

GREENE 21.1-21.3.1 try 21.3.2-21.4.3

"Thry" $\text{Prob}(\text{event } j \text{ occurs}) = \text{Prob}(Y=1) = F(\beta'x, \text{param's})$

let $f(\cdot)$ be lin-add, then

$$\text{"Thry"} \Rightarrow \lim_{x\beta \rightarrow +\infty} P(Y=1|x) = 1$$

$$\& \lim_{x\beta \rightarrow -\infty} P(Y=1|x) = 0$$

[I probably add more "thry" that rates of this convergence $\rightarrow 0$ smoothly \Rightarrow 'Sigmoid' (S-) shape]

\Rightarrow Many Options:

$$\text{Probit: } \text{Prob}(Y=1|x) = \int_{-\infty}^{x\beta} \phi(t) dt = \Phi(x\beta)$$

$$\text{Logit: } \text{Prob}(Y=1|x) = \frac{e^{x\beta}}{1+e^{x\beta}} = \Lambda(x\beta)$$

Weibull: $P(Y=1) = e[-e^{-x\beta}]$ relaxes symmetry

compl. log-log: $P = 1 - e[e^{-x\beta}]$ also relaxes symm. (et al.)