

When X = score and Y = estimated probability,

Let $X^* = \log(X)$.

Then, fit $Y = f(X^*)$ to sigmoid function.

$$Y = \frac{1}{1 + e^{aX^*+b}} = \frac{1}{1 + e^{alogX+b}} = \frac{1}{1 + e^b \times X^a}$$

Fitted coefficients are $a = -1.041$ and $b = -1.733$.

Assuming $a \sim -1$,

$$Y = \frac{1}{1 + e^b \times X^a} \sim \frac{1}{1 + \frac{0.18}{X}} = \frac{X}{X + 0.18}$$

The values of the estimated probabilities range from 0 to 0.85 while the values of scores range from 0 to 1.