

	Actual	Predicted			
1	Y	0.3	Default. $\geq 50\% \rightarrow$ Positive	Recall $\uparrow \geq 15$ $R > 100\%$ $P > \frac{2}{3}$	Pre \uparrow $\geq 80\% \rightarrow P$ $R > \frac{2}{3}$ $P > 100\%$
2	Y	0.9 y			
3	N	0.2			
4	N	0.6 y	M_1	M_2	M_3
5	Y	0.8 y			
6	N	0.1			

$$\begin{array}{cc}
 \begin{array}{c} \uparrow P \\ 2 \\ \downarrow \\ 1 \text{ PP} \end{array} & \begin{array}{c} \leftarrow N \\ 1 \\ \downarrow \\ 2 \text{ TN} \end{array}
 \end{array}
 \quad
 \begin{array}{l}
 \text{Pre} = \frac{TP}{TP+FP} = \frac{2}{2+1} = \frac{2}{3} \\
 \text{Recall} = \frac{TP}{TP+FN} = \frac{2}{2+1} = \frac{2}{3}
 \end{array}$$

$$\text{PI}(M_1) = \frac{\frac{2PR}{P+R}}{2} = \frac{2 \left(\frac{2}{3} \right) \left(\frac{2}{3} \right)}{\frac{2}{3} + \frac{2}{3}} = 0.6 = 60\%$$

$$\text{PI}(M_2) = \frac{\frac{2PR}{P+R}}{2} = \frac{2 \left(\frac{2}{3} \right) (1)}{1 + \frac{2}{3}} = 0.99 = 99\%$$

$$\text{PI}(M_3) = \frac{\frac{2PR}{P+R}}{2} = \frac{2 (1) \left(\frac{2}{3} \right)}{1 + \frac{2}{3}} = 0.8 = 80\%$$