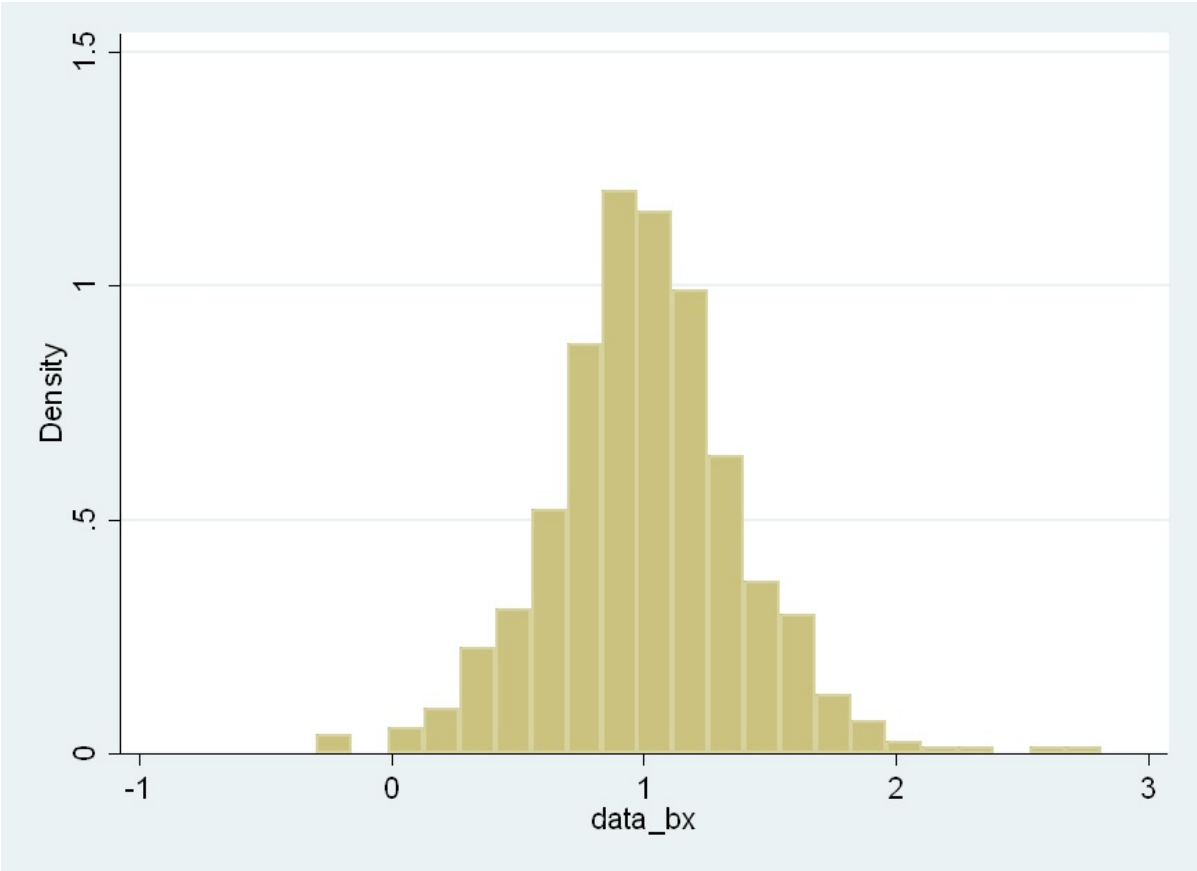
Asymptotics

1. Consistency
2. Asymptotic normality

Consistency

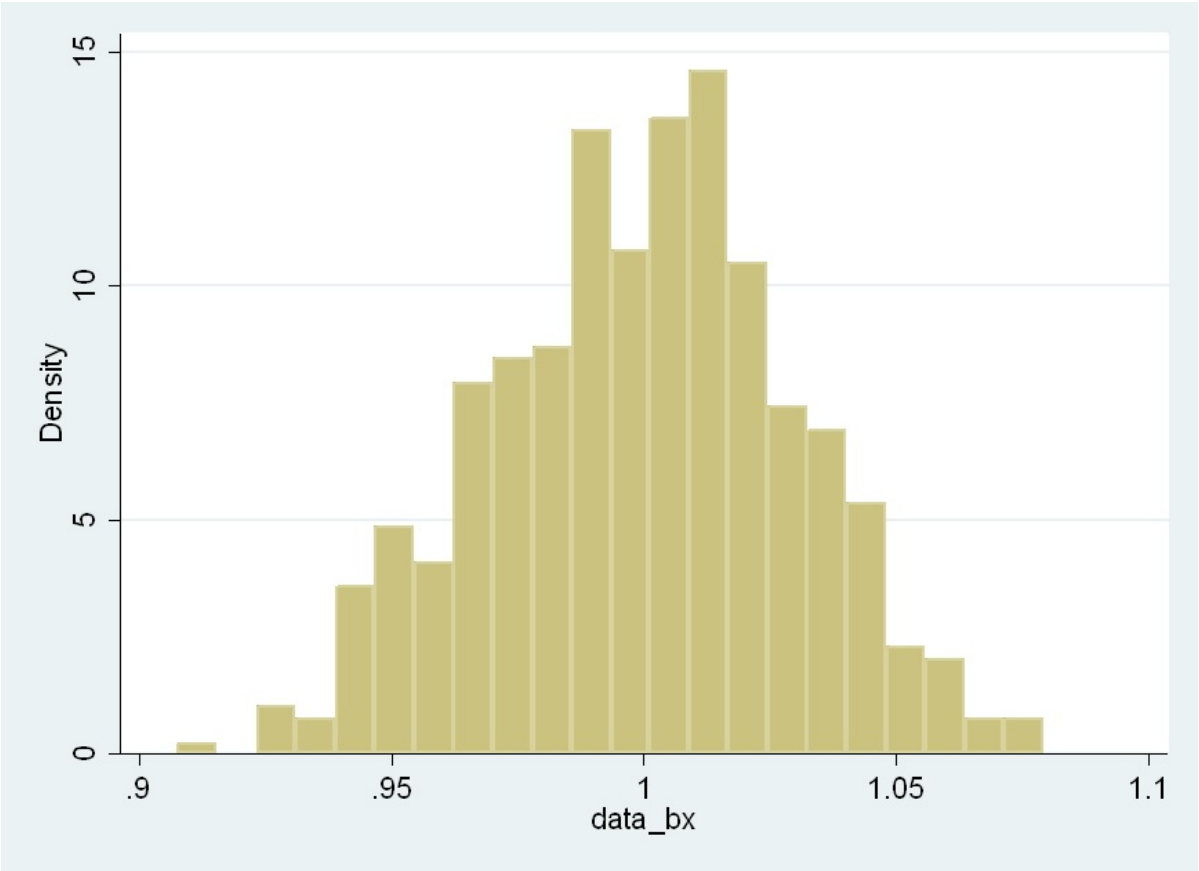
Consistency (cont.)

- $n = 10$, reps $= 500$, $x \sim N(0, 1)$, $u \sim N(0, 1)$
- $y = 1 + x + u$, distribution of $\hat{\beta}_1$



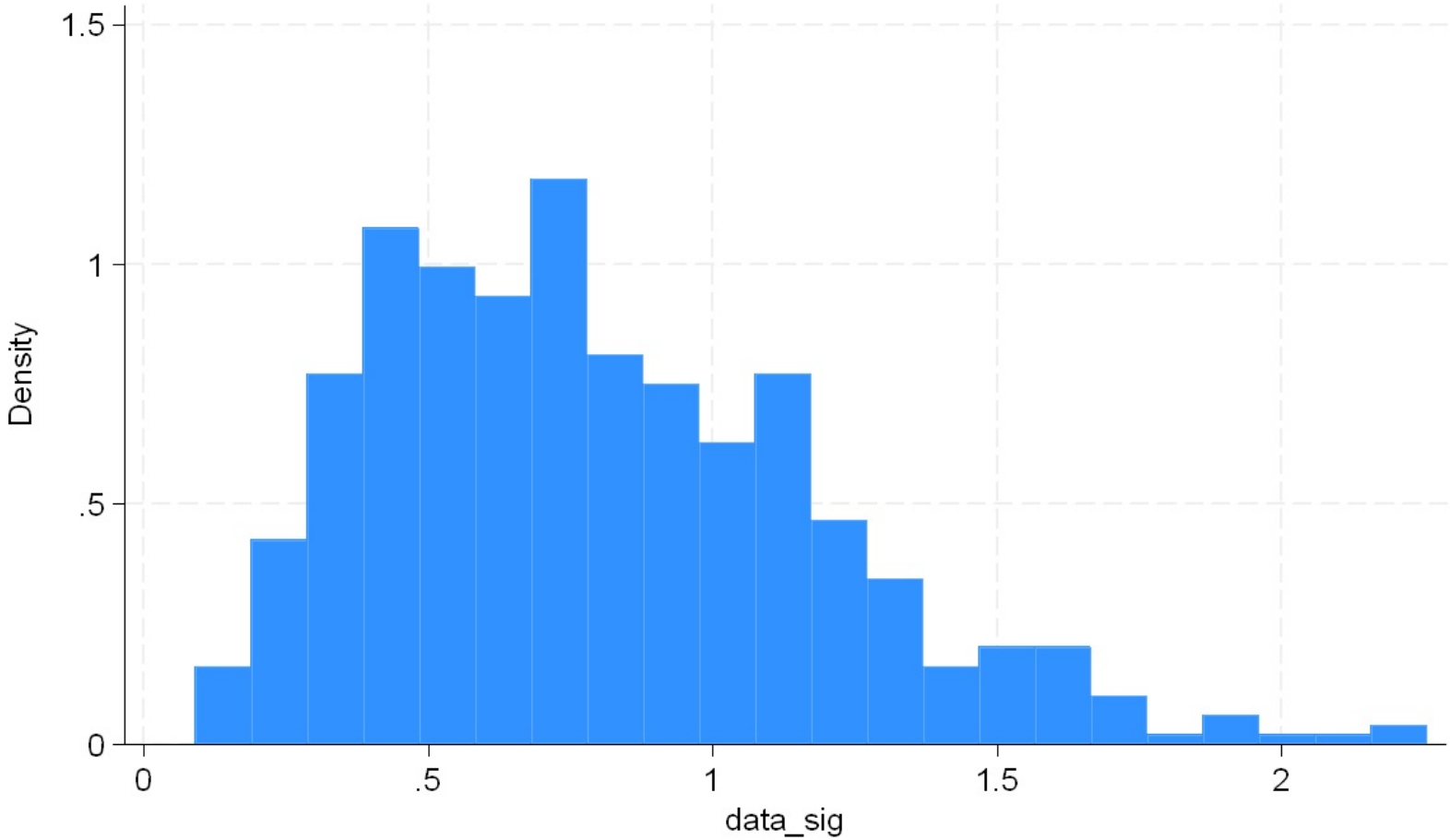
Consistency (cont.)

- $n = 1000$, reps $= 500$, $x \sim N(0, 1)$, $u \sim N(0, 1)$
- $y = 1 + x + u$, distribution of $\hat{\beta}_1$



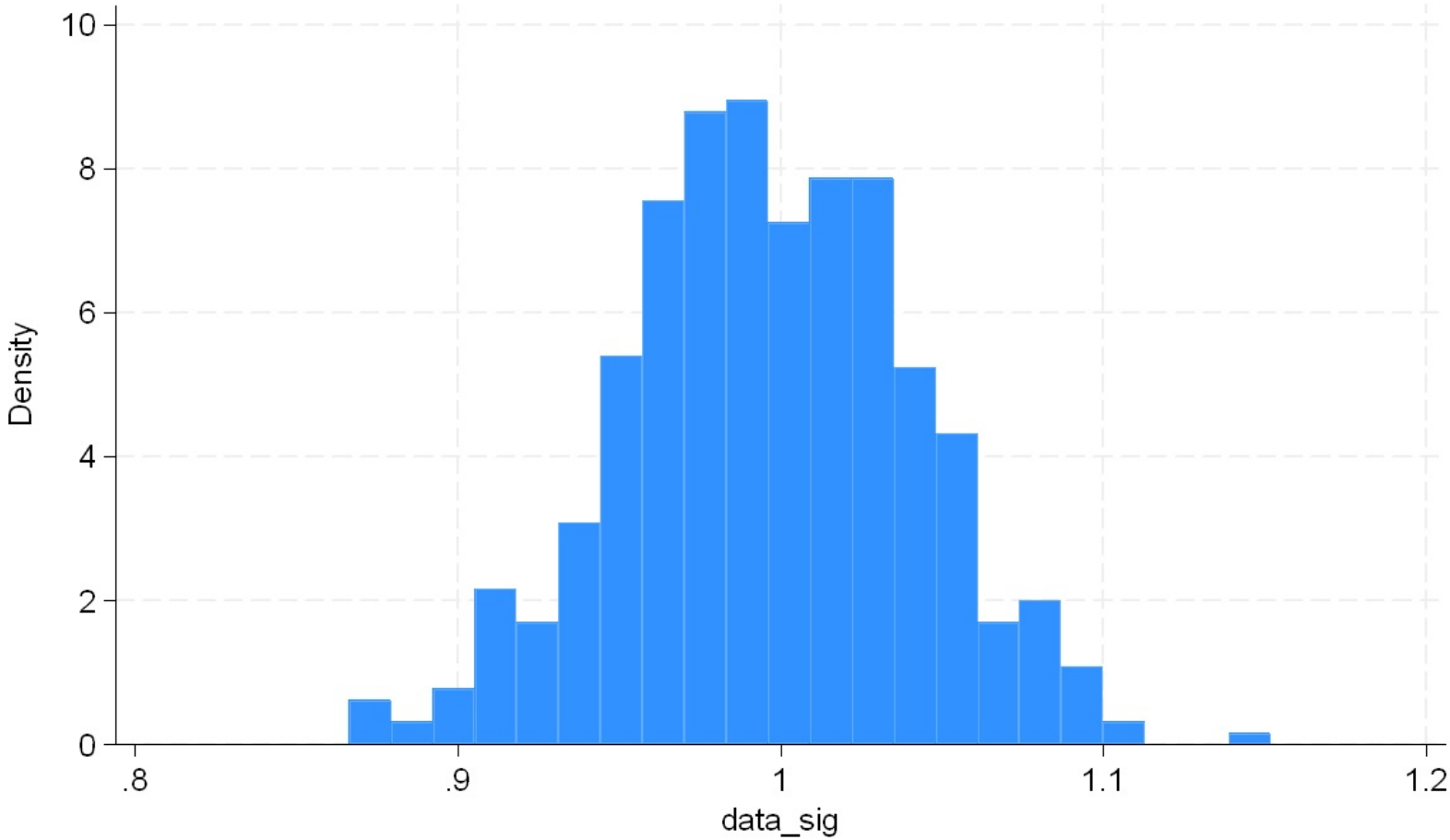
Consistency (cont.)

- $n = 10$, reps $= 500$, $x \sim N(0, 1)$, $u \sim N(0, 1)$
- $y = 1 + x + u$, distribution of SSR/n



Consistency (cont.)

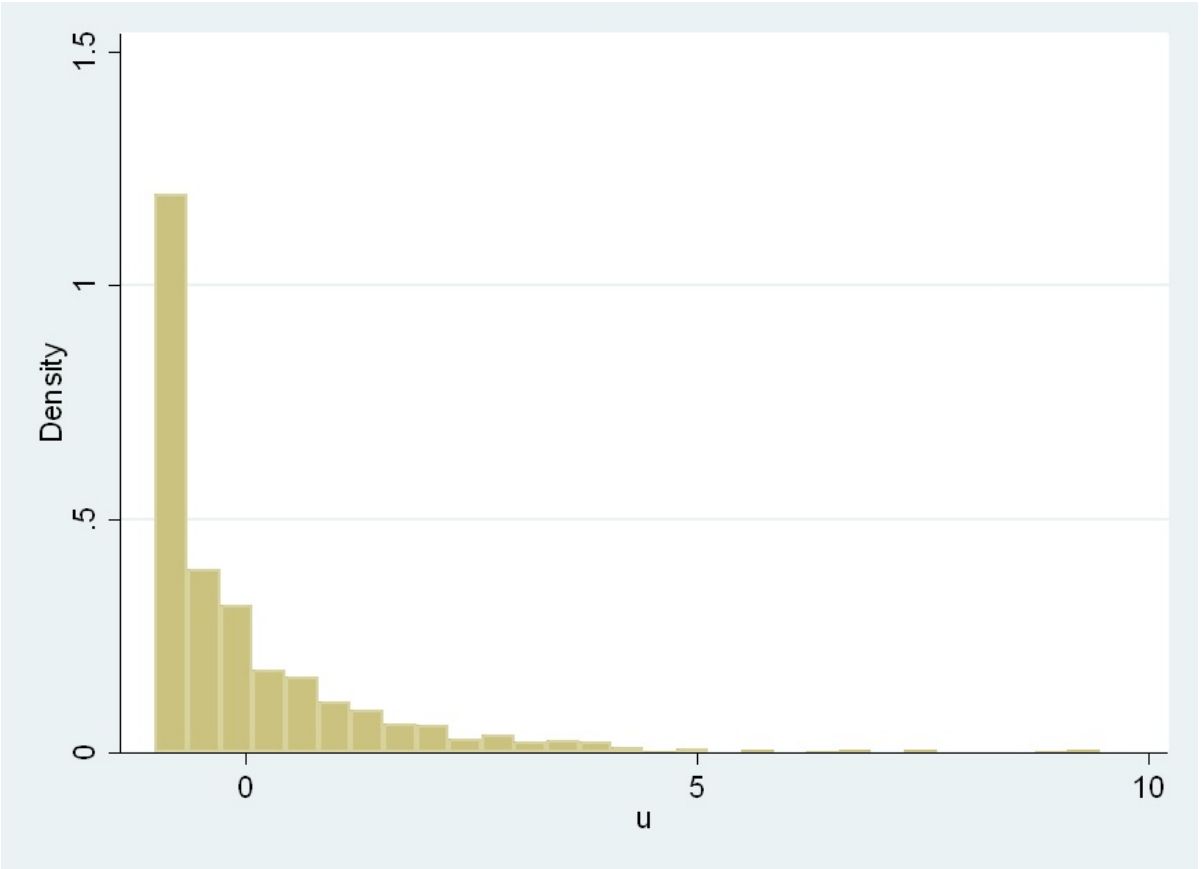
- $n = 1000$, reps $= 500$, $x \sim N(0, 1)$, $u \sim N(0, 1)$
- $y = 1 + x + u$, distribution of SSR/n



Asymptotic Normality

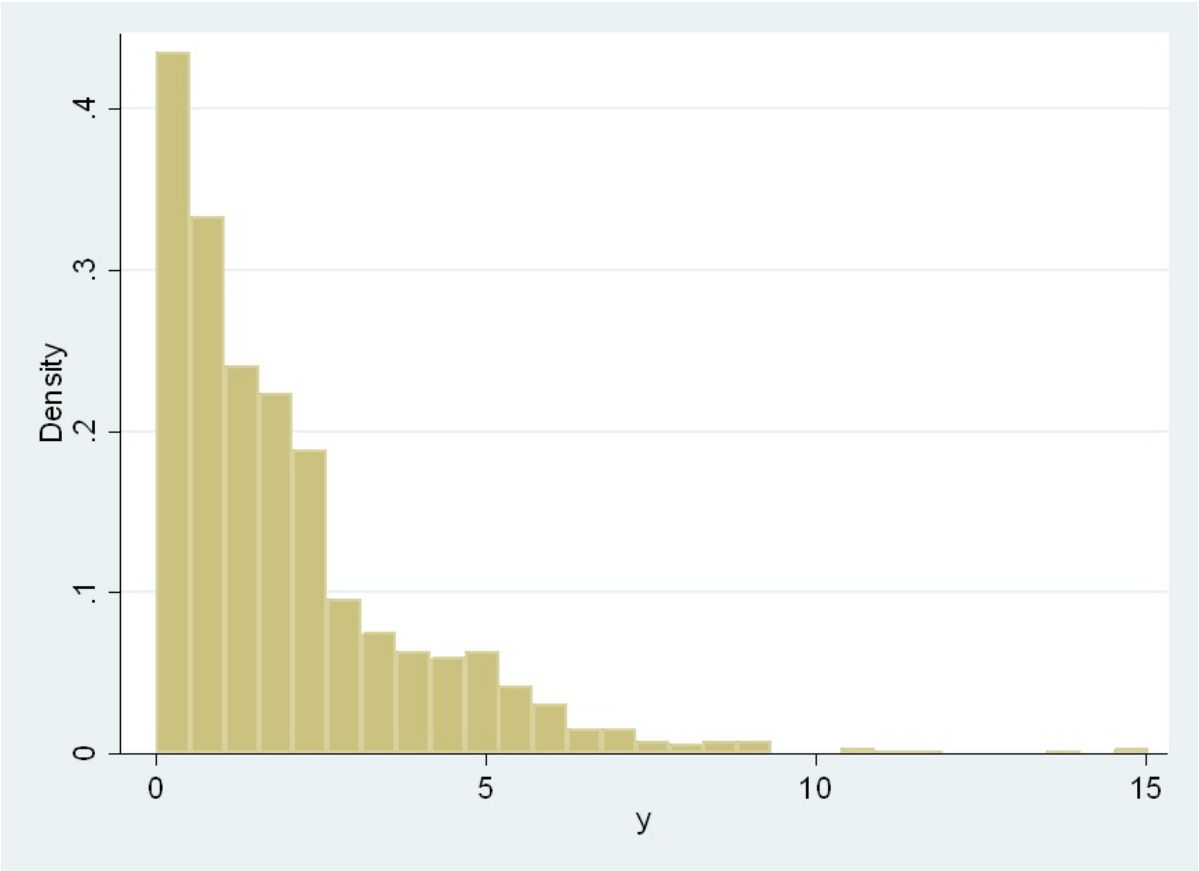
Asymptotic Normality (cont.)

- $u \sim \chi^2(1) - 1$



Asymptotic Normality (cont.)

- $x \sim \chi^2(1)$, $u \sim \chi^2(1) - 1$
- $y = 1 + x + u$



Asymptotic Normality (cont.)

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- $x \sim \chi^2(1)$, $u \sim \chi^2(1) - 1$
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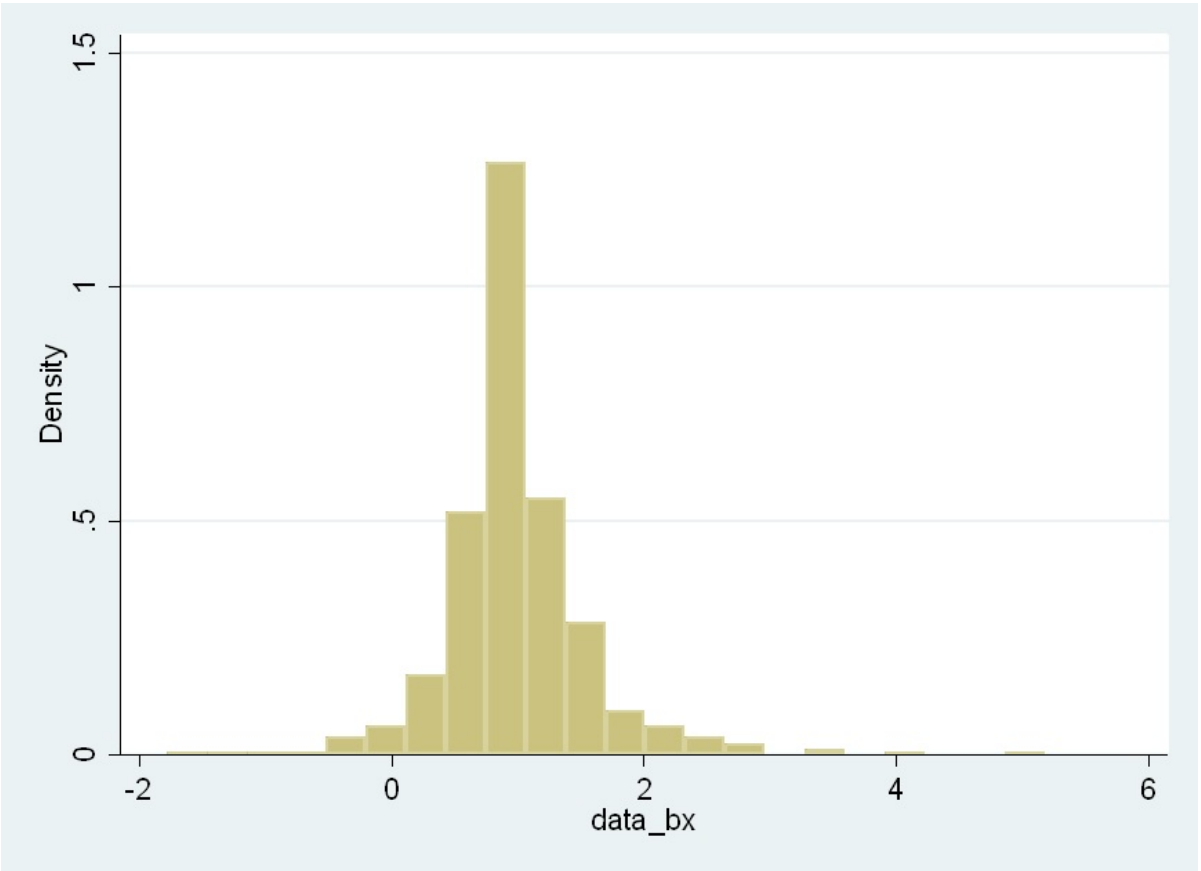

Asymptotic Normality (cont.)

- $n = 1000$, reps $= 500$
- $x \sim \chi^2(1)$, $u \sim \chi^2(1) - 1$
- $y = 1 + x + u$