

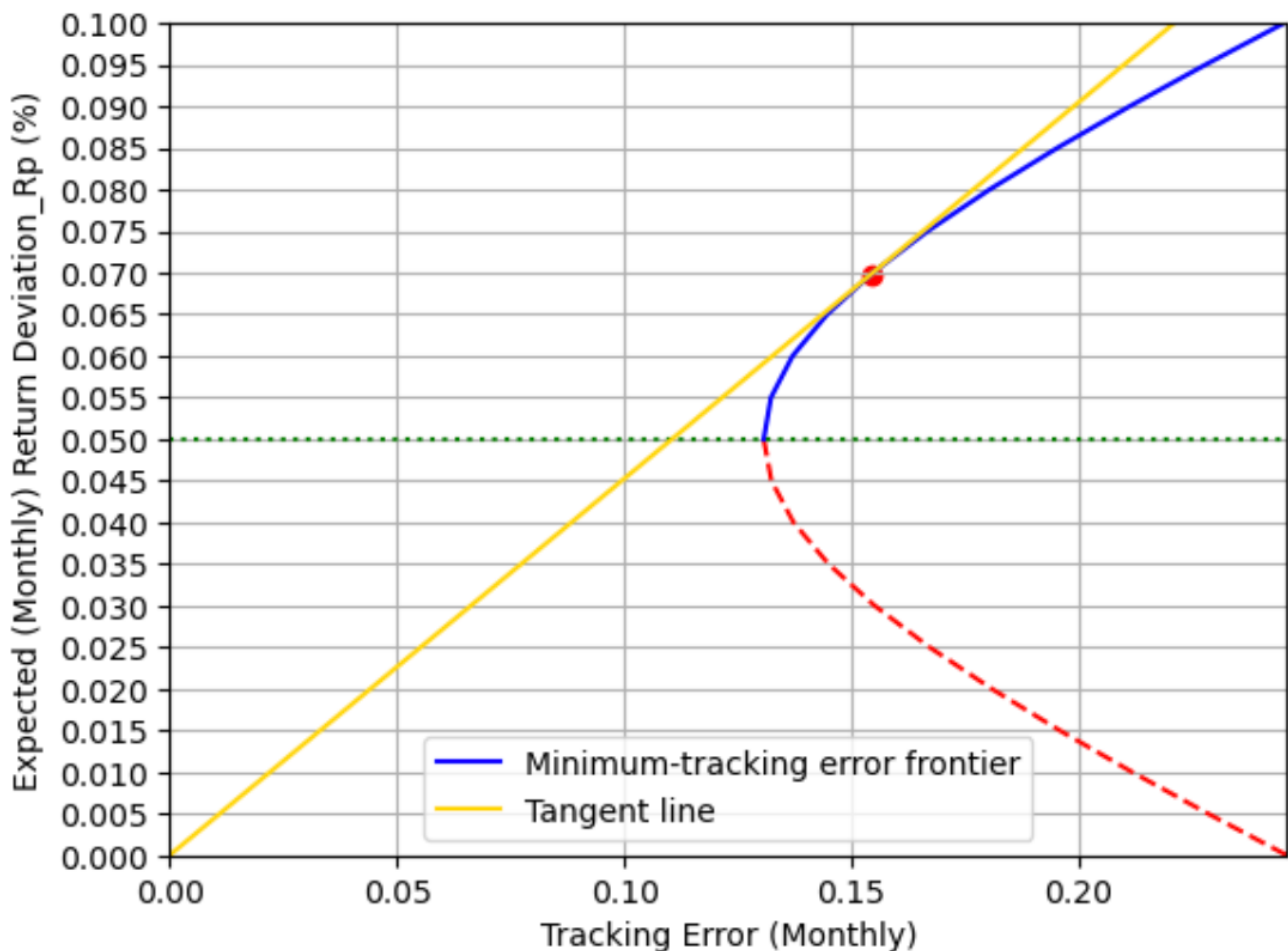
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QF600 – Asset Pricing

Homework 4

Part 1: Minimum-Tracking-Error Frontier

Plot the minimum-tracking-error frontier generated by the ten industry portfolios. This graph must have expected (monthly) return deviation on the vertical axis vs (monthly) tracking error on the horizontal axis. This graph must cover the range from 0% to 0.1% on the vertical axis, in increments of 0.005% (or less). Also plot the line starting from the origin that is tangent to the upper half of the minimum-tracking-error frontier.



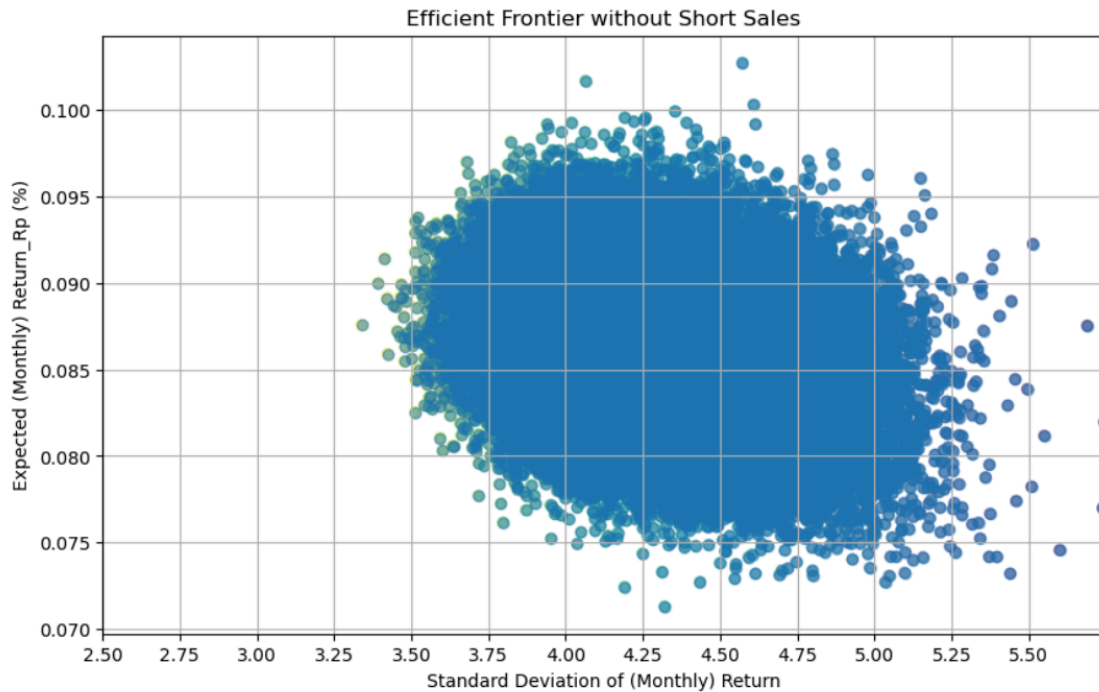
Calculate the information ratio and portfolio weights for the "tangency" portfolio.

Information ratio = 0.452487539619932

Industry_Portfolios		Portfolio Weight
1	NoDur	0.052634
2	Durbl	0.000153
3	Manuf	0.137627
4	Enrgy	0.087032
5	HiTec	0.179353
6	Telcm	0.071074
7	Shops	0.106884
8	Hlth	0.102776
9	Utils	0.040162
10	Other	0.222304

Part 2: Minimum-Variance Frontier w/o Short Sales

- Plot the data points with mean return on the vertical axis vs standard deviation of return on the horizontal axis. -> With normalized w



- Plot the new data points (on a separate graph) with mean return on the vertical axis vs standard deviation of return on the horizontal axis -> With normalized $1/w$

