Table 1(a). Simulation Means and Standard Deviations of $2SQR1(\theta, q=1)$: N(0,1).

		θ	0.05	0.25	0.50	0.75	0.95
T = 50	$\tilde{\beta}_0$	Mean	-0.75	-0.35	-0.01	0.31	0.77
		Std	2.18	1.15	0.83	0.67	0.58
	$\tilde{\beta}_1$	Mean	0.01	0.00	0.00	0.00	0.00
		Std	0.35	0.23	0.21	0.23	0.35
	$\tilde{\gamma}$	Mean	-0.01	0.00	0.00	0.01	0.00
		Std	0.51	0.34	0.31	0.33	0.49
T = 300	$\tilde{\beta}_0$	Mean	-0.84	-0.34	-0.01	0.33	0.81
		Std	0.83	0.43	0.33	0.26	0.22
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.14	0.09	0.09	0.09	0.13
	$\tilde{\gamma}$	Mean	0.00	0.00	0.00	0.00	0.01
		Std	0.19	0.12	0.12	0.13	0.19

Table 1(b). Simulation Means and Standard Deviations of $2SQR1(\theta, q=q^*)$: N(0,1).

		θ (q^*)	0.05 (0.0013)	0.25 (-0.0003)	0.50 (0.0002)	0.75 (0.0003)	0.95 (0.0027)
T = 50	$\tilde{\beta}_0$	Mean	0.59	0.23	-0.01	-0.26	-0.62
		Std	1.19	0.89	0.71	0.54	0.36
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.19	0.19	0.18	0.18	0.19
	$\tilde{\gamma}$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.27	0.26	0.26	0.26	0.27
T = 300	$\tilde{\beta}_0$	Mean	0.72	0.29	-0.01	-0.31	-0.74
		Std	0.44	0.34	0.27	0.21	0.14
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.07	0.07	0.07	0.07	0.07
	$\tilde{\gamma}$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.10	0.10	0.10	0.10	0.10

Table 1(c). Simulation Means and Standard Deviations of $2SQR1(\theta, q=\hat{q})$: N(0,1).

		θ	0.05	0.25	0.50	0.75	0.95
T = 50	$\tilde{\beta}_0$	Mean	0.22	0.15	-0.01	-0.20	-0.26
		Std	1.49	0.91	0.72	0.54	0.40
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.22	0.19	0.18	0.19	0.22
	$\tilde{\gamma}$	Mean	0.01	0.01	0.00	0.01	0.01
		Std	0.33	0.26	0.26	0.27	0.32
	$\hat{q}$	Mean	0.19	-0.01	-0.05	0.07	0.31
		Std	0.33	0.23	0.20	0.20	0.20
T = 300	$\tilde{\beta}_0$	Mean	0.62	0.25	-0.01	-0.27	-0.62
		Std	0.46	0.34	0.27	0.21	0.16
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.07	0.07	0.07	0.07	0.07
	$\tilde{\gamma}$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.10	0.10	0.10	0.10	0.10
	$\hat{q}$	Mean	0.08	0.00	-0.05	0.00	0.10
		Std	0.09	0.11	0.12	0.11	0.09

Table 2(a). Simulation Means and Standard Deviations of $2SQR1(\theta, q=1)$: t (3).

		θ	0.05	0.25	0.50	0.75	0.95
T = 50	$\tilde{\beta}_0$	Mean	-1.07	-0.34	0.01	0.42	1.36
		Std	7.32	2.04	1.42	1.06	1.05
	$\tilde{\beta}_1$	Mean	0.04	0.02	0.01	-0.01	-0.01
		Std	0.88	0.33	0.28	0.34	0.85
	$\tilde{\gamma}$	Mean	-0.06	-0.02	-0.01	-0.01	-0.1
		Std	1.48	0.59	0.51	0.54	1.43
T = 300	$\tilde{\beta}_0$	Mean	-1.18	-0.40	-0.02	0.37	1.20
		Std	2.17	0.59	0.40	0.33	0.33
	$\tilde{\beta}_1$	Mean	0.02	0.00	0.00	0.00	0.00
		Std	0.29	0.11	0.10	0.12	0.30
	$\tilde{\gamma}$	Mean	0.00	0.00	0.01	0.01	0.01
		Std	0.43	0.17	0.14	0.17	0.42

Table 2(b). Simulation Means and Standard Deviations of $2SQR1(\theta, q=q^*)$: t (3).

		θ (q^*)	0.05 (-0.079)	0.25 (0.537)	0.50 (0.835)	0.75 (0.538)	0.95 (-0.078)
T = 50	$\tilde{\beta}_0$	Mean	0.90	0.01	0.02	0.10	-0.74
		Std	2.98	1.89	1.42	1.00	0.43
	$\tilde{\beta}_1$	Mean	0.02	0.02	0.01	0.01	0.02
		Std	0.35	0.32	0.28	0.31	0.34
	$\tilde{\gamma}$	Mean	-0.03	-0.02	-0.01	-0.02	-0.03
		Std	0.58	0.55	0.51	0.50	0.53
T = 300	$\tilde{\beta}_0$	Mean	0.87	-0.06	-0.02	0.02	-0.92
		Std	0.94	0.56	0.40	0.32	0.16
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.12	0.11	0.10	0.11	0.12
	$\tilde{\gamma}$	Mean	0.01	0.01	0.01	0.01	0.01
		Std	0.18	0.16	0.14	0.16	0.18

Table 2(c). Simulation Means and Standard Deviations of $2SQR1(\theta, q=\hat{q})$: t (3).

		θ	0.05	0.25	0.50	0.75	0.95
T = 50	$\tilde{\beta}_0$	Mean	-0.19	0.10	0.07	-0.01	-0.22
		Std	13.6	2.02	1.66	1.04	0.86
	$\tilde{\beta}_1$	Mean	0.03	0.01	0.01	0.01	0.01
		Std	0.56	0.30	0.31	0.31	0.52
	$\tilde{\gamma}$	Mean	0.07	-0.01	-0.02	-0.02	-0.01
		Std	2.74	0.58	0.59	0.52	1.19
	$\hat{q}$	Mean	0.19	0.30	0.32	0.32	0.29
		Std	0.54	0.30	0.27	0.28	0.37
T = 300	$\tilde{\beta}_0$	Mean	0.80	0.01	-0.01	-0.04	-0.87
		Std	1.02	0.57	0.40	0.33	0.29
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.12	0.11	0.10	0.11	0.13
	$\tilde{\gamma}$	Mean	0.01	0.01	0.00	0.00	0.01
		Std	0.19	0.16	0.15	0.16	0.19
	$\hat{q}$	Mean	0.01	0.45	0.57	0.44	0.04
		Std	0.16	0.18	0.16	0.18	0.16

Table 3(a). Simulation Means and Standard Deviations of $2SQR1(\theta, q=1)$: LN(0,1).

		θ	0.05	0.25	0.50	0.75	0.95
T = 50	$\tilde{\beta}_0$	Mean	-0.50	-0.35	-0.10	0.37	2.00
		Std	1.43	1.26	1.56	2.06	3.00
	$\tilde{\beta}_1$	Mean	0.02	0.02	0.02	0.01	0.03
		Std	0.21	0.21	0.30	0.48	1.73
	$\tilde{\gamma}$	Mean	-0.05	-0.05	-0.05	-0.05	-0.14
		Std	0.35	0.33	0.47	0.88	2.64
T = 300	$\tilde{\beta}_0$	Mean	-0.74	-0.57	-0.33	0.15	1.85
		Std	0.49	0.50	0.56	0.66	1.08
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.01	0.02
		Std	0.08	0.09	0.11	0.19	0.65
	$\tilde{\gamma}$	Mean	0.00	0.00	0.00	0.01	0.02
		Std	0.11	0.13	0.16	0.27	0.91

Table 3(b). Simulation Means and Standard Deviations of $2SQR1(\theta, q=q^*)$: LN(0,1).

		θ (q^*)	0.05 (1.0388)	0.25 (1.051)	0.50 (0.972)	0.75 (0.167)	0.95 (-0.146)
T = 50	$\tilde{\beta}_0$	Mean	-0.56	-0.41	-0.08	0.18	-1.25
		Std	1.41	1.25	1.56	1.57	0.91
	$\tilde{\beta}_1$	Mean	0.02	0.02	0.02	0.02	0.03
		Std	0.21	0.21	0.30	0.40	0.45
	$\tilde{\gamma}$	Mean	-0.05	-0.04	-0.05	-0.06	-0.07
		Std	0.35	0.33	0.47	0.65	0.71
T = 300	$\tilde{\beta}_0$	Mean	-0.79	-0.62	-0.31	-0.08	-1.42
		Std	0.49	0.50	0.56	0.54	0.32
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.08	0.09	0.11	0.16	0.18
	$\tilde{\gamma}$	Mean	0.00	0.00	0.00	0.00	0.01
		Std	0.11	0.13	0.16	0.22	0.24

Table 3(c). Simulation Means and Standard Deviations of $2SQR1(\theta, q=\hat{q})$: LN(0,1).

		θ	0.05	0.25	0.50	0.75	0.95
T = 50	$\tilde{\beta}_0$	Mean	-0.39	0.04	0.18	0.21	-1.01
		Std	1.55	1.58	2.20	2.38	1.82
	$\tilde{\beta}_1$	Mean	0.02	0.02	0.02	0.02	0.02
		Std	0.22	0.25	0.34	0.40	0.75
	$\tilde{\gamma}$	Mean	-0.06	-0.05	-0.06	-0.07	-0.11
		Std	0.37	0.41	0.66	1.01	2.06
	$\hat{q}$	Mean	0.92	0.65	0.55	0.28	0.02
		Std	0.11	0.13	0.25	0.40	0.37
T = 300	$\tilde{\beta}_0$	Mean	-0.68	-0.40	-0.23	-0.03	-1.37
		Std	0.50	0.52	0.56	0.55	0.37
	$\tilde{\beta}_1$	Mean	0.00	0.00	0.00	0.00	0.00
		Std	0.09	0.09	0.11	0.16	0.18
	$\tilde{\gamma}$	Mean	0.00	0.00	0.00	0.00	0.01
		Std	0.12	0.13	0.16	0.23	0.25
	$\hat{q}$	Mean	0.96	0.85	0.85	0.38	-0.17
		Std	0.04	0.04	0.06	0.31	0.08

Table 4(a). Simulated Standard Deviations of 2SQR1 $(\theta,\ \hat{q})$ and Cramer-Rao Bounds with T = 50

Estimator	First Stage	Second Stage		N(0,1)	t (3)	LN(0,1)
CR bounds			$\hat{\beta}_1$ $\hat{\gamma}$	0.19 0.26	0.20 0.28	0.04 0.06
2SLS	LS	LS	$\hat{\beta}_1$ $\hat{\gamma}$	0.21 0.30	0.41 0.78	0.42 0.70
2SQR $(\theta,\ \hat{q})$	LS	Quantile(θ =0.05)	$\hat{\beta}_1$ $\hat{\gamma}$	0.22 0.33	0.56 2.74	0.22 0.37
2SQR $(\theta,\ \hat{q})$	LS	Quantile(θ =0.25)	$\hat{\beta}_1$ $\hat{\gamma}$	0.19 0.26	0.30 0.58	0.25 0.41
2SQR $(\theta,\ \hat{q})$	LS	Quantile(θ =0.50)	$\hat{\beta}_1$ $\hat{\gamma}$	0.19 0.26	0.31 0.59	0.34 0.66
2SQR $(\theta,\ \hat{q})$	LS	Quantile(θ =0.75)	$\hat{\beta}_1$ $\hat{\gamma}$	0.19 0.27	0.31 0.52	0.40 1.01
2SQR $(\theta,\ \hat{q})$	LS	Quantile(θ =0.95)	$\hat{\beta}_1$ $\hat{\gamma}$	0.22 0.32	0.52 1.19	0.75 2.06

Table 4(b). Simulated Standard Deviations of 2SQR2 (θ, q) with T = 50

Estimator	First Stage	Second Stage		N(0,1)	t (3)	LN(0,1)
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.05)	$\hat{\beta}_1$ $\hat{\gamma}$	0.36 0.52	0.82 1.22	0.15 0.22
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.25)	$\hat{\beta}_1$ $\hat{\gamma}$	0.24 0.37	0.31 0.44	0.17 0.25
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.50)	$\hat{\beta}_1$ $\hat{\gamma}$	0.23 0.36	0.24 0.39	0.23 0.35
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.75)	$\hat{\beta}_1$ $\hat{\gamma}$	0.24 0.37	0.31 0.48	0.42 0.63
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.95)	$\hat{\beta}_1$ $\hat{\gamma}$	0.35 0.51	0.79 1.14	1.63 2.33
Trim (φ) -2SQR $(\theta,\hat{q})$	Trim(0.25)	Quantile(θ =0.05)	$\hat{\beta}_1$ $\hat{\gamma}$	0.24 0.40	0.51 0.85	0.15 0.23
Trim (φ) -2SQR $(\theta,\hat{q})$	Trim(0.25)	Quantile(θ =0.25)	$\hat{\beta}_1$ $\hat{\gamma}$	0.21 0.36	0.26 0.39	0.18 0.27
Trim (φ) -2SQR $(\theta,\hat{q})$	Trim(0.25)	Quantile(θ =0.50)	$\hat{\beta}_1$ $\hat{\gamma}$	0.21 0.34	0.24 0.44	0.23 0.35
Trim (φ) -2SQR $(\theta,\hat{q})$	Trim(0.25)	Quantile(θ =0.75)	$\hat{\beta}_1$ $\hat{\gamma}$	0.22 0.36	0.26 0.40	0.29 0.46
Trim (φ) -2SQR $(\theta,\hat{q})$	Trim(0.25)	Quantile(θ =0.95)	$\hat{\beta}_1$ $\hat{\gamma}$	0.23 0.36	0.36 0.53	0.46 0.65

Table 5(a). Simulated Standard Deviations of 2SQR1 $(\theta, \hat{q})$ and Cramer-Rao Bounds with T = 300

Estimator	First Stage	Second Stage		N(0,1)	t (3)	LN(0,1)
CR bounds			$\hat{\beta}_1$ $\hat{\gamma}$	0.07 0.10	0.08 0.12	0.02 0.02
2SLS	LS	LS	$\hat{\beta}_1$ $\hat{\gamma}$	0.07 0.10	0.12 0.18	0.16 0.22
2SQR $(\theta, \hat{q})$	LS	Quantile(θ =0.05)	$\hat{\beta}_1$ $\hat{\gamma}$	0.07 0.10	0.12 0.19	0.09 0.12
2SQR $(\theta, \hat{q})$	LS	Quantile(θ =0.25)	$\hat{\beta}_1$ $\hat{\gamma}$	0.07 0.10	0.11 0.16	0.09 0.13
2SQR $(\theta, \hat{q})$	LS	Quantile(θ =0.50)	$\hat{\beta}_1$ $\hat{\gamma}$	0.07 0.10	0.10 0.15	0.11 0.16
2SQR $(\theta, \hat{q})$	LS	Quantile(θ =0.75)	$\hat{\beta}_1$ $\hat{\gamma}$	0.07 0.10	0.11 0.16	0.16 0.23
2SQR $(\theta, \hat{q})$	LS	Quantile(θ =0.95)	$\hat{\beta}_1$ $\hat{\gamma}$	0.07 0.10	0.13 0.19	0.18 0.25

Table 5(b). Simulated Standard Deviations of 2SQR2 (θ, q) with T = 300

Estimator	First Stage	Second Stage		N(0,1)	t (3)	LN(0,1)
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.05)	$\hat{\beta}_1$ $\hat{\gamma}$	0.14 0.20	0.28 0.42	0.05 0.07
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.25)	$\hat{\beta}_1$ $\hat{\gamma}$	0.09 0.13	0.11 0.16	0.06 0.08
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.50)	$\hat{\beta}_1$ $\hat{\gamma}$	0.09 0.12	0.09 0.13	0.09 0.12
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.75)	$\hat{\beta}_1$ $\hat{\gamma}$	0.09 0.13	0.11 0.16	0.17 0.24
Trim (φ) -2SQR $(\theta,1)$	Trim(0.25)	Quantile(θ =0.95)	$\hat{\beta}_1$ $\hat{\gamma}$	0.13 0.19	0.30 0.41	0.62 0.89
Trim (φ) -2SQR $(\theta, \hat{q})$	Trim(0.25)	Quantile(θ =0.05)	$\hat{\beta}_1$ $\hat{\gamma}$	0.08 0.11	0.10 0.14	0.05 0.07
Trim (φ) -2SQR $(\theta, \hat{q})$	Trim(0.25)	Quantile(θ =0.25)	$\hat{\beta}_1$ $\hat{\gamma}$	0.08 0.11	0.09 0.13	0.06 0.08
Trim (φ) -2SQR $(\theta, \hat{q})$	Trim(0.25)	Quantile(θ =0.50)	$\hat{\beta}_1$ $\hat{\gamma}$	0.08 0.11	0.09 0.13	0.09 0.12
Trim (φ) -2SQR $(\theta, \hat{q})$	Trim(0.25)	Quantile(θ =0.75)	$\hat{\beta}_1$ $\hat{\gamma}$	0.08 0.11	0.09 0.13	0.12 0.17
Trim (φ) -2SQR $(\theta, \hat{q})$	Trim(0.25)	Quantile(θ =0.95)	$\hat{\beta}_1$ $\hat{\gamma}$	0.08 0.11	0.10 0.14	0.10 0.14