

MODELS WITHOUT THE CONFUNDER

```
> precis(m1)
```

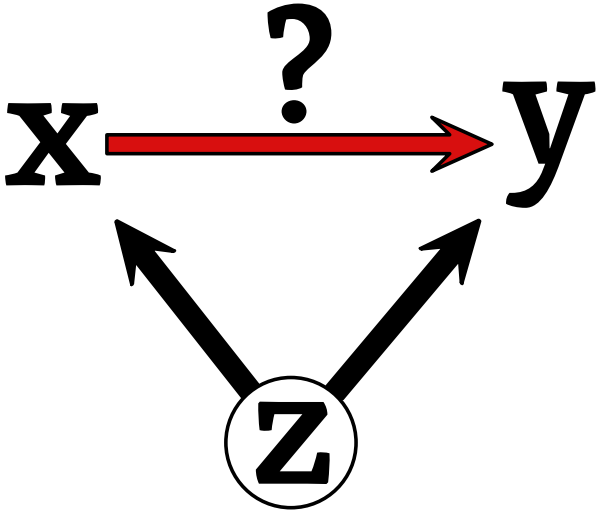
	mean	sd	5.5%	94.5%	n_eff	Rhat4	
a	0.54	0.14	0.32	0.77	1274	1	
bx	1.47	0.08	1.34	1.60	1432	1	# Estimate of the effect of x on y
sigma	1.33	0.10	1.19	1.49	1418	1	

Simulation R code

```
N = 100
z = rnorm(N)           # z ~ normal(0, 1)
x = rnorm(N, 1 + z)    # x ~ normal(1 + z, 1)
y = rnorm(N, 1 + x + z) # y ~ normal(1 + x + z, 1)
```







x



y

MODEL ESTIMATES WITHOUT THE CONFOUNDER

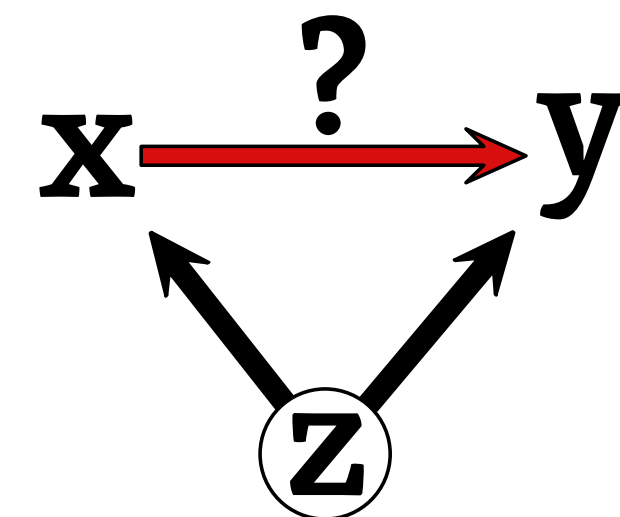
```
> precis(m1)
      mean    sd 5.5% 94.5% n_eff Rhat4
a      0.54 0.14 0.32 0.77 1274      1
bx     1.47 0.08 1.34 1.60 1432      1
sigma  1.53 0.10 1.19 1.49 1418      1
```



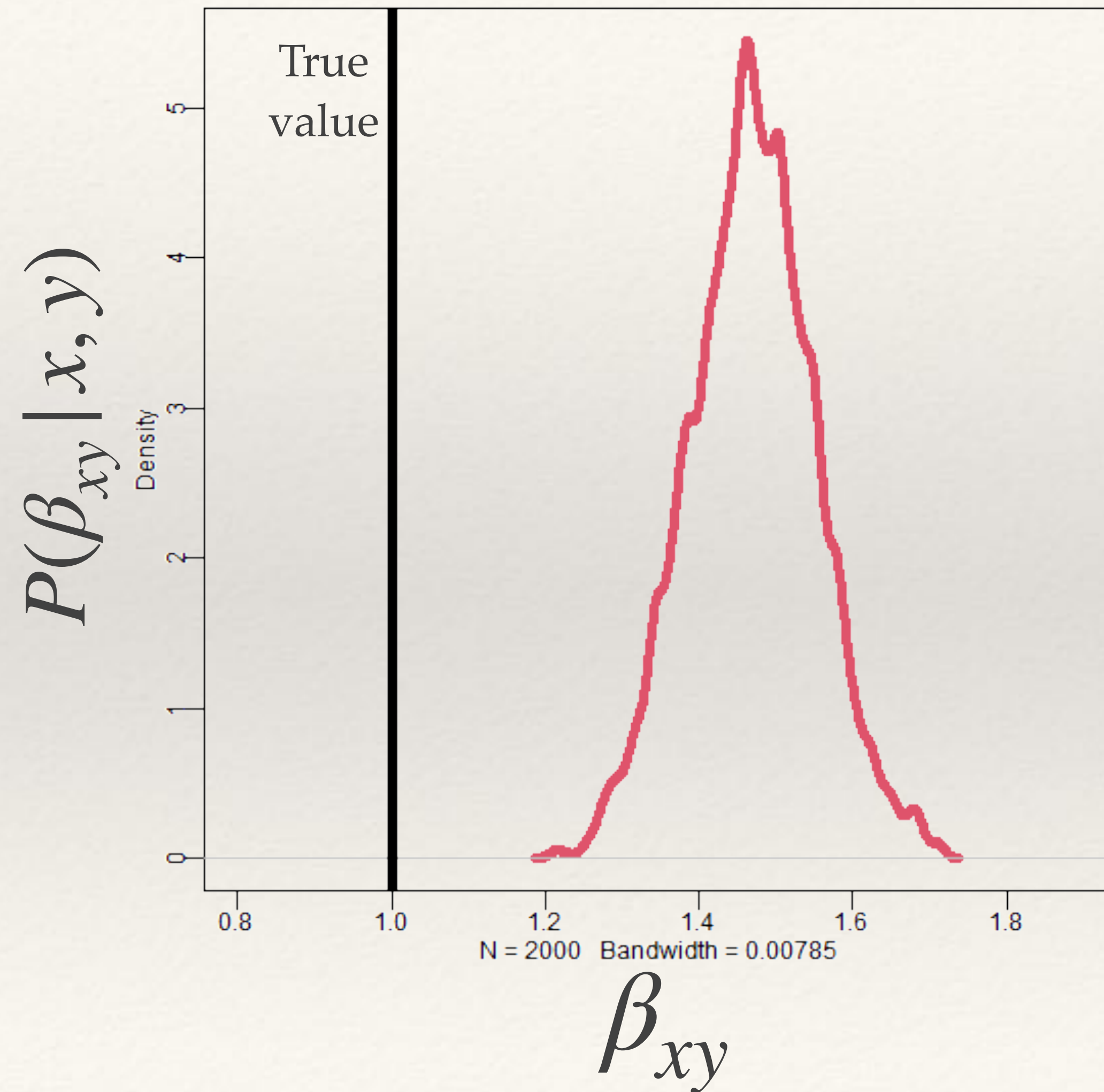
Estimate of the effect of x on y

Simulation R code

```
N = 100
z = rnorm(N) # z ~ normal(0, 1)
x = rnorm(N, 1 + z) # x ~ normal(1 + z, 1)
y = rnorm(N, 1 + x - z) # y ~ normal(1 + x + z, 1)
```



POSTERIOR DISTRIBUTION OF β_{xy} WITHOUT THE CONFOUNDER



$x \longrightarrow y$