

## Linkmodel: power.probit (EXPERIMENTAL)

### Parametrization

This is the link that map  $p \in (0, 1)$  into  $x \in \Re$ , where

$$\Phi^\beta(x) = p, \quad \beta > 0$$

and  $\Phi^\beta$  is the cummulative distribution function for the standard Normal. This link is renormalized to have zero mean and unit variance (for every  $\beta$ ).

### Hyperparameters

The parameter  $\beta$  represent the power

$$\beta = \exp(\theta_1)$$

and the prior is defined on  $\theta$ .

The intercept is represented by a quantile level  $\alpha$ , where

$$\alpha = \frac{\exp(\theta_2)}{1 + \exp(\theta_2)}$$

### Specification

Use `model="power.probit"` within `control.link`.

### Hyperparameter spesification and default values

**doc** Power probit link

**hyper**

**theta1**

**hyperid** 49131  
**name** power  
**short.name** power  
**initial** 0.00123456789  
**fixed** FALSE  
**prior** normal  
**param** 0 100  
**to.theta** function(x) log(x)  
**from.theta** function(x) exp(x)

**theta2**

**hyperid** 49132  
**name** intercept  
**short.name** intercept  
**initial** 0  
**fixed** FALSE  
**prior** beta  
**param** 1 1  
**to.theta** function(x) log(x / (1 - x))  
**from.theta** function(x) exp(x) / (1 + exp(x))

**pdf** linkpowerprobit

## Example

## Notes

- Setting the initial value for the hyperparameter “intercept” to infinity, will remove the intercept from the link-model.