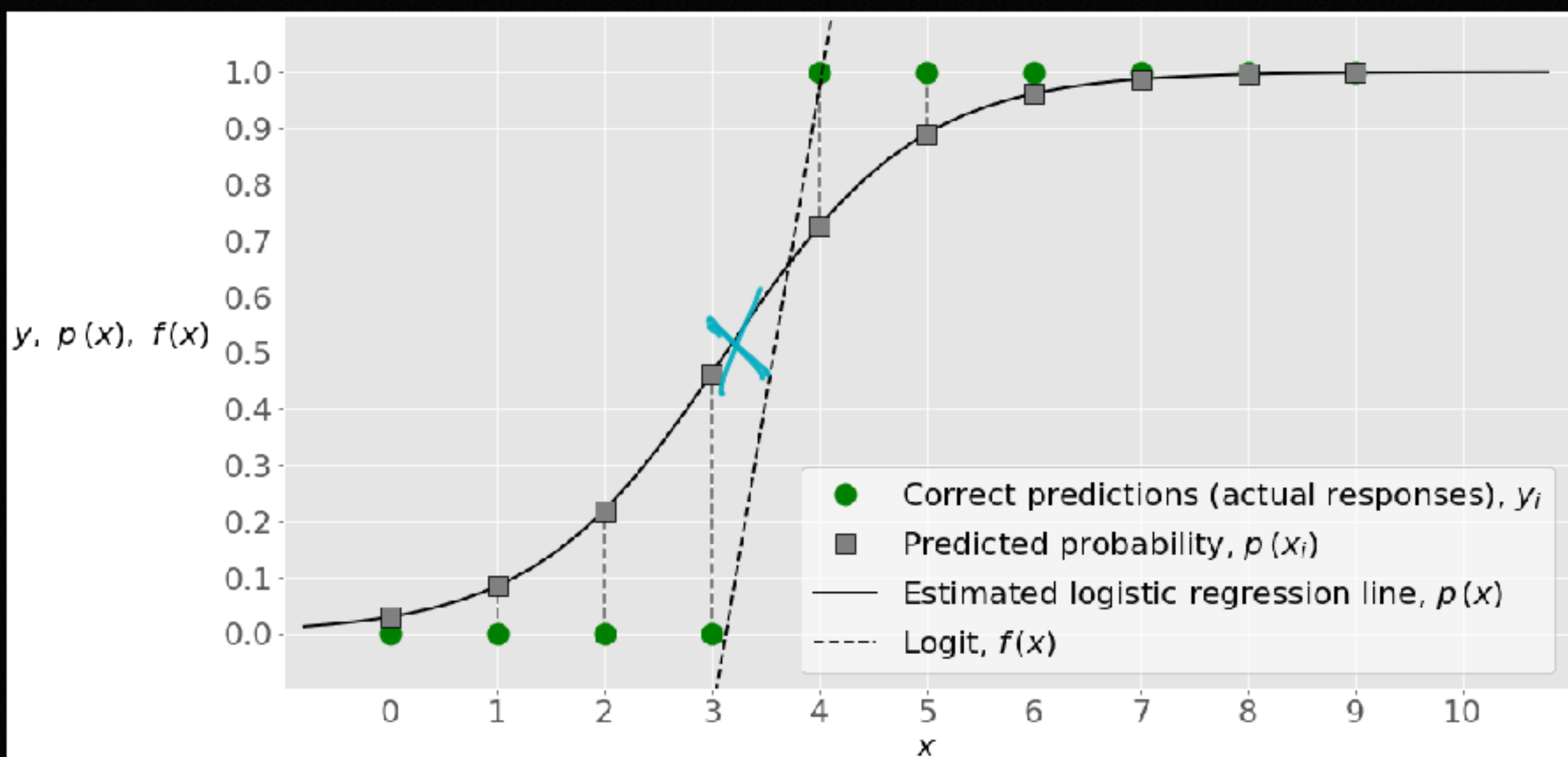


$C=1$ Train: b_0, b_1

$-1 \quad 0.5 \quad f(x) = b_0 + b_1 x$

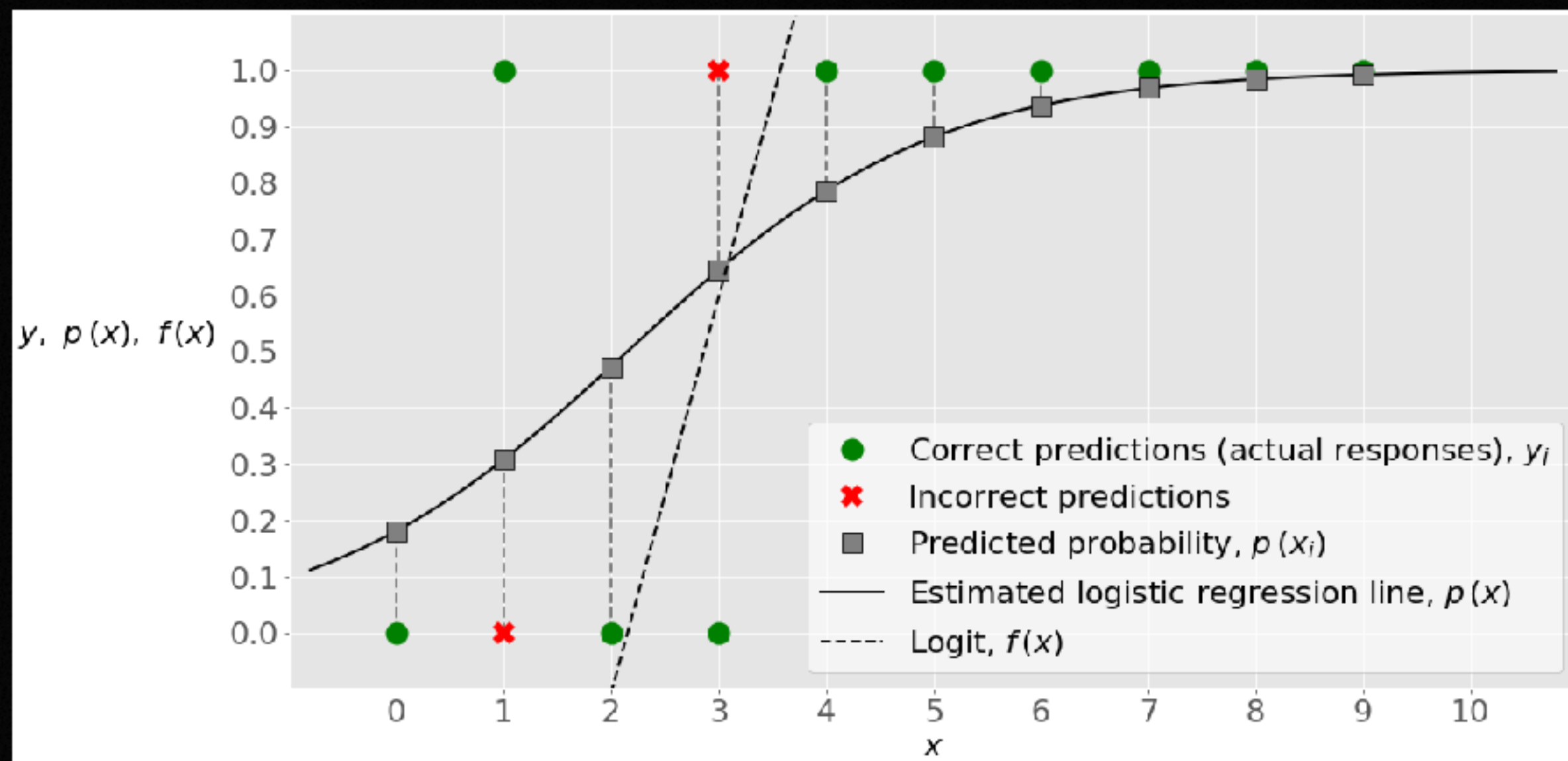
$$p(x) = \frac{1}{1 + e^{-f(x)}}$$



$C=10$

$-3 \quad 1.12$

non-linearly separable model



$$P = 1$$

$$N = 0$$

Actual 0s	3	1
Actual 1s	0	6
	Predicted 0s	Predicted 1s

$$TP = 6$$

$$TN = 3$$

$$FP = 1$$

$$FN = 0$$

$$F1 = 2 \times \frac{PPV + TPR}{PPV + TPR}$$

Precision / positive predictive value (PPV)

$$PPV = \frac{TP}{TP + FP}$$

Recall / sensitivity / true positive rate (TPR)

$$TPR = \frac{TP}{TP + FN}$$