

Guidelines for Probit/Logit Regression Models

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This document provides guidelines for presenting probit/logit regression models

1. Present Results

- Report proper goodness-of-fit measures (Likelihood Ratio, Pseudo R^2)

2. Interpretation

- **Interpret the results (coefficients) in a substantive way.**
- You need to interpret using marginal effects and discrete changes in predicted probabilities depending on the type of an independent variable. Change in odd ratios is much easier to interpret but not as intuitively appealing and marginal effects and discrete changes.
- “For one unit increase in a IV, the probability of having 1 (Yes or On) is expected to increase by OO units, holding all other variables at their reference points” or “Women are OO percent more likely than Men to have 1 (Yes or On), holding all other variables at means of all independent variables” or “The probability that the rich goes to a graduate school is OO percent larger than that of the poor, holding personal income at its median and all other independent variables at their means.”

3. Changes in Odd Ratios

- Interpret the results in changes in odd ratios and/or predicted probabilities. Marginal effects or discrete changes in predicted probabilities are highly recommended.
- In ordered (or ordinal) logit/probit models, you must pay special attention to the reference category when interpreting changes in odd ratios. Otherwise, your interpretation may go totally wrong.

Some References for Data Analysis

Greene, William H. 2003. *Econometric Analysis*, 5th ed. Upper Saddle River, NJ: Prentice Hall.

Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables. Advanced Quantitative Techniques in the Social Sciences*. Sage Publications.

Maddala, G. S. 1983. *Limited Dependent and Qualitative Variables in Econometrics*. New York: Cambridge University Press.

<http://www.indiana.edu/~statmath/stat/all/cdvm/cdvm.pdf>

http://www.indiana.edu/~statmath/stat/all/cdvm/cdvm_nominal.pdf