

# R Assignment Two

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I then used that mean to calculate the standard deviation of the differences between the log bootstrap sample CIR estimates and the log model-standardized CIR estimate to estimate the standard error of those differences:

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library(foreign)
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$$SE_{\ln(\hat{\theta}_i)} \approx sd(\ln(\hat{\theta}_i) - \ln(\hat{\theta})) =$$
$$\sqrt{\frac{1}{n-1} \sum_{i=1}^n \left( \left( \ln(\hat{\theta}_i) - \ln(\hat{\theta}) \right) - \overline{\Delta_{\ln(\hat{\theta}_i)}} \right)^2} =$$
$$\sqrt{\frac{1}{5000-1} \sum_{i=1}^{5000} \left( \left( \ln(\hat{\theta}_i) - 0.32785 \right) - (-0.00108) \right)^2}$$