

Supplementary Material A

The following tables present bias and RMSE information for Figures 7, 9, and 10. Bias has been calculated as

$$Bias = \frac{1}{N} \sum_{i=1}^N (\hat{\beta}_i - \beta_{True})$$

and RMSE has been calculated as

$$RMSE = \sqrt{\frac{1}{N} \sum_{i=1}^N (\hat{\beta}_i - \beta_{True})^2},$$

where β is being used to indicate any parameter of interest (i.e., dissipation β , mean input μ , or input variance σ^2), and N is the total number of estimates

Table 1: Estimates of Bias and RMSE for the Dissipation Parameter β

		Input Frequency							
		12.5%	25%	50%	100%	12.5%	25%	50%	100%
β True	Bias					RMSE			
Time Series Length = 25									
-0.10	-0.03	-0.02	-0.01	0.01	0.10	0.09	0.09	0.07	
-0.20	-0.00	0.01	0.02	0.06	0.13	0.11	0.12	0.12	
-0.30	0.00	0.03	0.06	0.12	0.14	0.14	0.15	0.17	
-0.40	-0.02	0.03	0.10	0.16	0.22	0.18	0.18	0.22	
-0.50	-0.05	0.04	0.13	0.22	0.28	0.24	0.22	0.28	
-0.60	-0.09	0.02	0.16	0.28	0.36	0.28	0.28	0.34	
-0.70	-0.14	-0.00	0.17	0.34	0.44	0.32	0.31	0.41	
-0.80	-0.19	-0.03	0.20	0.39	0.48	0.37	0.35	0.47	
-0.90	-0.22	-0.07	0.20	0.45	0.49	0.42	0.39	0.53	
Time Series Length = 50									
-0.10	0.01	0.02	0.02	0.04	0.05	0.06	0.06	0.06	
-0.20	0.02	0.04	0.07	0.10	0.08	0.08	0.10	0.12	
-0.30	0.03	0.06	0.11	0.16	0.09	0.11	0.14	0.19	
-0.40	0.01	0.07	0.14	0.22	0.14	0.13	0.18	0.25	
-0.50	0.01	0.07	0.17	0.29	0.17	0.15	0.22	0.32	
-0.60	-0.02	0.06	0.19	0.35	0.21	0.18	0.25	0.39	
-0.70	-0.05	0.06	0.21	0.42	0.27	0.20	0.29	0.46	
-0.80	-0.08	0.05	0.22	0.49	0.30	0.23	0.31	0.53	
-0.90	-0.08	0.06	0.26	0.55	0.30	0.25	0.35	0.59	
Time Series Length = 100									
-0.10	0.02	0.03	0.04	0.05	0.04	0.05	0.06	0.07	
-0.20	0.03	0.05	0.08	0.12	0.06	0.07	0.10	0.13	
-0.30	0.03	0.06	0.11	0.19	0.08	0.09	0.14	0.20	
-0.40	0.02	0.06	0.14	0.25	0.10	0.11	0.17	0.27	
-0.50	0.01	0.07	0.16	0.31	0.12	0.12	0.19	0.33	
-0.60	0.00	0.07	0.19	0.39	0.13	0.14	0.23	0.40	
-0.70	0.00	0.07	0.21	0.45	0.15	0.15	0.25	0.47	
-0.80	-0.01	0.08	0.23	0.51	0.16	0.17	0.28	0.54	
-0.90	-0.01	0.08	0.25	0.58	0.17	0.19	0.31	0.60	

Table 2: Estimates of Bias and RMSE for the Mean of the Input Distribution μ

		True β							
		-0.2	-0.4	-0.6	-0.8	-0.2	-0.4	-0.6	-0.8
Input Freq	μ True	Bias				RMSE			
Time Series Length = 25									
12.5% & 25%	0.12	-0.00	0.01	0.03	0.04	0.12	0.12	0.16	0.15
12.5% & 25%	0.17	0.00	0.02	0.04	0.08	0.15	0.19	0.18	0.29
12.5% & 25%	0.25	0.01	0.00	0.02	0.06	0.25	0.21	0.23	0.26
12.5% & 25%	0.33	-0.03	-0.02	-0.01	0.03	0.25	0.20	0.23	0.25
12.5% & 25%	0.50	-0.03	-0.04	-0.01	0.07	0.36	0.35	0.35	0.41
50% & 100%	0.50	-0.06	-0.11	-0.13	-0.11	0.33	0.27	0.28	0.25
50% & 100%	0.67	-0.12	-0.15	-0.17	-0.16	0.42	0.36	0.41	0.36
50% & 100%	1.00	-0.20	-0.33	-0.34	-0.37	0.64	0.55	0.56	0.54
50% & 100%	1.33	-0.38	-0.56	-0.64	-0.63	0.85	0.78	0.78	0.79
50% & 100%	2.00	-0.56	-0.77	-0.92	-0.97	1.20	1.17	1.18	1.22
Time Series Length = 50									
12.5% & 25%	0.12	-0.02	0.00	0.02	0.03	0.08	0.08	0.09	0.10
12.5% & 25%	0.17	-0.01	0.01	0.02	0.04	0.11	0.12	0.12	0.14
12.5% & 25%	0.25	-0.04	-0.01	0.02	0.04	0.14	0.14	0.15	0.17
12.5% & 25%	0.33	-0.06	-0.06	-0.01	0.00	0.17	0.15	0.14	0.14
12.5% & 25%	0.50	-0.10	-0.08	-0.02	0.01	0.27	0.22	0.24	0.23
50% & 100%	0.50	-0.17	-0.17	-0.15	-0.13	0.27	0.24	0.21	0.22
50% & 100%	0.67	-0.25	-0.22	-0.21	-0.18	0.36	0.31	0.30	0.28
50% & 100%	1.00	-0.43	-0.46	-0.45	-0.45	0.58	0.56	0.56	0.56
50% & 100%	1.33	-0.69	-0.73	-0.79	-0.80	0.82	0.82	0.85	0.87
50% & 100%	2.00	-1.03	-1.11	-1.18	-1.23	1.29	1.24	1.30	1.33
Time Series Length = 100									
12.5% & 25%	0.12	-0.02	0.00	0.01	0.03	0.05	0.06	0.06	0.07
12.5% & 25%	0.17	-0.02	0.00	0.02	0.03	0.08	0.07	0.08	0.09
12.5% & 25%	0.25	-0.04	-0.01	0.01	0.02	0.11	0.10	0.10	0.11
12.5% & 25%	0.33	-0.08	-0.04	-0.01	0.00	0.14	0.12	0.11	0.11
12.5% & 25%	0.50	-0.11	-0.07	-0.03	-0.00	0.22	0.16	0.17	0.16
50% & 100%	0.50	-0.21	-0.17	-0.16	-0.13	0.26	0.21	0.20	0.18
50% & 100%	0.67	-0.27	-0.23	-0.20	-0.17	0.34	0.29	0.26	0.24
50% & 100%	1.00	-0.52	-0.50	-0.46	-0.45	0.60	0.56	0.54	0.54
50% & 100%	1.33	-0.84	-0.83	-0.87	-0.86	0.90	0.88	0.91	0.90
50% & 100%	2.00	-1.21	-1.27	-1.28	-1.27	1.34	1.34	1.34	1.34

Table 3: Estimates of Bias and RMSE for the Variance of the Input Distribution σ^2

		True β							
		-0.2	-0.4	-0.6	-0.8	-0.2	-0.4	-0.6	-0.8
Input Freq	μ True	Bias				RMSE			
Time Series Length = 25									
12.5% & 25%	0.23	-0.01	0.00	0.03	0.02	0.31	0.40	0.50	0.40
12.5% & 25%	0.41	-0.01	0.04	-0.01	0.12	0.55	0.93	0.54	1.01
12.5% & 25%	0.44	-0.02	-0.02	-0.07	0.02	0.44	0.46	0.38	0.55
12.5% & 25%	0.78	-0.07	0.04	-0.04	-0.03	0.81	0.97	1.00	0.94
12.5% & 25%	0.93	0.15	0.01	0.12	0.05	1.65	1.62	1.78	1.67
12.5% & 25%	1.75	-0.02	-0.07	-0.12	0.14	2.16	2.22	2.10	2.41
50% & 100%	0.75	-0.05	-0.11	-0.13	-0.06	0.57	0.54	0.62	0.66
50% & 100%	1.00	-0.03	-0.13	-0.26	-0.22	0.79	0.66	0.62	0.75
50% & 100%	1.33	-0.18	-0.16	-0.20	-0.22	0.89	1.13	1.31	1.27
50% & 100%	1.77	-0.12	-0.26	-0.48	-0.43	1.26	1.34	1.15	1.37
50% & 100%	3.00	-0.35	-0.50	-0.28	-0.52	2.20	2.23	3.02	2.50
50% & 100%	4.01	-0.22	-0.65	-0.95	-1.03	2.96	2.88	2.67	2.99
Time Series Length = 50									
12.5% & 25%	0.23	-0.02	-0.01	-0.00	0.02	0.23	0.22	0.24	0.30
12.5% & 25%	0.41	-0.01	0.01	-0.00	0.02	0.41	0.49	0.48	0.45
12.5% & 25%	0.44	-0.04	-0.02	-0.02	0.00	0.29	0.32	0.36	0.34
12.5% & 25%	0.78	-0.07	-0.12	-0.06	-0.06	0.53	0.53	0.52	0.54
12.5% & 25%	0.93	-0.05	-0.05	0.07	0.01	0.89	0.89	1.23	1.02
12.5% & 25%	1.75	-0.21	-0.16	-0.04	-0.11	1.22	1.35	1.40	1.26
50% & 100%	0.75	-0.11	-0.13	-0.12	-0.07	0.44	0.40	0.45	0.53
50% & 100%	1.00	-0.20	-0.28	-0.34	-0.38	0.57	0.50	0.53	0.59
50% & 100%	1.33	-0.23	-0.23	-0.21	-0.25	0.73	0.72	0.72	0.76
50% & 100%	1.77	-0.39	-0.47	-0.58	-0.63	0.88	0.86	0.95	1.02
50% & 100%	3.00	-0.49	-0.54	-0.64	-0.60	1.66	1.60	1.62	1.69
50% & 100%	4.01	-0.83	-1.07	-1.27	-1.49	2.05	1.97	2.20	2.36
Time Series Length = 100									
12.5% & 25%	0.23	-0.02	-0.00	-0.00	0.01	0.18	0.16	0.17	0.19
12.5% & 25%	0.41	-0.01	-0.02	-0.01	-0.01	0.29	0.28	0.30	0.31
12.5% & 25%	0.44	-0.05	-0.02	-0.03	-0.04	0.23	0.23	0.23	0.24
12.5% & 25%	0.78	-0.08	-0.04	-0.03	-0.04	0.38	0.42	0.39	0.43
12.5% & 25%	0.93	-0.06	-0.03	-0.01	-0.02	0.63	0.61	0.65	0.72
12.5% & 25%	1.75	-0.21	-0.18	-0.10	-0.05	0.83	0.82	0.99	0.98
50% & 100%	0.75	-0.15	-0.13	-0.14	-0.11	0.33	0.31	0.32	0.31
50% & 100%	1.00	-0.28	-0.33	-0.36	-0.38	0.46	0.46	0.48	0.50
50% & 100%	1.33	-0.24	-0.24	-0.24	-0.18	0.60	0.52	0.52	0.59
50% & 100%	1.77	-0.49	-0.56	-0.67	-0.65	0.80	0.81	0.85	0.87
50% & 100%	3.00	-0.59	-0.64	-0.57	-0.40	1.30	1.23	1.23	1.21
50% & 100%	4.01	-1.22	-1.33	-1.46	-1.53	1.87	1.87	1.97	2.13