Nonparametric Sharpe Ratio Function Estimation in Heteroscedastic Regression Models via Convex Optimization

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This document contains supplementary details for the paper "Nonparametric Sharpe Ratio Function Estimation in Heteroscedastic Regression Models via Convex Optimization." All section, equation, table, and figure numbers in this supplementary document are preceded by the letter S (all section, equation, table, and figure numbers without an S refer to the main paper).

S1 Additional numerical results for Examples 1 and 2

1. Table corresponding to Figure 1: summary statistics for the mean absolute deviation $\mathcal{E}_{\mathrm{MAD}}$ from the estimation of the Sharpe ratio function $f(x) = a(X_i + 2\exp(-16X_i^2))/(0.4\exp(-2X_i^2) + 0.2)$ in Example 1.

Table S1: mean±std, `NA` removed.

	method		
	proposed	residual	difference
$a =$			
0.5	0.3387±0.0339	0.4052±0.1449	0.7415±0.1057
1	0.6714±0.1875	0.7579±0.3371	1.4457±0.2090
2	1.2112±0.3491	1.5472±0.6749	2.9315±0.3723
4	2.3979±0.6788	3.3665±2.0591	6.5980±1.0484

2. Table corresponding to Figure 3: summary statistics for the mean absolute deviation $\mathcal{E}_{\mathrm{MAD}}$ from the estimation of the Sharpe ratio function $f(x) = \frac{3}{4}\sin(b\pi x)/\sqrt{(x-1/2)^2 + 1/2}$ in Example 2.

Table S2: mean±std, `NA` removed.

	method		
	proposed	residual	difference
$b =$			
0	0.1141±0.0447	0.0885±0.0470	0.0623±0.0326
10	0.2524±0.0426	0.6020±0.0604	0.6051±0.0532
20	0.4556±0.0247	0.6272±0.0082	0.6248±0.0075
40	0.5526±0.0211	0.6295±0.0085	0.6262±0.0065