Reality Check Hypothesis Test

Performance statistic:

$$\bar{f} = n^{-1} \sum_{t=R}^{T} \hat{f}_{t+1}, \qquad \bar{f} \in R^L$$

L- number of trading rules

$\{f_k\}$- excess log return of trading rule over benchmark

Does the best trading rule outperform the benchmark?

$$H_0 : max_{k=1,\ldots,L}\{E(f_k)\} \leq 0$$

Our "Universe" of trading rules

Moving-Average Crossover Rule:

Fast MA - $n_1 = 5$, $n_2 = 10$

Slow MA - $m_1 = 50$, $m_2 = 150$

Trading Signals:

- Fixed percentage band filter: $b = 0.01$
- Time delay filter: $d = 5$
- Position held filter (ignore all other signals): $c = 10$

Result: $p = 0.44$

Moving Average Crossover vs. Buy-and-Hold