Causal Inference7

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Contents


```
library(FinMetric)
library(formatR)
knitr::opts_chunk$set(tidy.opts=list(width.cutoff=60),
                      tidy=TRUE,
                      echo = TRUE)
```

Binary Choice

```
# loading dataset
data("Hdma", package = "Ecdat")

Hdma <- Hdma %>%
    mutate(deny_num = ifelse(deny == "no", 0, 1), black_numb = ifelse(black ==
        "no", 0, 1), ccs = round(ccs, digits = 0))
```

Linear Probability Model

```
# Baseline Model
model_lpm1 <- lm(deny_num ~ dir, data = Hdma)
summary(model_lpm1)
```

```
##
## Call:
## lm(formula = deny_num ~ dir, data = Hdma)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.73064 -0.13731 -0.11317 -0.07092  1.05582
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.07996    0.02115  -3.780 0.000161 ***
## dir          0.60353    0.06083   9.922  < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
```

```
## Residual standard error: 0.3182 on 2379 degrees of freedom
## Multiple R-squared:  0.03974,    Adjusted R-squared:  0.03933
## F-statistic: 98.44 on 1 and 2379 DF,  p-value: < 2.2e-16
```

The estimate of coefficient `dir` is .604. Doubling the loan payment to income ratio (an incrase by one unit) leads to an increase of the probability of loan denial by 60.4%.