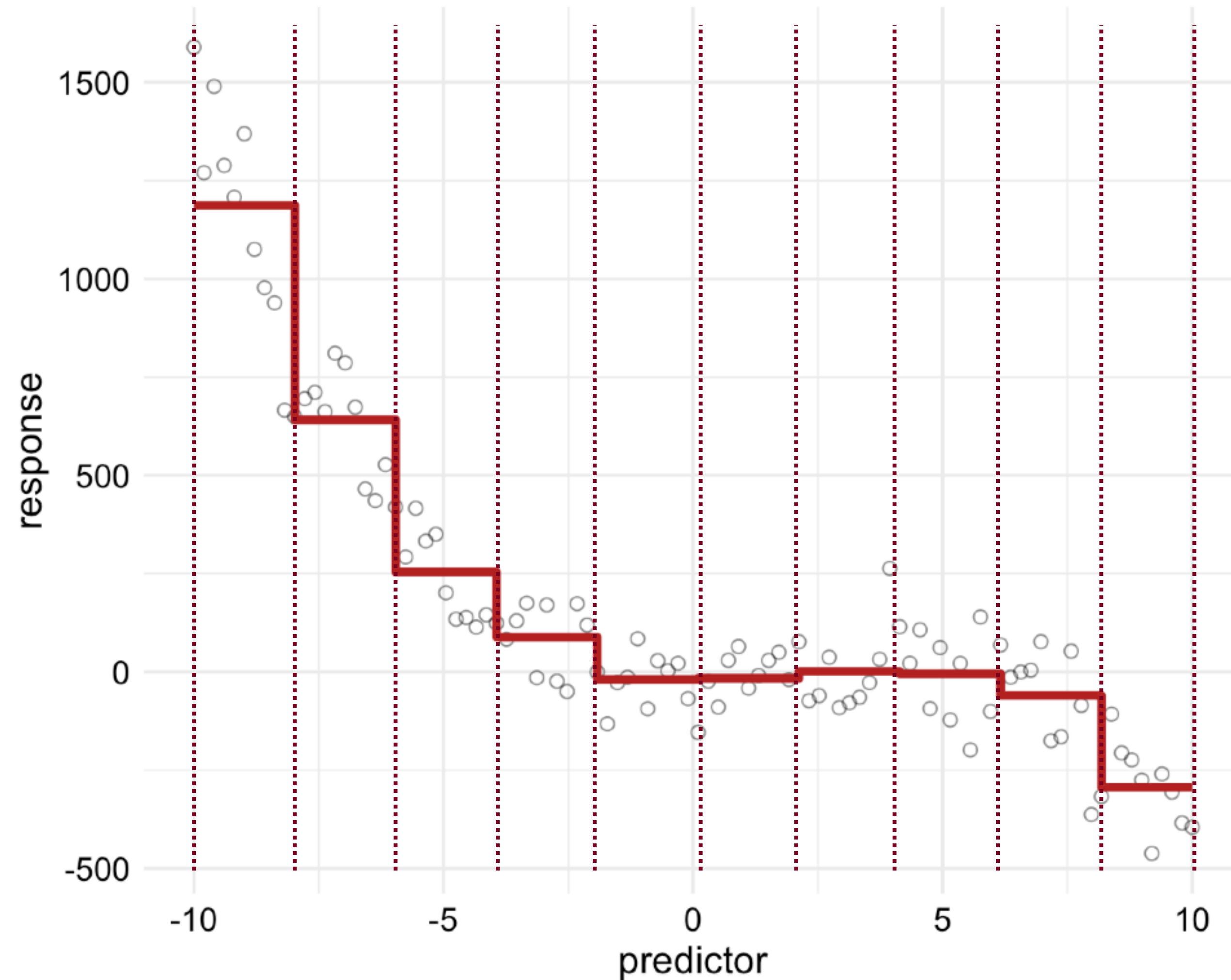


Step Functions

$$Y = \beta_0 + \beta_1 C_1(X) + \beta_2 C_2(X) + \cdots + \beta_K C_K(X) + \epsilon$$



$$C_0(X) = I(X \leq c_1)$$

$$C_1(X) = I(c_1 < X < c_2)$$

$$\vdots$$

$$C_{K-1}(X) = I(c_{K-1} < X < c_K)$$

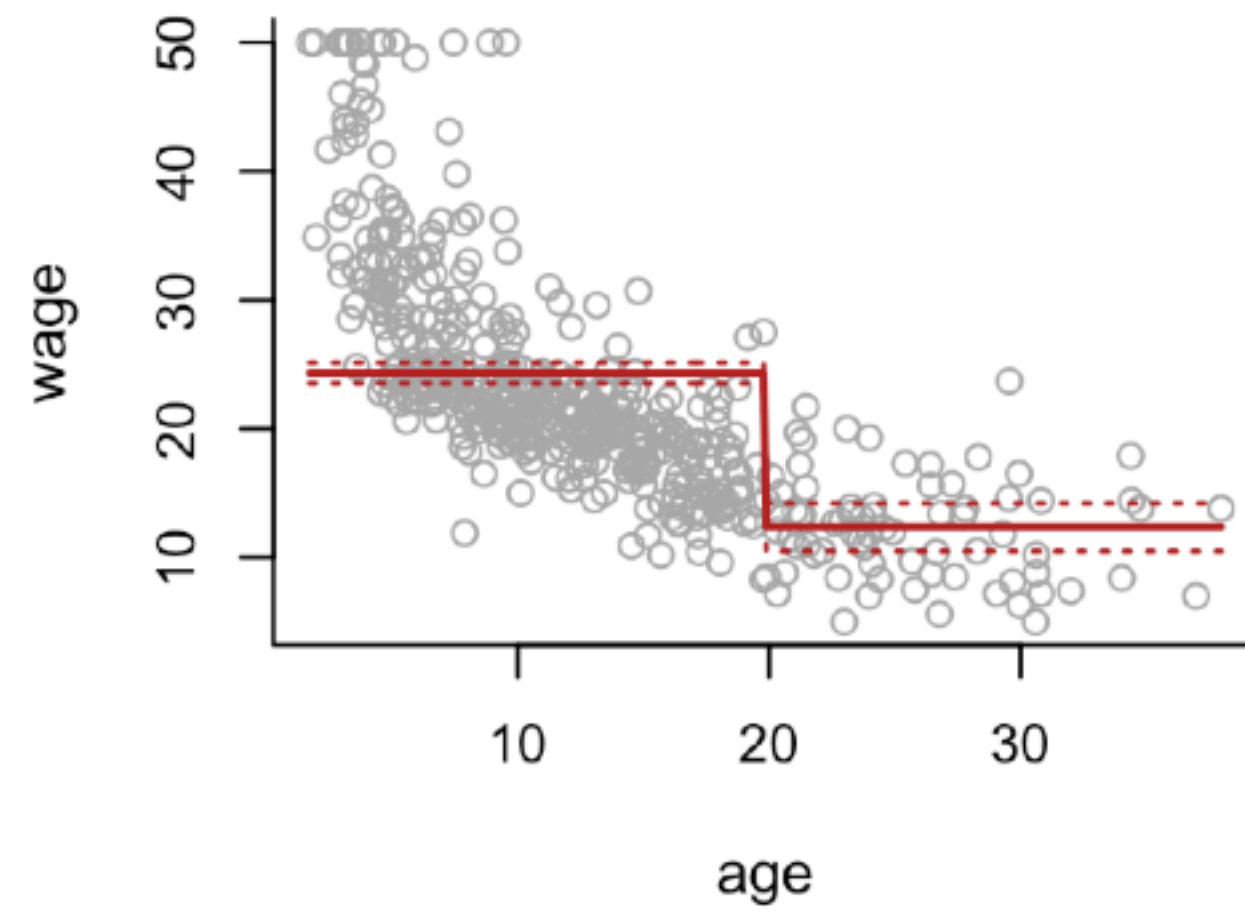
$$C_K(X) = I(c_K < X)$$

where $I(\cdot)$ is an indicator function

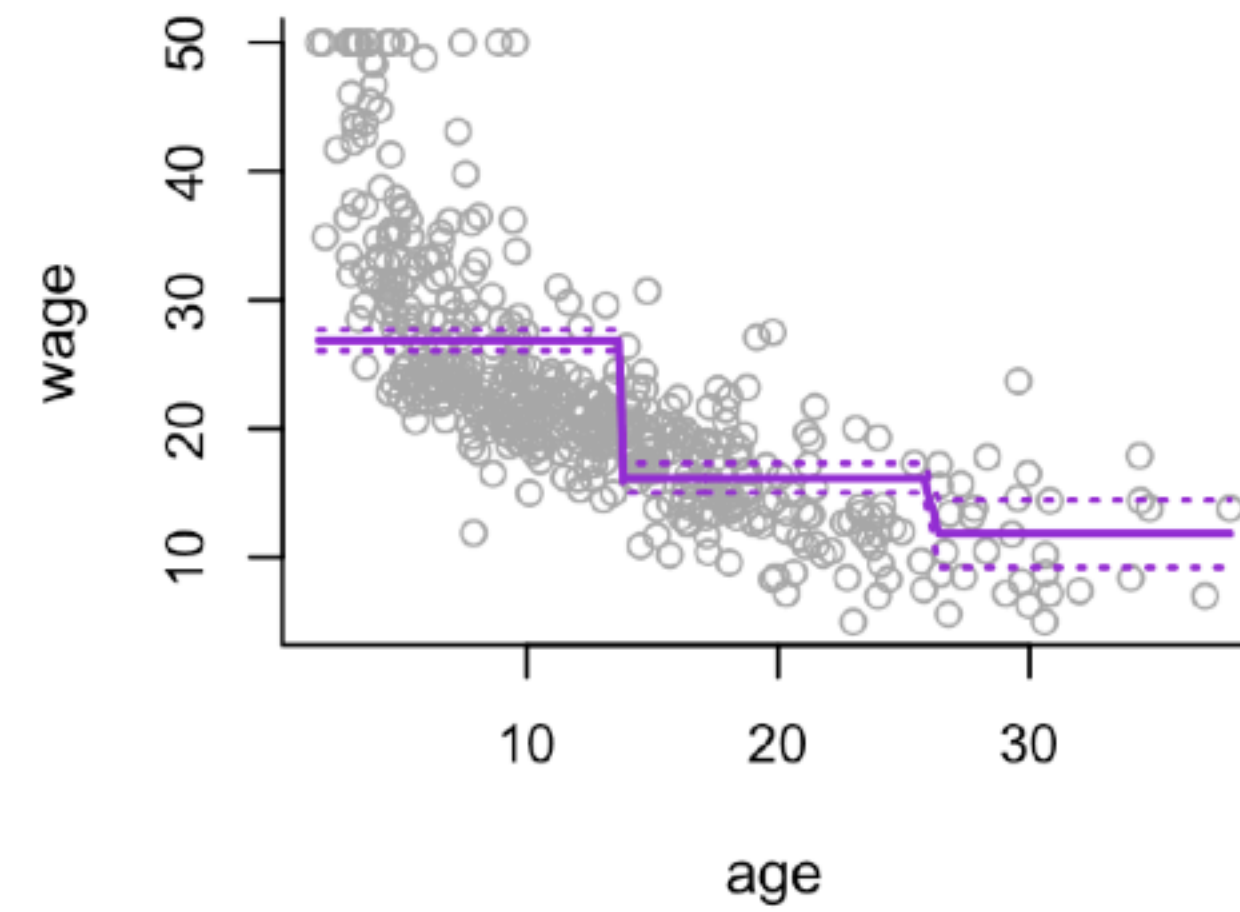
Step Functions

Example: Wage (ISLR2)

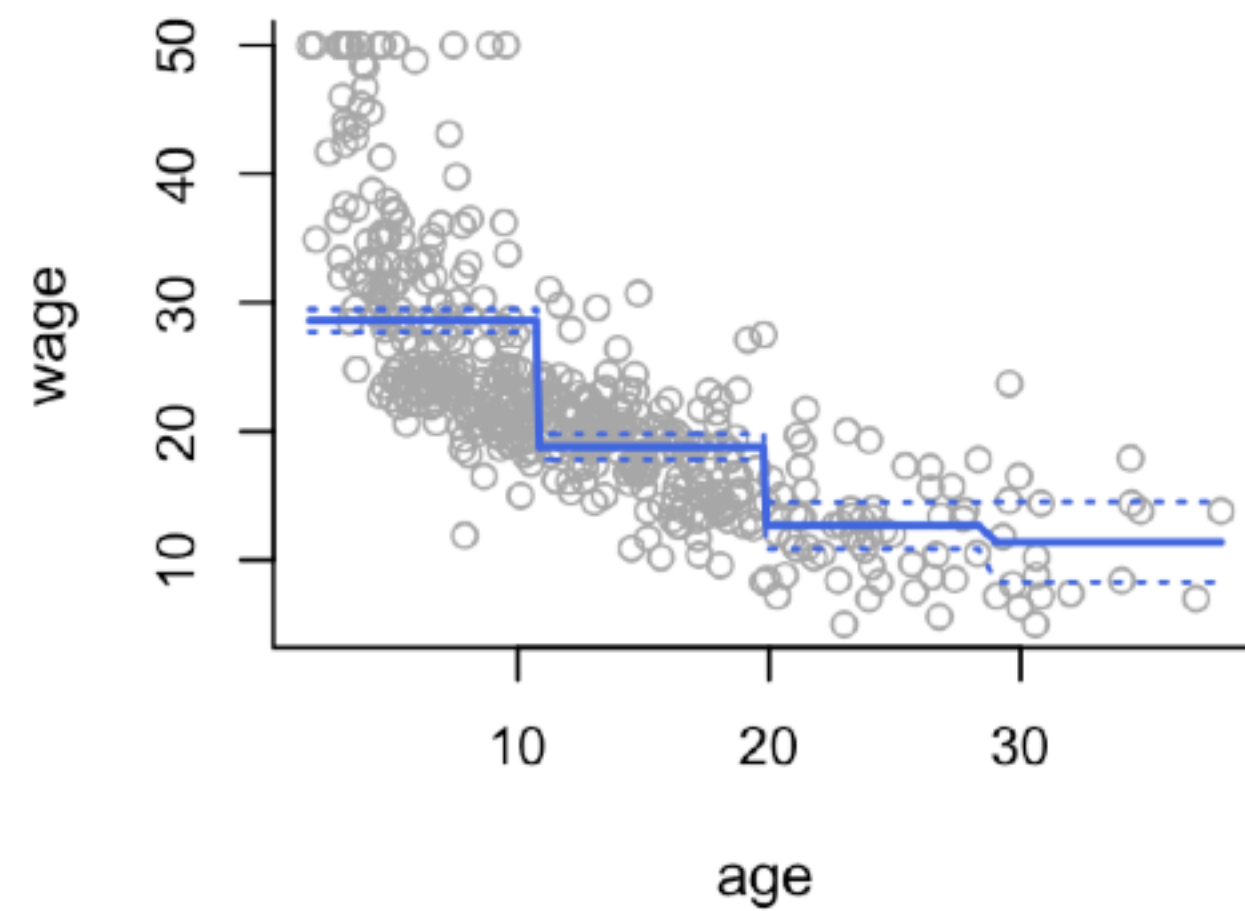
1 cutpoint



2 cutpoints



3 cutpoints



4 cutpoints

