity, particularly in the United States.
- The Dow Jones Industrial Average (DJIA) is one of the most renowned indices globally.
- Our objective is to construct an enhanced index portfolio based on the DJIA.
- Common approaches include active management and smart beta strategies.
- Due to our limited investment horizon, active management may incur high transaction costs, and smart beta strategies may not outperform in the short term.
- We employ a simple buy-and-hold strategy through a mean-variance optimized portfolio, maintaining the same factor exposure as the DJIA.

#### Portfolio Overview

- Backtesting approach and results
- Final portfolio:
- Industry-level allocation (illustrated with a pie chart)
- Factor exposure (depicted in a time series plot)
- Stock-level allocation (presented in a table)

TODOs:

- Create plots and gather data

#### Performance Analysis

##### Performance Overview

- Raw Return (compared to the DJIA index and the overall market):
- Daily returns (displayed in a time series plot)

- Cumulative returns
- Expected annualized return
- Risk Measures:
- Volatility
- Value at Risk (VaR)
- Maximum Drawdown
- Risk-adjusted Return:
- Sharpe Ratio
- Sortino Ratio
- Calmar Ratio

TODOs:

- ☐ Collect daily data for:
  - 20 stocks
  - DJIA index
  - CRSP market index (entire market)
  - Risk-free rate (90-day T-bill)
  - Fama-French 5 factors + momentum
- ☐ Compute performance ratios

### Style Analysis

- Industry-level performance
- Factor exposure (excess return vs. factor return)
- Stock-level performance

TODOs:

- ☐ Calculate industry-level performance
- ☐ Conduct factor exposure regression

### Tariffs Period Review (04/03 - 04/12)

Date range may not be accurate

- Impact of tariffs on portfolio performance:
- Overall market
- DJIA index
- Industry impact
- Factor impact (factor return)
- ☐ Compute performance for the period
- ☐ Analyze impact of tariffs on portfolio performance

### Conclusion