MOOC Econometrics

## Lecture 5.1 on Binary Choice: Motivation

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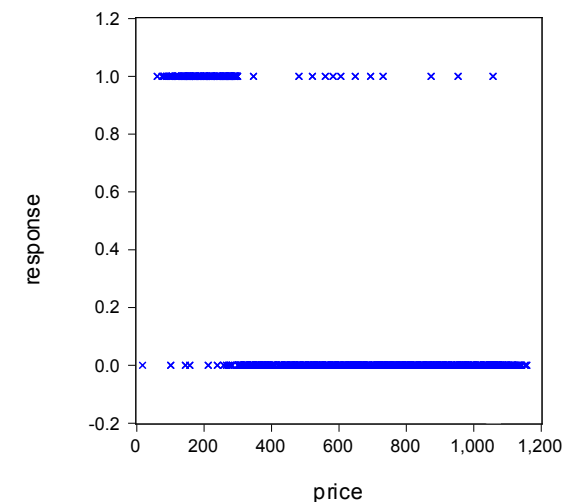## Examples of binary dependent variables

- Answers to "yes/no" questions
- Choice for private or public health care
- Vote decision for Democrat or Republican president (USA)
- Choice for private or public transport
- Choice to renew or cancel a mobile phone contract
- Business cycle indicator (expansion/recession)

and so forth.

Histogram of data
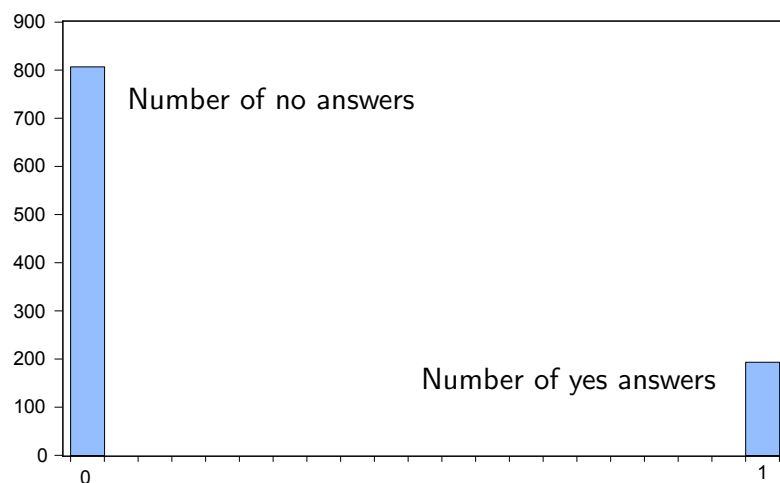
Scatter diagram

Linear regression model

Test

Suppose we model the binary variable using a regression model

$$\text{response} = \beta_1 + \beta_2\text{price} + \varepsilon$$

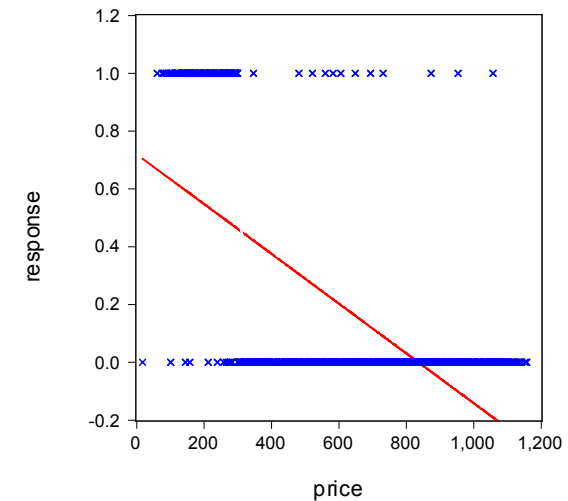Is it possible to estimate the β parameters using least squares?

Yes, this is possible. Least squares estimation results in:
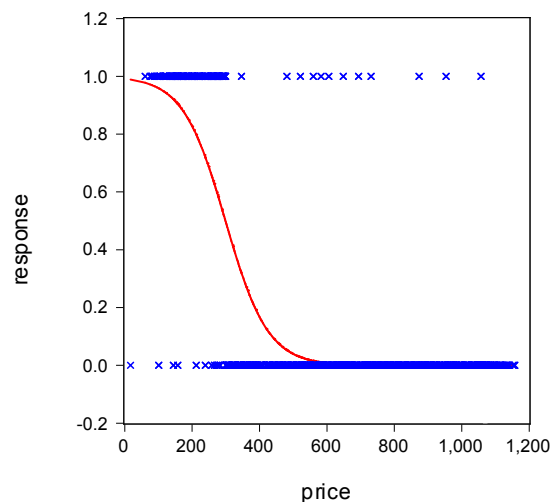
$$\text{response} = 0.720 - 0.861\text{price}/1000 + e$$

Scatter diagram with regression line

Model for binary dependent variable

Training Exercise 5.1

- Train yourself by making the training exercise (see the website).

- After making this exercise, check your answers by studying the webcast solution (also available on the website).