

Supplementary Table 4

Coverage and Non-Coverage Rates of the Lower Order Effects

Sample	Statistical	$\alpha$																				
		CPI						GAPI						UPI						LMS		
		Size	Distribution	Power	cov (ML)	> $\alpha$ (ML)	< $\alpha$ (ML)	cov (SB)	> $\alpha$ (SB)	< $\alpha$ (SB)	cov (ML)	> $\alpha$ (ML)	< $\alpha$ (ML)	cov (SB)	> $\alpha$ (SB)	< $\alpha$ (SB)	cov (ML)	> $\alpha$ (ML)	< $\alpha$ (ML)	cov (ML)	> $\alpha$ (ML)	< $\alpha$ (ML)
100 Normal	0.7	0.915 *	0.039	0.046	0.901 *	0.047	0.052	0.935 *	0.031 *	0.034 *	0.922 *	0.039	0.039	0.932 *	0.035 *	0.033 *	0.918 *	0.041	0.041	0.915 *	0.042	0.043
100 Uniform	0.7	0.929 *	0.051	0.020 *	0.903 *	0.066	0.031 *	0.956 *	0.032 *	0.012	0.937 *	0.043	0.020 *	0.958 *	0.031 *	0.011	0.939 *	0.044	0.017 *	0.916 *	0.056	0.028 *
100 K1	0.7	0.922 *	0.026 *	0.052	0.915 *	0.028 *	0.057	0.920 *	0.039	0.041	0.904 *	0.048	0.048	0.924 *	0.042	0.034 *	0.910 *	0.047	0.043	0.931 *	0.027 *	0.042
100 K2	0.7	0.929 *	0.021 *	0.050	0.924 *	0.021 *	0.055	0.942 *	0.030 *	0.028 *	0.929 *	0.039	0.032 *	0.946 *	0.028 *	0.026 *	0.933 *	0.038	0.029 *	0.935 *	0.022 *	0.043
100 $\chi^2_1$	0.7	0.915 *	0.019 *	0.066	0.917 *	0.022 *	0.061	0.942 *	0.036 *	0.022 *	0.929 *	0.042	0.029 *	0.940 *	0.039	0.021 *	0.926 *	0.048	0.026 *	0.923 *	0.015 *	0.062
200 Normal	0.7	0.934 *	0.039	0.027 *	0.929 *	0.039	0.032 *	0.938 *	0.035 *	0.027 *	0.931 *	0.038	0.031 *	0.934 *	0.039	0.027 *	0.928 *	0.044	0.028 *	0.926 *	0.039	0.035 *
200 Uniform	0.7	0.936 *	0.037	0.027 *	0.916 *	0.047	0.037	0.941 *	0.031 *	0.028 *	0.935 *	0.034 *	0.031 *	0.944 *	0.030 *	0.026 *	0.936 *	0.035 *	0.029 *	0.935 *	0.034 *	0.031 *
200 K1	0.7	0.937 *	0.017 *	0.046	0.939 *	0.019 *	0.042	0.939 *	0.031 *	0.030 *	0.934 *	0.033 *	0.033 *	0.934 *	0.033 *	0.033 *	0.925 *	0.039	0.036 *	0.938 *	0.023 *	0.039
200 K2	0.7	0.939 *	0.018 *	0.043	0.951 *	0.017 *	0.032 *	0.930 *	0.042	0.028 *	0.923 *	0.044	0.033 *	0.934 *	0.041	0.025 *	0.925 *	0.043	0.032 *	0.939 *	0.025 *	0.036 *
200 $\chi^2_1$	0.7	0.886	0.015 *	0.099	0.898	0.013	0.089	0.920 *	0.038	0.042	0.912 *	0.042	0.046	0.917 *	0.041	0.042	0.914 *	0.041	0.045	0.887	0.013	0.100
500 Normal	0.7	0.943 *	0.026 *	0.031 *	0.938 *	0.029 *	0.033 *	0.943 *	0.024 *	0.033 *	0.942 *	0.025 *	0.033 *	0.943 *	0.025 *	0.032 *	0.943 *	0.026 *	0.031 *	0.935 *	0.029 *	0.036 *
500 Uniform	0.7	0.931 *	0.041	0.028 *	0.922 *	0.048	0.030 *	0.939 *	0.031 *	0.030 *	0.943 *	0.029 *	0.028 *	0.936 *	0.033 *	0.031 *	0.938 *	0.032 *	0.030 *	0.942 *	0.034 *	0.024 *
500 K1	0.7	0.932 *	0.018 *	0.050	0.954 *	0.012	0.034 *	0.928 *	0.046	0.026 *	0.923 *	0.049	0.028 *	0.929 *	0.044	0.027 *	0.926 *	0.047	0.027 *	0.935 *	0.030 *	0.035 *
500 K2	0.7	0.920 *	0.017 *	0.063	0.942 *	0.013	0.045	0.924 *	0.034 *	0.042	0.924 *	0.033 *	0.043	0.924 *	0.035 *	0.041	0.924 *	0.035 *	0.041	0.926 *	0.022 *	0.052
500 $\chi^2_1$	0.7	0.833	0.006	0.161	0.873	0.002	0.125	0.930 *	0.032 *	0.038	0.928 *	0.034 *	0.038	0.928 *	0.034 *	0.036 *	0.930 *	0.034 *	0.036 *	0.830	0.004	0.166
1000 Normal	0.7	0.927 *	0.030 *	0.043	0.925 *	0.031 *	0.044	0.928 *	0.032 *	0.040	0.929 *	0.031 *	0.040	0.927 *	0.032 *	0.041	0.928 *	0.033 *	0.039	0.925 *	0.027 *	0.048
1000 Uniform	0.7	0.929 *	0.035 *	0.036 *	0.924 *	0.037	0.039	0.932 *	0.031 *	0.037	0.936 *	0.030 *	0.034 *	0.932 *	0.031 *	0.037	0.934 *	0.030 *	0.036 *	0.925 *	0.038	0.037
1000 K1	0.7	0.929 *	0.019 *	0.052	0.951 *	0.014 *	0.035 *	0.934 *	0.035 *	0.031 *	0.933 *	0.036 *	0.031 *	0.933 *	0.035 *	0.032 *	0.932 *	0.036 *	0.032 *	0.934 *	0.025 *	0.041
1000 K2	0.7	0.921 *	0.013	0.066	0.952 *	0.008	0.040	0.934 *	0.035 *	0.031 *	0.933 *	0.034 *	0.033 *	0.934 *	0.034 *	0.032 *	0.933 *	0.033 *	0.034 *	0.927 *	0.018 *	0.055
1000 $\chi^2_1$	0.7	0.765	0.002	0.233	0.814	0.001	0.185	0.926 *	0.032 *	0.042	0.928 *	0.031 *	0.041	0.925 *	0.032 *	0.043	0.921 *	0.034 *	0.045	0.753	0.002	0.245
5000 Normal	0.7	0.926 *	0.039	0.035 *	0.927 *	0.039	0.034 *	0.924 *	0.038	0.038	0.925 *	0.039	0.036 *	0.924 *	0.038	0.038	0.925 *	0.038	0.037	0.920 *	0.042	0.038
5000 Uniform	0.7	0.942 *	0.033 *	0.025 *	0.936 *	0.035 *	0.029 *	0.936 *	0.031 *	0.033 *	0.937 *	0.031 *	0.032 *	0.937 *	0.031 *	0.032 *	0.939 *	0.031 *	0.030 *	0.934 *	0.029 *	0.052
5000 K1	0.7	0.909 *	0.015 *	0.076	0.944 *	0.006	0.050	0.926 *	0.035 *	0.039	0.926 *	0.035 *	0.039	0.926 *	0.035 *	0.039	0.926 *	0.035 *	0.039	0.927 *	0.021 *	0.052
5000 K2	0.7	0.916 *	0.014 *	0.070	0.956 *	0.009	0.035 *	0.938 *	0.032 *	0.030 *	0.938 *	0.032 *	0.030 *	0.937 *	0.033 *	0.030 *	0.938 *	0.033 *	0.029 *	0.936 *	0.017 *	0.047
5000 $\chi^2_1$	0.7	0.390	0.000	0.610	0.478	0.000	0.522	0.933 *	0.035 *	0.032 *	0.935 *	0.035 *	0.030 *	0.933 *	0.035 *	0.032 *	0.935 *	0.034 *	0.031 *	0.332	0.000	0.668
100 Normal	0.9	0.932 *	0.039	0.029 *	0.922 *	0.045	0.033 *	0.948 *	0.030 *	0.022 *	0.940 *	0.034 *	0.026 *	0.946 *	0.036 *	0.018 *	0.933 *	0.043	0.024 *	0.926 *	0.045	0.029 *
100 Uniform	0.9	0.919 *	0.051	0.030 *	0.891	0.069	0.040	0.950 *	0.026 *	0.024 *	0.936 *	0.033 *	0.031 *	0.945 *	0.034 *	0.021 *	0.935 *	0.040	0.025 *	0.915 *	0.050	0.035 *
100 K1	0.9	0.926 *	0.027 *	0.047	0.924 *	0.027 *	0.049	0.933 *	0.035 *	0.032 *	0.923 *	0.041	0.036 *	0.929 *	0.041	0.030 *	0.915 *	0.049	0.036 *	0.933 *	0.030 *	0.037
100 K2	0.9	0.918 *	0.027 *	0.055	0.915 *	0.031 *	0.054	0.926 *	0.039	0.035 *	0.918 *	0.044	0.038	0.924 *	0.041	0.035 *	0.910 *	0.049	0.041	0.917 *	0.031 *	0.052
100 $\chi^2_1$	0.9	0.900	0.015 *	0.085	0.910 *	0.016 *	0.074	0.931 *	0.037	0.032 *	0.921 *	0.044	0.035 *	0.929 *	0.040	0.031 *	0.917 *	0.049	0.034 *	0.917 *	0.012	0.071
200 Normal	0.9	0.941 *	0.030 *	0.029 *	0.925 *	0.040	0.035 *	0.941 *	0.028 *	0.031 *	0.934 *	0.031 *	0.035 *	0.937 *	0.031 *	0.032 *	0.937 *	0.034 *	0.029 *	0.929 *	0.030 *	0.041
200 Uniform	0.9	0.937 *	0.039	0.024 *	0.923 *	0.047	0.030 *	0.941 *	0.035 *	0.024 *	0.932 *	0.041	0.027 *	0.943 *	0.033 *	0.024 *	0.935 *	0.039	0.026 *	0.938 *	0.038	0.024 *
200 K1	0.9	0.927 *	0.016 *	0.057	0.943 *	0.012	0.045	0.940 *	0.032 *	0.028 *	0.936 *	0.035 *	0.029 *	0.937 *	0.038	0.025 *	0.931 *	0.042	0.027 *	0.931 *	0.027 *	0.042
200 K2	0.9	0.922 *	0.015 *	0.063	0.933 *	0.013	0.054	0.931 *	0.032 *	0.037	0.925 *	0.036 *	0.039	0.924 *	0.039	0.037	0.918 *	0.044	0.038	0.932 *	0.021 *	0.047
200 $\chi^2_1$	0.9	0.896	0.008	0.096	0.912 *	0.008	0.080	0.929 *	0.043	0.028 *	0.922 *	0.048	0.030 *	0.921 *	0.050	0.029 *	0.919 *	0.052	0.029 *	0.905 *	0.009	0.086
500 Normal	0.9	0.951 *	0.024 *	0.025 *	0.949 *	0.025 *	0.026 *	0.947 *	0.027 *	0.026 *	0.944 *	0.028 *	0.028 *	0.946 *	0.027 *	0.027 *	0.945 *	0.027 *	0.028 *	0.945 *	0.032 *	0.023 *
500 Uniform	0.9	0.926 *	0.042	0.032 *	0.915 *	0.049	0.036 *	0.930 *	0.035 *	0.035 *	0.926 *	0.036 *	0.038	0.928 *	0.037	0.035 *	0.927 *	0.036 *	0.037	0.924 *	0.043	0.033 *
500 K1	0.9	0.893	0.021 *	0.086	0.916 *	0.020 *	0.064	0.918 *	0.040	0.042	0.916 *	0.041	0.043	0.920 *	0.039	0.041	0.920 *	0.039	0.041	0.902 *	0.027 *	0.071
500 K2	0.9	0.923 *	0.013	0.064	0.940 *	0.010	0.050	0.929 *	0.037	0.034 *	0.925 *	0.038	0.037	0.928 *	0.038	0.034 *	0.926 *	0.039	0.035 *	0.935 *	0.017 *	0.048
500 $\chi^2_1$	0.9	0.832	0.005	0.163	0.870	0.003	0.127	0.924 *	0.039	0.037	0.923 *	0.041	0.036 *	0.924 *	0.040	0.036 *	0.922 *	0.042	0.036 *	0.831	0.004	0.165
1000 Normal	0.9	0.927 *	0.037	0.036 *	0.924 *	0.038	0.038	0.927 *	0.037	0.036 *	0.926 *	0.038	0.036 *	0.926 *	0.039	0.035 *	0.927 *	0.038	0.035 *	0.926 *	0.039	0.035 *
1000 Uniform	0.9	0.936 *	0.037	0.027 *	0.927 *	0.042	0.031 *	0.939 *	0.028 *	0.033 *	0.940 *	0.030 *	0.030 *	0.938 *	0.028 *	0.034 *	0.941 *	0.028 *	0.031 *	0.943 *	0.033 *	0.024 *
1000 K1	0.9	0.918 *	0.013	0.069	0.942 *	0.011	0.047	0.943 *	0.028 *	0.029 *	0.945 *	0.027 *	0.028 *	0.941 *	0.030 *	0.029 *	0.941 *	0.029 *	0.030 *	0.939 *	0.015 *	0.046
1000 K2	0.9	0.915 *	0.007	0.078	0.947 *	0.004	0.049	0.942 *	0.026 *	0.032 *	0.944 *	0.024 *	0.032 *	0.944 *	0.023 *	0.033 *	0.943 *	0.024 *	0.033 *	0.930 *	0.009	0.061
1000 $\chi^2_1$	0.9	0.738	0.002	0.260	0.802	0.001	0.197	0.924 *	0.039	0.037	0.924 *	0.038	0.038	0.923 *	0.038	0.039	0.924 *	0.038	0.038	0.740	0.001	0.259
5000 Normal	0.9	0.922 *	0.040	0.038	0.920 *	0.041	0.039	0.921 *	0.042	0.037	0.921 *	0.042	0.037	0.920 *	0.042	0.038	0.922 *	0.041	0.037	0.920 *	0.041	0.039
5000 Uniform	0.9	0.923 *	0.038	0.039	0.921 *	0.039	0.040	0.924 *	0.032 *	0.044	0.925 *	0.031 *	0.044	0.923 *	0.032 *	0.045	0.926 *	0.031 *	0.043	0.928 *	0.032 *	0.040
5000 K1	0.9	0.919 *	0.008	0.073	0.952 *	0.006	0.042	0.935 *	0.035 *	0.030 *	0.934 *	0.036 *	0.030 *	0.935 *	0.035 *	0.030 *	0.935 *	0.035 *	0.030 *	0.929 *	0.013	0.058
5000 K2	0.9	0.894	0.014 *	0.092	0.949 *	0.004	0.047	0.929 *	0.035 *	0.036 *	0.929 *	0.036 *	0.035 *	0.926 *	0.036 *	0.038	0.926 *	0.036 *	0.038	0.925 *	0.020 *	0.055
5000 $\chi^2_1$	0.9	0.397	0.001	0.602	0.494	0.000	0.506	0.932 *	0.041	0.027 *	0.934 *	0.040	0.026 *	0.932 *	0.041	0.027 *	0.931 *	0.042	0.027 *	0.341	0.000	0.659

Note. ML means maximum likelihood. SB means Satorra-Bentler correction. cov means coverage rate. For coverage rate, \* means (Coverage Rate &gt; 0.9) criterion met.

(<  $\alpha$ ) means the non-coverage rate smaller than  $\alpha$ . (>  $\alpha$ ) means the non-coverage rate greater than  $\alpha$ . For non-coverage rate, \* means the non-coverage

Supplementary Table 4 (Continued)

Coverage and Non-Coverage Rates of the Lower Order Effects

Sample Size	Distribution	Statistical Power	$\gamma_1$																			
			CPI						GAPI						UPI						LMS	
			cov (ML)	> $\gamma_1$ (ML)	< $\gamma_1$ (ML)	cov (SB)	> $\gamma_1$ (SB)	< $\gamma_1$ (SB)	cov (ML)	> $\gamma_1$ (ML)	< $\gamma_1$ (ML)	cov (SB)	> $\gamma_1$ (SB)	< $\gamma_1$ (SB)	cov (ML)	> $\gamma_1$ (ML)	< $\gamma_1$ (ML)	cov (SB)	> $\gamma_1$ (SB)	< $\gamma_1$ (SB)	cov (ML)	> $\gamma_1$ (ML)
100 Normal	0.7	0.943 *	0.009	0.048	0.919 *	0.013	0.068	0.952 *	0.006	0.042	0.937 *	0.007	0.056	0.952 *	0.006	0.042	0.933 *	0.011	0.056	0.936 *	0.008	0.056
100 Uniform	0.7	0.935 *	0.012	0.053	0.921 *	0.015 *	0.064	0.947 *	0.008	0.045	0.930 *	0.011	0.059	0.948 *	0.006	0.046	0.936 *	0.010	0.054	0.938 *	0.010	0.052
100 K1	0.7	0.924 *	0.012	0.064	0.856	0.033 *	0.111	0.952 *	0.015 *	0.033 *	0.934 *	0.021 *	0.045	0.957 *	0.010	0.033 *	0.932 *	0.022 *	0.046	0.941 *	0.008	0.051
100 K2	0.7	0.913 *	0.012	0.075	0.819	0.043	0.138	0.939 *	0.019 *	0.042	0.932 *	0.017 *	0.051	0.947 *	0.014 *	0.039	0.924 *	0.022 *	0.054	0.931 *	0.008	0.061
100 $\chi^2_1$	0.7	0.931 *	0.012	0.057	0.858	0.037	0.105	0.954 *	0.009	0.037	0.943 *	0.015 *	0.042	0.958 *	0.005	0.037	0.931 *	0.022 *	0.047	0.927 *	0.006	0.067
200 Normal	0.7	0.943 *	0.013	0.044	0.935 *	0.017 *	0.048	0.950 *	0.014 *	0.036 *	0.940 *	0.016 *	0.044	0.948 *	0.011	0.041	0.939 *	0.015 *	0.046	0.942 *	0.013	0.045
200 Uniform	0.7	0.951 *	0.015 *	0.034 *	0.951 *	0.014 *	0.035 *	0.954 *	0.012	0.034 *	0.953 *	0.011	0.036 *	0.955 *	0.012	0.033 *	0.950 *	0.011	0.039	0.954 *	0.012	0.034 *
200 K1	0.7	0.908 *	0.015 *	0.077	0.848	0.028 *	0.124	0.935 *	0.022 *	0.043	0.925 *	0.023 *	0.052	0.941 *	0.019 *	0.040	0.923 *	0.025 *	0.052	0.938 *	0.013	0.049
200 K2	0.7	0.902 *	0.012	0.086	0.830	0.022 *	0.148	0.945 *	0.018 *	0.037	0.939 *	0.017 *	0.044	0.953 *	0.016 *	0.031 *	0.942 *	0.021 *	0.037	0.945 *	0.013	0.042
200 $\chi^2_1$	0.7	0.905 *	0.021 *	0.074	0.840	0.034 *	0.126	0.938 *	0.027 *	0.035 *	0.940 *	0.025 *	0.035 *	0.947 *	0.019 *	0.034 *	0.942 *	0.027 *	0.031 *	0.931 *	0.008	0.061
500 Normal	0.7	0.953 *	0.017 *	0.030 *	0.954 *	0.015 *	0.031 *	0.959 *	0.017 *	0.024 *	0.956 *	0.014 *	0.030 *	0.955 *	0.018 *	0.027 *	0.952 *	0.019 *	0.029 *	0.960 *	0.018 *	0.022 *
500 Uniform	0.7	0.959 *	0.014 *	0.027 *	0.959 *	0.015 *	0.026 *	0.955 *	0.016 *	0.029 *	0.958 *	0.016 *	0.026 *	0.960 *	0.014 *	0.026 *	0.960 *	0.014 *	0.026 *	0.959 *	0.012	0.029 *
500 K1	0.7	0.911 *	0.004	0.085	0.866	0.007	0.127	0.949 *	0.017 *	0.034 *	0.948 *	0.016 *	0.036 *	0.947 *	0.016 *	0.037	0.947 *	0.017 *	0.036 *	0.944 *	0.013	0.043
500 K2	0.7	0.866	0.010	0.124	0.787	0.020 *	0.193	0.940 *	0.036 *	0.024 *	0.942 *	0.032 *	0.026 *	0.947 *	0.031 *	0.022 *	0.938 *	0.034 *	0.028 *	0.939 *	0.025 *	0.036 *
500 $\chi^2_1$	0.7	0.876	0.007	0.117	0.805	0.018 *	0.177	0.935 *	0.036 *	0.029 *	0.942 *	0.032 *	0.026 *	0.947 *	0.023 *	0.030 *	0.942 *	0.026 *	0.032 *	0.891	0.004	0.105
1000 Normal	0.7	0.924 *	0.029 *	0.047	0.928 *	0.023 *	0.049	0.927 *	0.028 *	0.045	0.931 *	0.023 *	0.046	0.930 *	0.026 *	0.044	0.931 *	0.025 *	0.044	0.930 *	0.027 *	0.043
1000 Uniform	0.7	0.947 *	0.027 *	0.026 *	0.952 *	0.024 *	0.024 *	0.949 *	0.021 *	0.030 *	0.951 *	0.020 *	0.029 *	0.950 *	0.019 *	0.031 *	0.951 *	0.019 *	0.030 *	0.952 *	0.018 *	0.030 *
1000 K1	0.7	0.862	0.004	0.134	0.814	0.006	0.180	0.944 *	0.026 *	0.030 *	0.949 *	0.022 *	0.029 *	0.950 *	0.023 *	0.027 *	0.953 *	0.020 *	0.027 *	0.943 *	0.018 *	0.039
1000 K2	0.7	0.804	0.001	0.195	0.725	0.004	0.271	0.951 *	0.021 *	0.028 *	0.950 *	0.016 *	0.034 *	0.955 *	0.017 *	0.028 *	0.948 *	0.020 *	0.032 *	0.939 *	0.012	0.049
1000 $\chi^2_1$	0.7	0.756	0.004	0.240	0.674	0.006	0.320	0.936 *	0.031 *	0.033 *	0.936 *	0.028 *	0.036 *	0.939 *	0.029 *	0.032 *	0.941 *	0.027 *	0.032 *	0.818	0.001	0.181
5000 Normal	0.7	0.935 *	0.026 *	0.039	0.939 *	0.023 *	0.038	0.937 *	0.025 *	0.038	0.938 *	0.025 *	0.037	0.942 *	0.024 *	0.034 *	0.943 *	0.023 *	0.034 *	0.945 *	0.023 *	0.032 *
5000 Uniform	0.7	0.938 *	0.043	0.019 *	0.946 *	0.036 *	0.018 *	0.940 *	0.027 *	0.033 *	0.945 *	0.023 *	0.032 *	0.943 *	0.024 *	0.033 *	0.942 *	0.024 *	0.034 *	0.943 *	0.024 *	0.033 *
5000 K1	0.7	0.539	0.000	0.461	0.473	0.000	0.527	0.928 *	0.038	0.034 *	0.941 *	0.029 *	0.030 *	0.939 *	0.032 *	0.029 *	0.939 *	0.033 *	0.028 *	0.914 *	0.033 *	0.053
5000 K2	0.7	0.335	0.000	0.665	0.268	0.000	0.732	0.944 *	0.031 *	0.025 *	0.953 *	0.025 *	0.022 *	0.958 *	0.023 *	0.019 *	0.954 *	0.024 *	0.022 *	0.877	0.034 *	0.089
5000 $\chi^2_1$	0.7	0.157	0.000	0.843	0.103	0.000	0.897	0.943 *	0.021 *	0.036 *	0.946 *	0.018 *	0.036 *	0.943 *	0.018 *	0.039	0.947 *	0.016 *	0.037	0.357	0.000	0.643
100 Normal	0.9	0.945 *	0.009	0.046	0.915 *	0.020 *	0.065	0.957 *	0.008	0.035 *	0.938 *	0.011	0.051	0.965 *	0.007	0.028 *	0.939 *	0.012	0.049	0.950 *	0.008	0.042
100 Uniform	0.9	0.945 *	0.007	0.048	0.925 *	0.020 *	0.055	0.961 *	0.004	0.035 *	0.941 *	0.013	0.046	0.960 *	0.004	0.036 *	0.941 *	0.016 *	0.043	0.947 *	0.005	0.048
100 K1	0.9	0.910 *	0.008	0.082	0.836	0.023 *	0.141	0.932 *	0.011	0.057	0.909 *	0.018 *	0.073	0.940 *	0.007	0.053	0.909 *	0.019 *	0.072	0.940 *	0.007	0.053
100 K2	0.9	0.914 *	0.011	0.075	0.821	0.032 *	0.147	0.954 *	0.010	0.036 *	0.935 *	0.018 *	0.047	0.960 *	0.008	0.032 *	0.932 *	0.016 *	0.052	0.946 *	0.004	0.050
100 $\chi^2_1$	0.9	0.928 *	0.026 *	0.046	0.848	0.070	0.082	0.946 *	0.023 *	0.031 *	0.936 *	0.037	0.027 *	0.952 *	0.019 *	0.029 *	0.919 *	0.047	0.034 *	0.937 *	0.007	0.056
200 Normal	0.9	0.942 *	0.020 *	0.038	0.934 *	0.020 *	0.046	0.947 *	0.018 *	0.035 *	0.947 *	0.018 *	0.035 *	0.951 *	0.016 *	0.033 *	0.942 *	0.021 *	0.037	0.950 *	0.017 *	0.033 *
200 Uniform	0.9	0.941 *	0.022 *	0.037	0.936 *	0.026 *	0.038	0.944 *	0.021 *	0.035 *	0.940 *	0.022 *	0.038	0.949 *	0.020 *	0.031 *	0.937 *	0.023 *	0.040	0.944 *	0.021 *	0.035 *
200 K1	0.9	0.922 *	0.010	0.068	0.867	0.024 *	0.109	0.945 *	0.021 *	0.034 *	0.955 *	0.016 *	0.029 *	0.948 *	0.018 *	0.034 *	0.941 *	0.022 *	0.037	0.947 *	0.014 *	0.039
200 K2	0.9	0.900	0.010	0.090	0.825	0.026 *	0.149	0.950 *	0.014 *	0.036 *	0.942 *	0.017 *	0.041	0.949 *	0.011	0.040	0.930 *	0.019 *	0.051	0.939 *	0.015 *	0.046
200 $\chi^2_1$	0.9	0.911 *	0.012	0.077	0.840	0.032 *	0.128	0.942 *	0.019 *	0.039	0.936 *	0.021 *	0.043	0.941 *	0.017 *	0.042	0.929 *	0.025 *	0.046	0.913 *	0.007	0.080
500 Normal	0.9	0.936 *	0.027 *	0.037	0.937 *	0.024 *	0.039	0.937 *	0.025 *	0.038	0.934 *	0.026 *	0.040	0.940 *	0.022 *	0.038	0.933 *	0.026 *	0.041	0.940 *	0.021 *	0.039
500 Uniform	0.9	0.943 *	0.026 *	0.031 *	0.944 *	0.023 *	0.033 *	0.943 *	0.021 *	0.036 *	0.941 *	0.023 *	0.036 *	0.942 *	0.021 *	0.037	0.937 *	0.024 *	0.039	0.939 *	0.023 *	0.038
500 K1	0.9	0.893	0.012	0.095	0.843	0.017 *	0.140	0.938 *	0.021 *	0.041	0.945 *	0.018 *	0.037	0.947 *	0.021 *	0.032 *	0.947 *	0.021 *	0.032 *	0.954 *	0.017 *	0.029 *
500 K2	0.9	0.873	0.007	0.120	0.813	0.016 *	0.171	0.940 *	0.027 *	0.033 *	0.937 *	0.026 *	0.037	0.953 *	0.017 *	0.030 *	0.944 *	0.027 *	0.029 *	0.952 *	0.011	0.037
500 $\chi^2_1$	0.9	0.876	0.005	0.119	0.802	0.008	0.190	0.949 *	0.016 *	0.035 *	0.950 *	0.016 *	0.034 *	0.947 *	0.014 *	0.039	0.951 *	0.012	0.037	0.893	0.002	0.105
1000 Normal	0.9	0.944 *	0.025 *	0.031 *	0.945 *	0.023 *	0.032 *	0.951 *	0.022 *	0.027 *	0.951 *	0.023 *	0.026 *	0.951 *	0.024 *	0.025 *	0.950 *	0.025 *	0.025 *	0.954 *	0.019 *	0.027 *
1000 Uniform	0.9	0.944 *	0.026 *	0.030 *	0.950 *	0.025 *	0.025 *	0.947 *	0.019 *	0.034 *	0.949 *	0.018 *	0.033 *	0.947 *	0.020 *	0.033 *	0.946 *	0.020 *	0.034 *	0.950 *	0.019 *	0.031 *
1000 K1	0.9	0.863	0.003	0.134	0.802	0.007	0.191	0.940 *	0.020 *	0.040	0.948 *	0.017 *	0.035 *	0.941 *	0.022 *	0.037	0.941 *	0.020 *	0.039	0.937 *	0.016 *	0.047
1000 K2	0.9	0.789	0.001	0.210	0.724	0.002	0.274	0.947 *	0.021 *	0.032 *	0.953 *	0.016 *	0.031 *	0.955 *	0.015 *	0.030 *	0.957 *	0.012	0.031 *	0.931 *	0.012	0.057
1000 $\chi^2_1$	0.9	0.777	0.003	0.220	0.701	0.004	0.295	0.942 *	0.025 *	0.033 *	0.949 *	0.022 *	0.029 *	0.943 *	0.022 *	0.035 *	0.944 *	0.023 *	0.033 *	0.838	0.002	0.160
5000 Normal	0.9	0.950 *	0.025 *	0.025 *	0.954 *	0.024 *	0.022 *	0.950 *	0.026 *	0.024 *	0.951 *	0.026 *	0.023 *	0.949 *	0.025 *	0.026 *	0.950 *	0.026 *	0.024 *	0.952 *	0.023 *	0.025 *
5000 Uniform	0.9	0.939 *	0.036 *	0.025 *	0.947 *	0.033 *	0.020 *	0.940 *	0.023 *	0.037	0.943 *	0.021 *	0.036 *	0.939 *	0.024 *	0.037	0.942 *	0.022 *	0.036 *	0.942 *	0.023 *	0.035 *
5000 K1	0.9	0.536	0.000	0.464	0.462	0.001	0.537	0.932 *	0.037	0.031 *	0.945 *	0.027 *	0.028 *	0.949 *	0.025 *	0.026 *	0.951 *	0.024 *	0.025 *	0.923 *	0.023 *	0.054
5000 K2	0.9	0.346	0.000	0.654	0.268	0.000	0.732	0.936 *	0.026 *	0.038	0.943 *	0.023 *	0.034 *	0.948 *	0.020 *	0.032 *	0.949 *	0.020 *	0.031 *	0.890	0.036 *	0.074
5000 $\chi^2_1$	0.9	0.176	0.000	0.824	0.125	0.000	0.875	0.928 *	0.033 *	0.039	0.939 *	0.026 *	0.035 *	0.942 *	0.022 *	0.036 *	0.945 *	0.021 *	0.034 *	0.401	0.000	0.599

Note. ML means maximum likelihood. SB means Satorra-Bentler correction. cov means coverage rate. For coverage rate, \* means (Coverage Rate &gt; 0.9) criterion met.

Supplementary Table 4 (Continued)

Coverage and Non-Coverage Rates of the Lower Order Effects

Sample	Statistical	$\gamma_2$																				
		CPI					GAPI					UPI					LMS					
		cov (ML)	$>\gamma_2$ (ML)	$<\gamma_2$ (ML)	cov (SB)	$>\gamma_2$ (SB)	$<\gamma_2$ (SB)	cov (ML)	$>\gamma_2$ (ML)	$<\gamma_2$ (ML)	cov (SB)	$>\gamma_2$ (SB)	$<\gamma_2$ (SB)	cov (ML)	$>\gamma_2$ (ML)	$<\gamma_2$ (ML)	cov (SB)	$>\gamma_2$ (SB)	$<\gamma_2$ (SB)	cov (ML)	$>\gamma_2$ (ML)	$<\gamma_2$ (ML)
100 Normal	0.7	0.939 *	0.016 *	0.045	0.910 *	0.028 *	0.062	0.948 *	0.011	0.041	0.924 *	0.024 *	0.052	0.950 *	0.011	0.039	0.925 *	0.020 *	0.055	0.939 *	0.015 *	0.046
100 Uniform	0.7	0.958 *	0.009	0.033 *	0.944 *	0.010	0.046	0.964 *	0.006	0.030 *	0.944 *	0.010	0.046	0.967 *	0.008	0.025 *	0.939 *	0.015 *	0.046	0.957 *	0.007	0.036 *
100 K1	0.7	0.934 *	0.009	0.057	0.853	0.033 *	0.114	0.961 *	0.012	0.027 *	0.935 *	0.020 *	0.045	0.964 *	0.008	0.028 *	0.931 *	0.017 *	0.052	0.941 *	0.013	0.046
100 K2	0.7	0.916 *	0.011	0.073	0.819	0.035 *	0.146	0.960 *	0.010	0.030 *	0.939 *	0.014 *	0.047	0.955 *	0.008	0.037	0.918 *	0.023 *	0.059	0.944 *	0.008	0.048
100 $\chi^2_1$	0.7	0.925 *	0.020 *	0.055	0.853	0.047	0.100	0.949 *	0.016 *	0.035 *	0.941 *	0.021 *	0.038	0.951 *	0.014 *	0.035 *	0.919 *	0.034 *	0.047	0.938 *	0.003	0.059
200 Normal	0.7	0.951 *	0.014 *	0.035 *	0.936 *	0.022 *	0.042	0.951 *	0.017 *	0.032 *	0.945 *	0.019 *	0.036 *	0.958 *	0.014 *	0.028 *	0.943 *	0.019 *	0.038	0.955 *	0.011	0.034 *
200 Uniform	0.7	0.946 *	0.019 *	0.035 *	0.947 *	0.017 *	0.036 *	0.950 *	0.017 *	0.033 *	0.946 *	0.017 *	0.037	0.953 *	0.016 *	0.031 *	0.946 *	0.018 *	0.036 *	0.951 *	0.015 *	0.034 *
200 K1	0.7	0.911 *	0.016 *	0.073	0.854	0.029 *	0.117	0.937 *	0.023 *	0.040	0.932 *	0.026 *	0.042	0.943 *	0.021 *	0.036 *	0.925 *	0.028 *	0.047	0.939 *	0.016 *	0.045
200 K2	0.7	0.887	0.009	0.104	0.802	0.029 *	0.169	0.944 *	0.020 *	0.036 *	0.929 *	0.026 *	0.045	0.945 *	0.015 *	0.040	0.921 *	0.022 *	0.057	0.934 *	0.013	0.053
200 $\chi^2_1$	0.7	0.911 *	0.009	0.080	0.852	0.028 *	0.120	0.931 *	0.022 *	0.047	0.926 *	0.023 *	0.051	0.941 *	0.013	0.046	0.922 *	0.026 *	0.052	0.914 *	0.007	0.079
500 Normal	0.7	0.947 *	0.019 *	0.034 *	0.947 *	0.019 *	0.034 *	0.947 *	0.020 *	0.033 *	0.946 *	0.019 *	0.035 *	0.947 *	0.019 *	0.034 *	0.942 *	0.022 *	0.036 *	0.949 *	0.021 *	0.030 *
500 Uniform	0.7	0.951 *	0.023 *	0.026 *	0.954 *	0.021 *	0.025 *	0.948 *	0.021 *	0.031 *	0.949 *	0.021 *	0.030 *	0.953 *	0.019 *	0.028 *	0.946 *	0.023 *	0.031 *	0.950 *	0.017 *	0.033 *
500 K1	0.7	0.896	0.010	0.094	0.843	0.022 *	0.135	0.941 *	0.027 *	0.032 *	0.936 *	0.030 *	0.034 *	0.944 *	0.023 *	0.033 *	0.937 *	0.030 *	0.033 *	0.942 *	0.022 *	0.036 *
500 K2	0.7	0.860	0.003	0.137	0.801	0.008	0.191	0.944 *	0.019 *	0.037	0.949 *	0.014 *	0.037	0.952 *	0.012	0.036 *	0.937 *	0.017 *	0.046	0.943 *	0.012	0.045
500 $\chi^2_1$	0.7	0.857	0.004	0.139	0.782	0.011	0.207	0.936 *	0.025 *	0.039	0.935 *	0.028 *	0.037	0.939 *	0.021 *	0.040	0.935 *	0.022 *	0.043	0.880	0.005	0.115
1000 Normal	0.7	0.940 *	0.020 *	0.040	0.936 *	0.023 *	0.041	0.934 *	0.023 *	0.043	0.933 *	0.024 *	0.043	0.934 *	0.023 *	0.043	0.933 *	0.025 *	0.042	0.933 *	0.022 *	0.045
1000 Uniform	0.7	0.957 *	0.027 *	0.016 *	0.964 *	0.021 *	0.015 *	0.960 *	0.020 *	0.020 *	0.961 *	0.019 *	0.020 *	0.959 *	0.021 *	0.020 *	0.961 *	0.021 *	0.018 *	0.965 *	0.019 *	0.016 *
1000 K1	0.7	0.862	0.007	0.131	0.810	0.011	0.179	0.940 *	0.028 *	0.032 *	0.947 *	0.021 *	0.032 *	0.947 *	0.021 *	0.032 *	0.943 *	0.024 *	0.033 *	0.937 *	0.021 *	0.042
1000 K2	0.7	0.809	0.004	0.187	0.717	0.007	0.276	0.946 *	0.027 *	0.027 *	0.956 *	0.019 *	0.025 *	0.953 *	0.019 *	0.028 *	0.950 *	0.023 *	0.027 *	0.942 *	0.021 *	0.037
1000 $\chi^2_1$	0.7	0.731	0.000	0.269	0.649	0.004	0.347	0.931 *	0.026 *	0.043	0.940 *	0.022 *	0.038	0.935 *	0.024 *	0.041	0.936 *	0.023 *	0.041	0.810	0.001	0.189
5000 Normal	0.7	0.941 *	0.032 *	0.027 *	0.947 *	0.028 *	0.025 *	0.944 *	0.030 *	0.026 *	0.945 *	0.028 *	0.027 *	0.946 *	0.028 *	0.026 *	0.946 *	0.028 *	0.026 *	0.950 *	0.029 *	0.021 *
5000 Uniform	0.7	0.941 *	0.038	0.021 *	0.948 *	0.035 *	0.017 *	0.944 *	0.025 *	0.031 *	0.945 *	0.024 *	0.031 *	0.947 *	0.024 *	0.029 *	0.947 *	0.024 *	0.029 *	0.949 *	0.023 *	0.028 *
5000 K1	0.7	0.511	0.000	0.489	0.444	0.000	0.556	0.941 *	0.020 *	0.039	0.952 *	0.017 *	0.031 *	0.960 *	0.013	0.027 *	0.958 *	0.013	0.029 *	0.930 *	0.017 *	0.053
5000 K2	0.7	0.336	0.000	0.664	0.272	0.000	0.728	0.933 *	0.031 *	0.036 *	0.941 *	0.029 *	0.030 *	0.951 *	0.018 *	0.031 *	0.949 *	0.020 *	0.031 *	0.878	0.034 *	0.088
5000 $\chi^2_1$	0.7	0.169	0.000	0.831	0.112	0.000	0.888	0.938 *	0.022 *	0.040	0.955 *	0.016 *	0.029 *	0.953 *	0.016 *	0.031 *	0.957 *	0.016 *	0.027 *	0.384	0.000	0.616
100 Normal	0.9	0.934 *	0.016 *	0.050	0.897	0.030 *	0.073	0.950 *	0.014 *	0.036 *	0.921 *	0.022 *	0.057	0.949 *	0.015 *	0.036 *	0.919 *	0.024 *	0.057	0.944 *	0.016 *	0.040
100 Uniform	0.9	0.945 *	0.009	0.046	0.935 *	0.008	0.057	0.951 *	0.007	0.042	0.934 *	0.008	0.058	0.957 *	0.005	0.038	0.928 *	0.014 *	0.058	0.947 *	0.009	0.044
100 K1	0.9	0.906 *	0.013	0.081	0.841	0.037	0.122	0.938 *	0.013	0.049	0.922 *	0.022 *	0.056	0.942 *	0.011	0.047	0.915 *	0.027 *	0.058	0.931 *	0.010	0.059
100 K2	0.9	0.900	0.017 *	0.083	0.809	0.043	0.148	0.946 *	0.014 *	0.040	0.931 *	0.018 *	0.051	0.956 *	0.013	0.031 *	0.922 *	0.023 *	0.055	0.943 *	0.008	0.049
100 $\chi^2_1$	0.9	0.927 *	0.024 *	0.049	0.861	0.041	0.098	0.950 *	0.024 *	0.026 *	0.943 *	0.023 *	0.034 *	0.952 *	0.018 *	0.030 *	0.922 *	0.034 *	0.044	0.937 *	0.006	0.057
200 Normal	0.9	0.955 *	0.008	0.037	0.944 *	0.011	0.045	0.959 *	0.010	0.031 *	0.954 *	0.013	0.033 *	0.961 *	0.009	0.030 *	0.955 *	0.013	0.032 *	0.959 *	0.008	0.033 *
200 Uniform	0.9	0.949 *	0.011	0.040	0.940 *	0.011	0.049	0.949 *	0.011	0.040	0.944 *	0.011	0.045	0.947 *	0.011	0.042	0.942 *	0.012	0.046	0.945 *	0.010	0.045
200 K1	0.9	0.924 *	0.008	0.068	0.876	0.018 *	0.106	0.960 *	0.013	0.027 *	0.954 *	0.016 *	0.030 *	0.957 *	0.013	0.030 *	0.950 *	0.017 *	0.033 *	0.960 *	0.006	0.034 *
200 K2	0.9	0.896	0.010	0.094	0.797	0.031 *	0.172	0.949 *	0.015 *	0.036 *	0.943 *	0.019 *	0.038	0.947 *	0.017 *	0.036 *	0.930 *	0.027 *	0.043	0.929 *	0.010	0.061
200 $\chi^2_1$	0.9	0.909 *	0.020 *	0.071	0.851	0.038	0.111	0.936 *	0.025 *	0.039	0.935 *	0.026 *	0.039	0.938 *	0.023 *	0.039	0.926 *	0.033 *	0.041	0.918 *	0.007	0.075
500 Normal	0.9	0.934 *	0.019 *	0.047	0.930 *	0.022 *	0.048	0.935 *	0.020 *	0.045	0.935 *	0.022 *	0.043	0.937 *	0.020 *	0.043	0.934 *	0.022 *	0.044	0.936 *	0.019 *	0.045
500 Uniform	0.9	0.951 *	0.024 *	0.025 *	0.955 *	0.023 *	0.022 *	0.947 *	0.022 *	0.031 *	0.946 *	0.023 *	0.031 *	0.947 *	0.022 *	0.031 *	0.946 *	0.023 *	0.031 *	0.952 *	0.022 *	0.026 *
500 K1	0.9	0.885	0.014 *	0.101	0.833	0.025 *	0.142	0.933 *	0.028 *	0.039	0.932 *	0.031 *	0.037	0.937 *	0.022 *	0.041	0.931 *	0.027 *	0.042	0.944 *	0.020 *	0.036 *
500 K2	0.9	0.875	0.008	0.117	0.796	0.017 *	0.187	0.939 *	0.027 *	0.034 *	0.937 *	0.029 *	0.034 *	0.949 *	0.025 *	0.026 *	0.943 *	0.030 *	0.027 *	0.939 *	0.018 *	0.043
500 $\chi^2_1$	0.9	0.871	0.005	0.124	0.813	0.011	0.176	0.946 *	0.012	0.042	0.942 *	0.017 *	0.041	0.946 *	0.013	0.041	0.945 *	0.017 *	0.038	0.881	0.003	0.116
1000 Normal	0.9	0.930 *	0.027 *	0.043	0.931 *	0.026 *	0.043	0.935 *	0.025 *	0.040	0.935 *	0.025 *	0.040	0.937 *	0.026 *	0.037	0.934 *	0.028 *	0.038	0.936 *	0.025 *	0.039
1000 Uniform	0.9	0.943 *	0.029 *	0.028 *	0.953 *	0.022 *	0.025 *	0.945 *	0.020 *	0.035 *	0.943 *	0.020 *	0.037	0.948 *	0.018 *	0.034 *	0.940 *	0.019 *	0.041	0.948 *	0.019 *	0.033 *
1000 K1	0.9	0.854	0.003	0.143	0.803	0.009	0.188	0.935 *	0.025 *	0.040	0.942 *	0.023 *	0.035 *	0.953 *	0.016 *	0.031 *	0.952 *	0.016 *	0.032 *	0.943 *	0.015 *	0.042
1000 K2	0.9	0.801	0.003	0.196	0.733	0.004	0.263	0.940 *	0.032 *	0.028 *	0.942 *	0.029 *	0.029 *	0.944 *	0.030 *	0.026 *	0.941 *	0.030 *	0.029 *	0.936 *	0.028 *	0.036 *
1000 $\chi^2_1$	0.9	0.766	0.002	0.232	0.678	0.006	0.316	0.931 *	0.029 *	0.040	0.943 *	0.024 *	0.033 *	0.942 *	0.024 *	0.034 *	0.941 *	0.027 *	0.032 *	0.814	0.002	0.184
5000 Normal	0.9	0.943 *	0.027 *	0.030 *	0.947 *	0.024 *	0.029 *	0.946 *	0.026 *	0.028 *	0.950 *	0.024 *	0.026 *	0.948 *	0.024 *	0.028 *	0.949 *	0.023 *	0.028 *	0.948 *	0.022 *	0.030 *
5000 Uniform	0.9	0.938 *	0.040	0.022 *	0.945 *	0.035 *	0.020 *	0.942 *	0.028 *	0.030 *	0.946 *	0.025 *	0.029 *	0.944 *	0.028 *	0.028 *	0.946 *	0.026 *	0.028 *	0.949 *	0.026 *	0.025 *
5000 K1	0.9	0.535	0.000	0.465	0.468	0.000	0.532	0.939 *	0.028 *	0.033 *	0.953 *	0.022 *	0.025 *	0.952 *	0.017 *	0.031 *	0.954 *	0.016 *	0.030 *	0.922 *	0.023 *	0.055
5000 K2	0.9	0.322	0.000	0.678	0.276	0.000	0.724	0.938 *	0.029 *	0.033 *	0.943 *	0.027 *	0.030 *	0.948 *	0.025 *	0.027 *	0.945 *	0.026 *	0.029 *	0.892	0.035 *	0.073
5000 $\chi^2_1$	0.9	0.165	0.000	0.835	0.104	0.000	0.896	0.928 *	0.028 *	0.044	0.940 *	0.022 *	0.038	0.939 *	0.021 *	0.040	0.939 *	0.022 *	0.039	0.382	0.000	0.618

Note. ML means maximum likelihood. SB means Satorra-Bentler correction. cov means coverage rate. For coverage rate, \* means (Coverage Rate > 0.9) criterion met.

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