$$\sigma \sim halfcauchy(0,5)$$

$$b \sim cauchy(0,\sigma_b)$$

$$\mu \sim cauchy(0,\sigma_\mu)$$

$$\beta_{1,j} = \mu^1_{lease,j} + \mu^1_{sector,j} + \mu^1_{county,j} + \mu^1_{tracking,1} + b^1_{ins\_year,j} * installation\_year_j + re^1_j$$

$$\beta_{0,j} = b^0_{size} * systemsize_j + \mu^0_{county,j} + \mu^0_{tracking,j} + re^0_j$$

$$\hat{y} = \beta_{0,j} + \beta_{1,j} * MonthsOperation + \sum Months$$

$$log(production_{i,j} = cauchy(\hat{y},\sigma^2)$$