

1 Results

For the following results we consider 3 types of parameterizations for the portfolio problem. The first is a simple case where the assets are identically distributed as seen in (Cai, Judd and Xu 2013), the second is a case where the parameters are chosen to match the parameters in (Schober, Valentin and Pflüger 2022), and the last is a modification of the first case where the correlation between the assets is larger (correlation coefficient of 0.75).

Table 1: Parameters for Examples of Portfolio Problems

	i.i.d Assets	Schober Parameters	High Correlation
k	3	5	3
γ	3.0	3.5	3.0
τ	0.5%	0.5%	0.5%
β	0.97	0.97	0.97
r	3%	4%	3%
μ^\top	(0.07, 0.07, 0.07)	μ_{Schober}	(0.07, 0.07, 0.07)
Σ	$\begin{bmatrix} 0.04 & 0.00 & 0.00 \\ 0.00 & 0.04 & 0.00 \\ 0.00 & 0.00 & 0.04 \end{bmatrix}$	Σ_{Schober}	$\begin{bmatrix} 0.04 & 0.03 & 0.03 \\ 0.03 & 0.04 & 0.03 \\ 0.03 & 0.03 & 0.04 \end{bmatrix}$

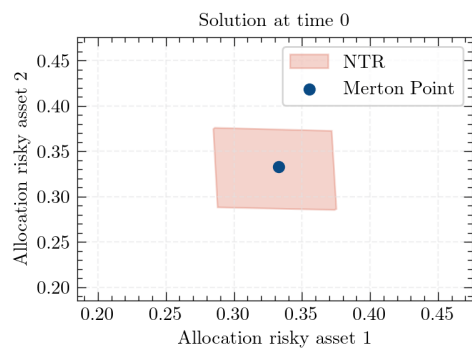
$$\mu_{\text{Schober}}^\top = \begin{bmatrix} 0.0572 & 0.0638 & 0.07 & 0.0764 & 0.0828 \end{bmatrix}$$

$$\Sigma_{\text{Schober}} = \begin{bmatrix} 0.0256 & 0.00576 & 0.00288 & 0.00176 & 0.00096 \\ 0.00576 & 0.0324 & 0.0090432 & 0.010692 & 0.01296 \\ 0.00288 & 0.0090432 & 0.04 & 0.0132 & 0.0168 \\ 0.00176 & 0.010692 & 0.0132 & 0.0484 & 0.02112 \\ 0.00096 & 0.01296 & 0.0168 & 0.02112 & 0.0576 \end{bmatrix}$$

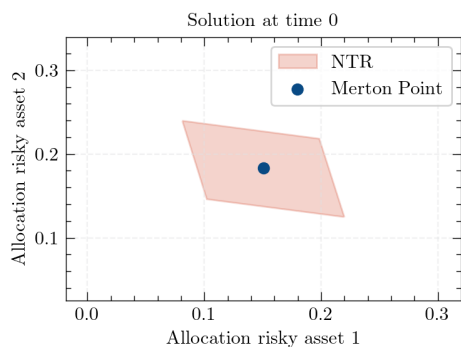
1.1 Dynamic Portfolio Choice without consumption

I first consider the base model with proportional transaction costs and no consumption. In the absence of consumption, the optimal portfolio is the merton points, which we plot in every figure. I plot the No-trade region at time point 0 (initial time point) for each of the parameterizations in Figure 1.1.

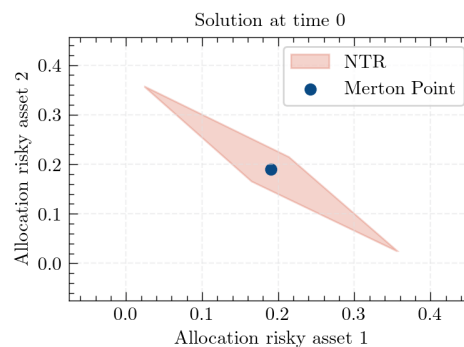
Figure 1.1: Comparison of No Trade Regions.



(a) No Trade Region for Independent Identically Distributed Assets.



(b) No Trade Region for Schober Parameters.



(c) No Trade Region for High Correlation.