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Homework 1

Assumptions:

No market frictions (i.e. transaction costs, spreads), rebalanced quarterly, reconstituted annually.

S&P Replication Results:

S&P was replicated by using the top 250 companies, by market cap at each quarter, and dividends are reinvested on the day received into the 10 largest companies that day. Weighting our portfolio more heavily to the largest stocks in a period when large stocks outperformed is likely what contributed to our outperformance over the period. In addition to our assumption of no transaction cost.

(Annualised)	Replicating Portfolio	S&P Index	Mutual Fund (VFIAX)	ETF (VOO)
Return	13.77 %	11.76%	11.89%	11.75%
STDEV	16.55%	16.70%	16.00%	16.67%
Tracking Error	NA	1.05%	2.9%	1.8%



DOW Replication Results:

Dow was replicated using price weighted averaging.

(Annualised)	Replicating Portfolio	DOW Index	Mutual Fund (VTSMX)	ETF (DIA)
Return	10.18%	11.30%	11.35%	11.32%
STDEV	17.21%	16.28%	17.80%	16.39%
Tracking Error	NA	3.60%	4.41%	3.59%

