Goodness-of-fit typically measured by likelihood ratio index

Also commonly called **McFadden's Pseudo** R²

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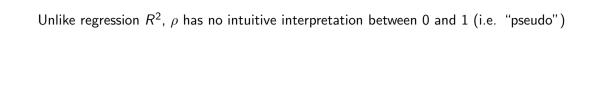
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Range:
$$\rho \in [0,1]$$

- $\rho = 0$: estimated model no better than no model
- $\rho = 1$: perfect prediction of all choices



Unlike regression R^2 , ρ has no intuitive interpretation between 0 and 1 (i.e. "pseudo")

 ρ represents the percentage increase in log-likelihood above zero parameters:

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Valid comparisons require:

- Same dataset
- Same choice alternatives
- Same *LL*(0) baseline

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 $\uparrow \rho \Rightarrow$ better fit, but unclear meaning of specific values (0.2–0.4 is "excellent fit")

Another common goodness-of-fit metric is the percent correctly predicted ("accuracy")

This statistic predicts the alternative with highest probability for each individual

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Key Problems:

- Contradicts the meaning of choice probabilities
- Depends on arbitrary threshold choice (typically 0.5)
- Performs poorly with imbalanced choice sets

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Choice probabilities represent expected shares across many repetitions, not individual predictions

This approach gives inaccurate market shares and implies perfect information