# Impact of immigration policy on voters for election

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**Introduction:**

How much does the immigration policy issue affect the voters in choosing candidates based on the previous data results from 2008 election.

This is an important consideration because many voters account this factor in making decision to vote for the candidates (*Central Issues of Election* 2012).

**Data:**

Data is extracted from the American National Election Studies survey. To make analysis easier raw dataset has been pre-processed that is made available from the ANES site (*Election Studies* 2008).

**Exploratory data analysis:**

Since we are interested in finding the relationship between the immigration policy on the candidates chosen, we only focus on two columns (or variables) in the whole dataset - interest_whovote2008 and immig_policy.

Analysis Details:

Identify list of usable rows for analysis. For data to be meaningful both column (or variables) should have meaningful data i.e. shoudn't have NA entry.

```
voterimmig <- select(anes, interest_whovote2008, immig_policy) %>%
    filter(!is.na(interest_whovote2008), !is.na(immig_policy))
dim(voterimmig)
```

```
## [1] 4493    2
```

Verify the details of the extracted variables.

```
head(voterimmig)
```

```
## # A tibble: 6 x 2
##   interest_whovote2008 immig_policy
##   <fct>                <fct>
## 1 Barack Obama         Allow Unauthorized Immigrants To Remain In The Uni~
## 2 Barack Obama         Allow Unauthorized Immigrants To Remain In The Uni~
## 3 Barack Obama         Allow Unauthorized Immigrants To Remain In The Uni~
## 4 Barack Obama         Allow Unauthorized Immigrants To Remain In The Uni~
## 5 Barack Obama         Allow Unauthorized Immigrants To Remain In The Uni~
## 6 Barack Obama         Allow Unauthorized Immigrants To Remain In The Uni~
```

Determine percentage of votes received by Obama, Mccain and others in sample.

```
print(percentageVote <- table(voterimmig$interest_whovote2008))
```

```
##
##     Barack Obama      John Mccain Other {Specify}
##             2688             1693              112
```

Determine distribution of votes to each candidate based on different immigration policy.

```r
prop.table(table(voterimmig[voterimmig$immig_policy ==
    "Allow Unauthorized Immigrants To Remain In The United States ...Without Penalties",
    ]$interest_whovote2008))
```

```
##
##   Barack Obama     John Mccain Other {Specify}
##     0.86647727      0.11363636      0.01988636
```

```r
prop.table(table(voterimmig[voterimmig$immig_policy ==
    "Allow Unauthorized Immigrants To Remain In The United States ...Certain Requirements",
    ]$interest_whovote2008))
```

```
##
##   Barack Obama     John Mccain Other {Specify}
##     0.65873016      0.32237339      0.01889645
```

```r
prop.table(table(voterimmig[voterimmig$immig_policy ==
    "Have A Guest Worker Program That Allows Unauthorized Immigrants To Remain .",
    ]$interest_whovote2008))
```

```
##
##   Barack Obama     John Mccain Other {Specify}
##     0.44805195      0.51948052      0.03246753
```
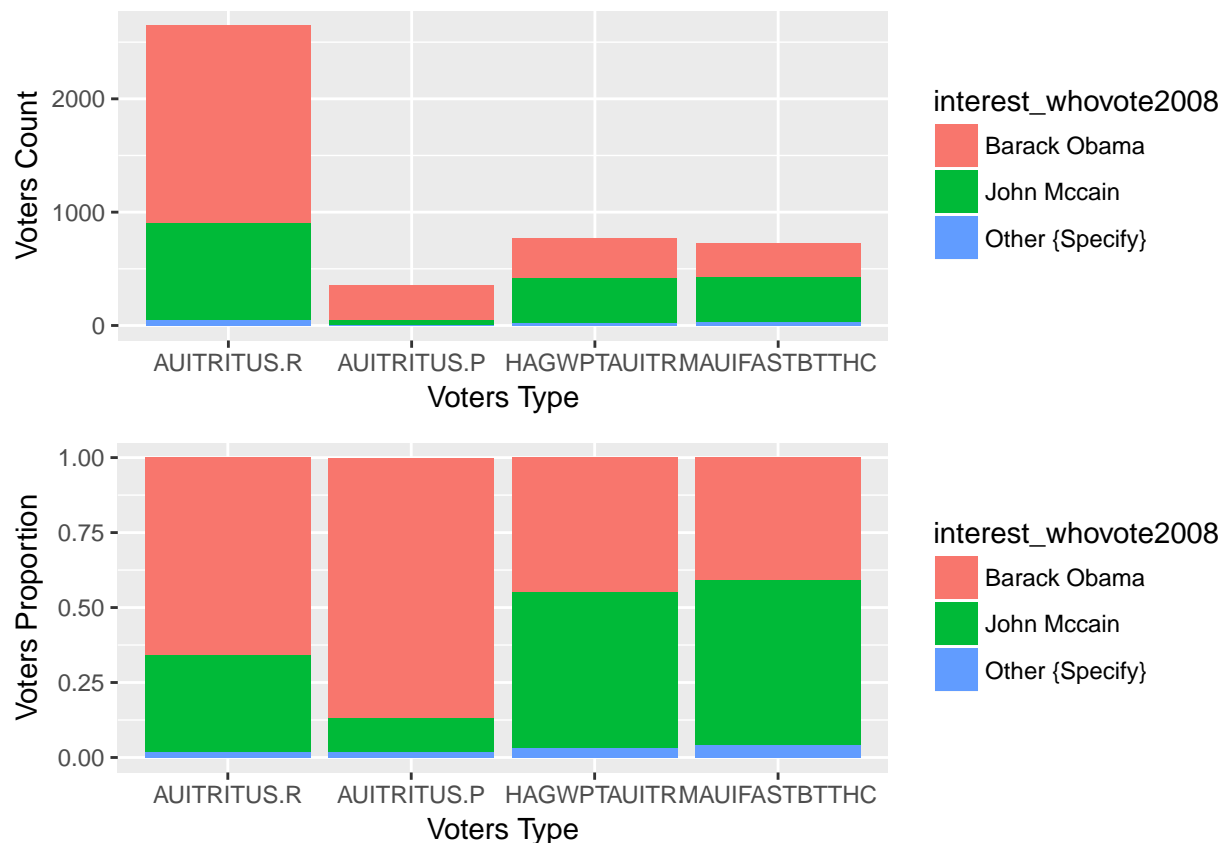
```r
prop.table(table(voterimmig[voterimmig$immig_policy ==
    "Make All Unauthorized Immigrants Felons And Send Them Back To Their Home Country.",
    ]$interest_whovote2008))
```

```
##
##   Barack Obama     John Mccain Other {Specify}
##     0.40689655      0.55172414      0.04137931
```

From the above results its clear that the majority of the voters who had a view to allow "unauthorized immigrants to remain in the US" support Obama while others support McCain. This is because the Obama party (i.e. Democrats) supports the implication of rules which facilitates unauthorized immigrants to remain within US.

Visual representation:

```r
p1 <- ggplot(voterimmig, aes(x = immig_policy, fill = interest_whovote2008)) +
    scale_x_discrete(label = abbreviate) + geom_bar() +
    xlab("Voters Type") + ylab("Voters Count")
p2 <- ggplot(voterimmig, aes(x = immig_policy, fill = interest_whovote2008)) +
    scale_x_discrete(label = abbreviate) + geom_bar(position = "fill") +
    xlab("Voters Type") + ylab("Voters Proportion")
grid.arrange(p1, p2)
```

From the above visualization its clear that "allowing unauthorized immigrants to remain in US" support Obama whereas others support Mccain.

**Inference:**

Does immigration policy affects voters decision about which candidate to vote.

**Hypothesis:**

H0: Immigration Policy and voting decisions are independent.

HA: Immigration Policy and voting decisions are dependent.

**Findings:**

```
print(tbl <- table(voterimmig$interest_whovote2008,
    voterimmig$immig_policy))
```

```
##
##                    Allow Unauthorized Immigrants To Remain In The United States ...Certain Requirement
##    Barack Obama                                                                                    174
##    John Mccain                                                                                      85
##    Other {Specify}                                                                                   5
##
##                    Allow Unauthorized Immigrants To Remain In The United States ...Without Penalties
##    Barack Obama                                                                                  305
```

```
##    John Mccain                                                                   40
##    Other {Specify}                                                                7
##
##                 Have A Guest Worker Program That Allows Unauthorized Immigrants To Remain .
##    Barack Obama                                                                  345
##    John Mccain                                                                   400
##    Other {Specify}                                                               25
##
##                 Make All Unauthorized Immigrants Felons And Send Them Back To Their Home Country.
##    Barack Obama                                                                  295
##    John Mccain                                                                   400
##    Other {Specify}                                                               30
```

Independence test using Pearson's Chi-squared test.

```
print(ch <- chisq.test(tbl))
```

```
##
##  Pearson's Chi-squared test
##
## data:  tbl
## X-squared = 331.74, df = 6, p-value < 2.2e-16
```

Based on above results its 0 probability that voting decisions and immigration policy are independent.

**Conclusion:**

In this assessment we checked if various immigration policy affects the voting decision for the voters. Based on our exploratory analysis and hypothesis testing we figured out that indeed immigration policy is one of the major factor that influnce voting decisions.

**References:**

*Central Issues of Election.* 2012. *Los Angeles Times.* http://timelines.latimes.com/central-issues-election-2012/.

*Election Studies.* 2008. http://www.electionstudies.org/.