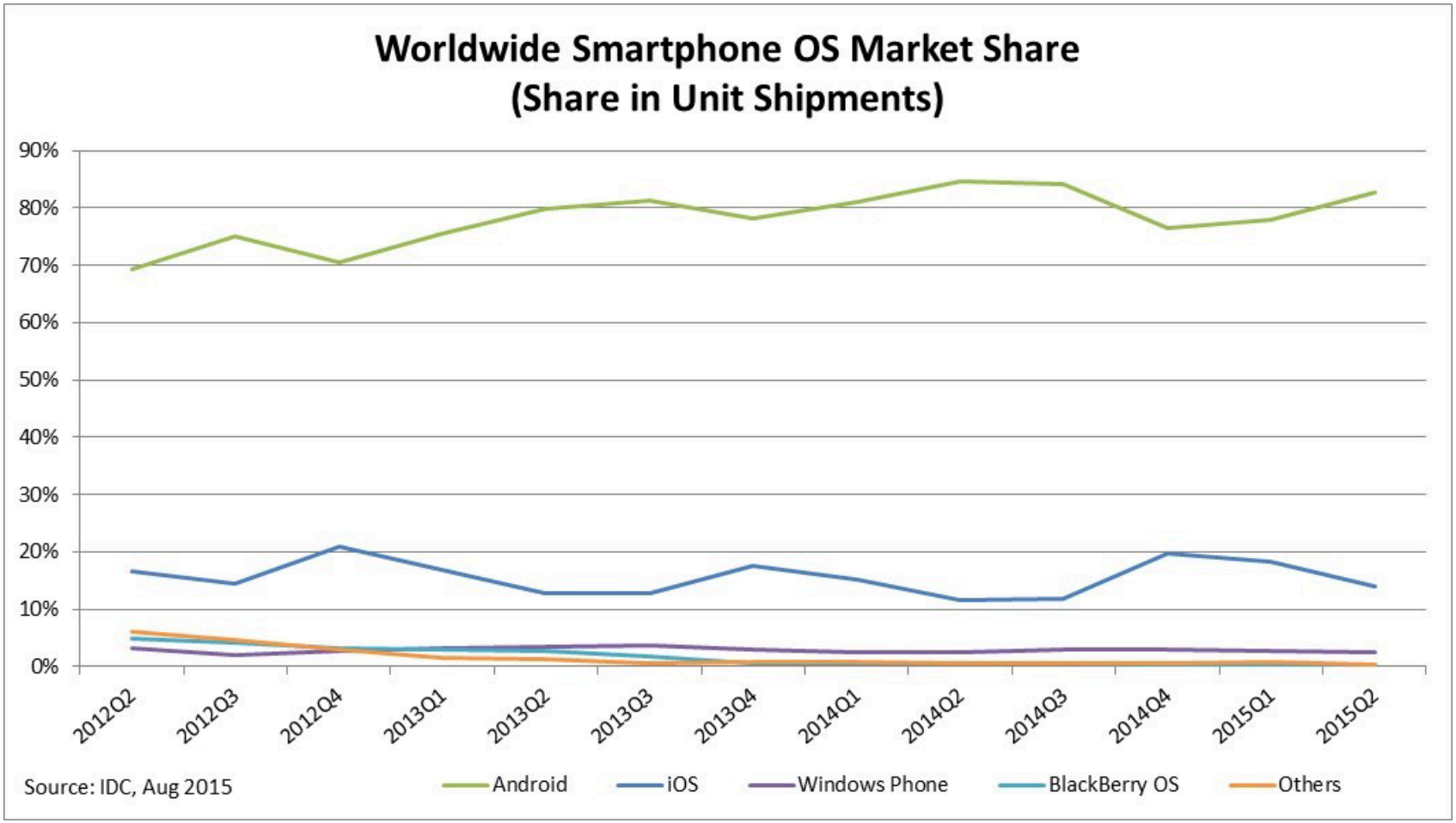
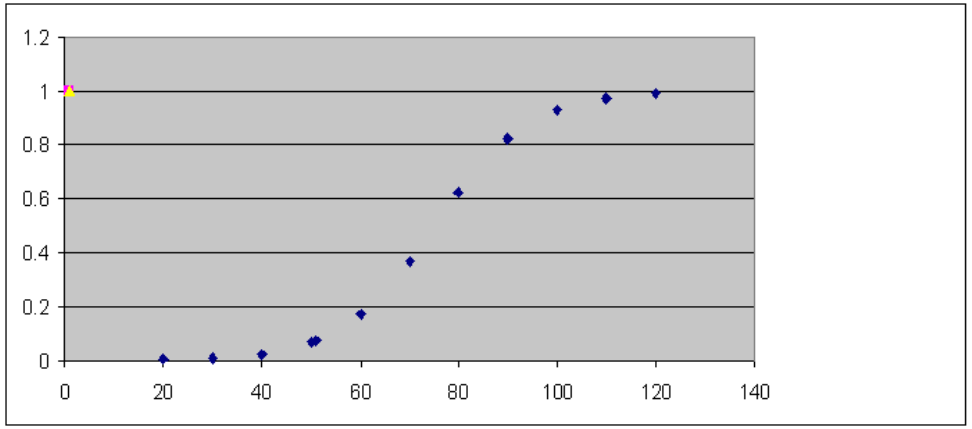
Market Share Predictions

What If One Has Only Share Data?



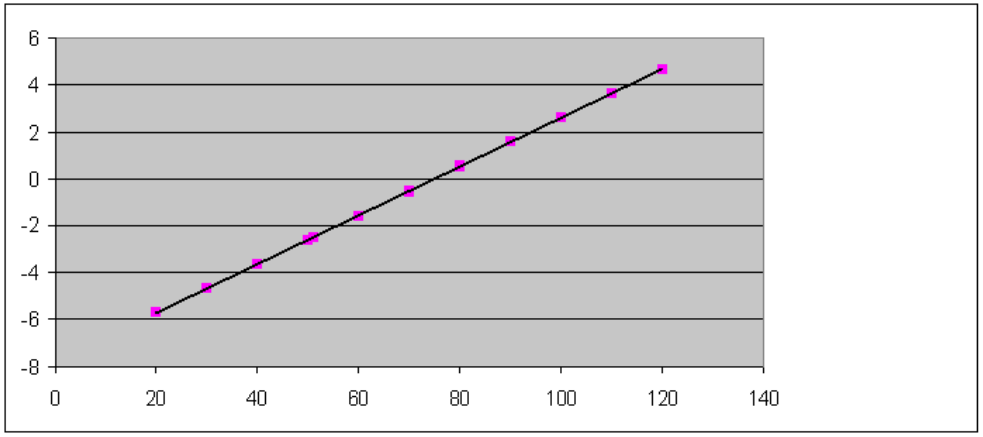
Logistic Regression

Logistic Distribution P(Y = 1)



Transformed, however, the "log odds" are linear.

$$\ln[p/(1 - p)]$$



Super Bowl 2016 Odds

Team	Odds Against
Green Bay Packers	6-1
Seattle Seahawks	13-2
Indianapolis Colts	8-1
New England Patriots	9-1
Dallas Cowboys	10-1
Denver Broncos	12-1

Source: Bovado (July 2015)

Logistic Regression

What if one does not have individual choice data but share data?

$$\text{Prob(Choosing Android)} = \frac{e^{(a+b_1X)}}{1+e^{(a+b_1X)}}$$

Predictions are bound between [0,1]

This is called → the "odds"

$$\frac{P}{1-P} = e^{a+b_1X} \longleftarrow$$

Chance of choosing to chance of not choosing

$$\text{where, P = Share of Android OS}$$

This is called → the "log odds"

$$\ln [p/(1-p)] = a + b_1\text{Price} + b_2 \text{ \# Vendors}$$