TABLE 1
*Biases and confidence region coverage levels for quadratic regression model (nominal coverage 95%).*

| | Bias | | | Coverage | | | Coverage |
|---|---|---|---|---|---|---|---|
| | $\beta_0$ | $\theta$ | $\beta_2$ | $\beta_0$ | $\theta$ | $\beta_2$ | $(\beta_0, \theta, \beta_2)$ |
| | (1) $\beta_0 = 0$, $\theta = 8$, $\beta_2 = -0.25$; no outlier | | | | | | |
| MLE | −0.00266 | 0.07541 | −0.00012 | 89.9 | 88.9 | 89.9 | 76.1 |
| LQ | −0.00266 | 0.07541 | −0.00012 | 85.3 | 77.4 | 83.5 | 55.2 |
| $J(1)$ | 0.28099 | 0.16291 | 0.01394 | 88.1 | 85.6 | 87.7 | 61.4 |
| $J(1)M$ | 0.05570 | −0.17410 | 0.00441 | 89.6 | 86.6 | 88.3 | 56.4 |
| RLQM | −0.00093 | 0.07661 | 0.00008 | 96.4 | 94.4 | 96.5 | 79.4 |
| | (2) $\beta_0 = 0$, $\theta = 8$, $\beta_2 = -0.25$; outlier | | | | | | |
| MLE | −0.03359 | 0.45568 | −0.00166 | 82.9 | 65.8 | 65.2 | 44.5 |
| LQ | −0.03359 | 0.45568 | −0.00166 | 77.7 | 55.6 | 58.3 | 31.6 |
| $J(1)$ | 0.52607 | 0.45261 | 0.03350 | 81.6 | 69.7 | 74.1 | 52.7 |
| $J(1)M$ | (*) | (*) | (*) | 83.5 | 72.1 | 79.5 | 59.1 |
| RLQM | −0.03037 | −0.05202 | −0.00154 | 92.1 | 80.0 | 85.1 | 54.2 |

most effective approach, however (being robust to both curvature and an outlier), is RLQM. The poor results for simultaneous confidence regions are due to severe nonlinearity.

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I congratulate Professor Wu for this important contribution on resampling procedures for regression analysis. The representations reported in Section 3 are