

## REGRESSION SIMULATIONS

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + u, \quad [\beta_0 = 1, \beta_1 = .04, \beta_2 = .08]$$

where  $u \sim N(0, \Sigma)$  with :

$$\Sigma_{ij} = s - \gamma(h_{ij} | r, a, s), \quad h_{ij} = \text{dist}(i, j), [r = 5, a = 0, s = 1]$$

**Simulation Summary (average values for 100 samples):**

	GLS Est	GLS Std Err	OLS Est	OLS Std Err
<b>const</b>	<b>0.9284</b>	<b>0.4802</b>	<b>0.9156</b>	<b>0.2396</b>
<b>X1</b>	<b>0.0564</b>	<b>0.0565</b>	<b>0.0568</b>	<b>0.0289</b>
<b>X2</b>	<b>0.0897</b>	<b>0.0565</b>	<b>0.0934</b>	<b>0.0289</b>

**Sample 47:**

	GLS Est	GLS Std Err	OLS Est	OLS Std Err
<b>const</b>	<b>1.5197</b>	<b>0.6754</b>	<b>2.0143</b>	<b>0.2669</b>
<b>X1</b>	<b>-0.0062</b>	<b>0.0789</b>	<b>-0.1228</b>	<b>0.0352</b>
<b>X2</b>	<b>0.0913</b>	<b>0.0789</b>	<b>0.0981</b>	<b>0.0352</b>

**GLS confidence bounds:**

$$\beta_1 = -.0062 \pm (1.96)(.0789) \Rightarrow \beta_1 \in [-.1607, .1485]$$

**OLS confidence bounds:**

$$\beta_1 = -.1228 \pm (1.96)(.0352) \Rightarrow \beta_1 \in [-.1917, -.0537]$$