Hamner & Kalkan Replication

Nick Thompson

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Pull in Data

```
setwd("~/Documents/GitHubRepo/729_Reed_MLE_git/Exam/hanmer")
#data <- read.csv(file = "https://raw.githubusercontent.com/Neilblund/729A/master/data/voterid.csv", he
#or
#data <- read.dta(file = "hk1.dta")
#or
# data <- read.dta13(file = "hyperlink or filename goes here")
#save(data, file = "data.RData")
load("data.RData")
#View(data)
```

Introduction:

```
#descriptive statistics for all variables
#stargazer(voterid, type = 'text')
# run probit, show results
data <- na.omit(data)
#View(data)
#View(data) - here we put the point prediction that we're looking for.
# If you're using mean, then keep mean.
# If you're using a SD up and down from the mean, then use that.
# If you're using a different range, then use that.
data$mean_gopleg <- mean(data$gopleg)
```

```
## Warning in mean.default(data$gopleg): argument is not numeric or logical:
## returning NA
```

```
data$sd_gopleg <- 0.5*sd(data$gopleg)
data$med_g = median(data$gopleg)
```

```
## Warning in is.na(x): is.na() applied to non-(list or vector) of type 'NULL'
```

Descriptive statistics

```
summary(data)
```

```
 caseid                ideol7b     presvote      retecon
```

Min. : 3.0 Ext Liberal : 11 Kerry:187 Min. :-1.0000
1st Qu.: 284.5 Liberal : 41 Bush :196 1st Qu.:-0.5000
Median : 589.0 Slig. Liberal: 31 Median : 0.0000

Mean : 593.1 Moderate :145 Mean :-0.1593
3rd Qu.: 898.5 Slig. Cons : 59 3rd Qu.: 0.5000
Max. :1211.0 Cons : 84 Max. : 1.0000
Ext Cons. : 12
white female age educ1_7
Min. :0.0000 Min. :0.0000 Min. :18.00 Min. :1.000
1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.:34.00 1st Qu.:3.000
Median :1.0000 Median :1.0000 Median :49.00 Median :4.000
Mean :0.7911 Mean :0.5509 Mean :48.01 Mean :4.608
3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.:61.00 3rd Qu.:6.000
Max. :1.0000 Max. :1.0000 Max. :88.00 Max. :7.000

```
 income          partyid          bushiraq              exptrnout2
```

Min. : 1.00 Min. :0.000 Min. :0.0000 Standard :383
1st Qu.:12.00 1st Qu.:1.000 1st Qu.:0.0000 Experimental: 0
Median :17.00 Median :3.000 Median :0.3333
Mean :15.86 Mean :2.966 Mean :0.4003
3rd Qu.:20.00 3rd Qu.:5.000 3rd Qu.:0.8333
Max. :23.00 Max. :6.000 Max. :1.0000

```
bushvote           ideol         mean_gopleg     sd_gopleg
```

Min. :0.0000 Min. :1.000 Min. : NA Min. : NA
1st Qu.:0.0000 1st Qu.:4.000 1st Qu.: NA 1st Qu.: NA
Median :1.0000 Median :4.000 Median : NA Median : NA
Mean :0.5117 Mean :4.305 Mean :NaN Mean :NaN
3rd Qu.:1.0000 3rd Qu.:5.500 3rd Qu.: NA 3rd Qu.: NA
Max. :1.0000 Max. :7.000 Max. : NA Max. : NA
NA's :383 NA's :383

```
# stargazer(data, header = F)
# type = 'text',
```

Plot a histogram to see what the data looks like. Identify skewness for determining if using mean, median, or tail.

Calculate the average effect of `variable name` using observed values.

The logit model.

A table of the logit model.

The logit predicted probabilities.

Calculate the average effects with a logit model.

A way to do this with probit.

```
# run probit, show results
(model_1p <- glm('bushvote ~ retecon + partyid +
                 bushiraq + ideol +
                 white + female + age +
                 educ1_7 + income',
               family = binomial(link = "probit"),
               data = data))
```

```
##
## Call:  glm(formula = "bushvote ~ retecon + partyid +\n                 bushiraq + ideol + \n
##     family = binomial(link = "probit"), data = data)
##
## Coefficients:
## (Intercept)      retecon      partyid     bushiraq        ideol
##   -2.611185     0.871338     0.583033     2.130149     0.180547
##       white       female          age      educ1_7       income
##    0.091140    -0.080501    -0.003582    -0.076131     0.014432
##
## Degrees of Freedom: 382 Total (i.e. Null);  373 Residual
## Null Deviance:       530.7
## Residual Deviance: 120.8     AIC: 140.8
```

A table printout of the probit model.

```
# summary(model_1p)
stargazer(model_1p, title = "Table 1")
```

% Table created by stargazer v.5.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Thu, Oct 13, 2016 - 10:09:22

```
# type = 'text',
# header=F,
```

Calculate the predicted probabilities in the probit model.

A summary of the probit test.

Calculate the average effects and difference for a probit model.

Summary: Interpreting the Coefficients, include the AIC

Log Likelihood

Deviances

Bayes

AIC

Simulations:

Violin Plots of the Simulation

Table 1: Table 1

	Dependent variable:
	NA
retecon	0.871***
	(0.275)
partyid	0.583***
	(0.088)
bushiraq	2.130***
	(0.371)
ideol	0.181
	(0.130)
white	0.091
	(0.306)
female	−0.081
	(0.258)
age	−0.004
	(0.008)
educ1_7	−0.076
	(0.100)
income	0.014
	(0.027)
Constant	−2.611***
	(0.864)
Observations	383
Log Likelihood	−60.414
Akaike Inf. Crit.	140.827
Note:	*p<0.1; **p<0.05; ***p<0.01