

# STAT 422 Final Project

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Voter Registration Comparison for  
Years 2008 and 2012



# INTRODUCTION

- Is there a significant difference in the number of registered voters per state between 2008 and 2012?
- Using census data for those 2 years, I will investigate these changes
- Systematic Sampling combined with some Simple Random Sampling will be used to determine these differences and their impact

# SAMPLING DESIGN

## KEY TERMS

- ELEMENTS ARE THE VOTER POPULATION
- POPULATION IS THE US REGISTERED VOTERS
- SAMPLING UNITS ARE THE VOTERS REGISTERED IN YEARS 2008 AND 2012
- FRAME IS EACH INDIVIDUAL VOTER, REGISTERED IN EACH STATE

## SAMPLING CHOICE

- CONSIDERED STRATIFICATION, RATIO AND SYSTEMATIC
- CHOSE SYSTEMATIC BECAUSE ITS QUICK, EASY AND REVEALS TRENDS QUICKLY

# METHODS AND IMPLEMENTATION

- SAMPLE WAS A 1 IN 7 SYSTEMATIC SAMPLING
- Example of the 1 in 7 data table from 2012

			Percent registered		Percent registered			Percent voted		Percent voted		
		Total registered	(Total)	Margin of Error 1	(Citizen)	Margin of Error	Total voted	(Total)	Margin of Error (Citizen)	Margin of Error		
ALABAMA	3,656	3,519	2,366	64.7	2.4	67.2	2.4	1,497	40.9	2.4	42.5	2.5
CONNECTICUT	2,783	2,560	1,668	59.9	2.4	65.1	2.5	1,195	43	2.5	46.7	2.6
ILLINOIS	9,757	8,951	5,716	58.6	1.5	63.9	1.5	3,734	38.3	1.5	41.7	1.6
MARYLAND	4,542	4,148	2,995	65.9	2.2	72.2	2.1	2,028	44.7	2.3	48.9	2.4
NEBRASKA	1,400	1,306	873	62.4	2.6	66.9	2.6	579	41.4	2.6	44.3	2.8
NORTH DAKOTA	567	547	363	64.1	2.4	66.4	2.4	279	49.2	2.5	51	2.5
SOUTH DAKOTA	625	618	401	64.2	2.6	64.9	2.6	273	43.7	2.7	44.1	2.7
WEST VIRGINIA	1,449	1,440	896	61.8	2.5	62.2	2.5	484	33.4	2.5	33.6	2.5

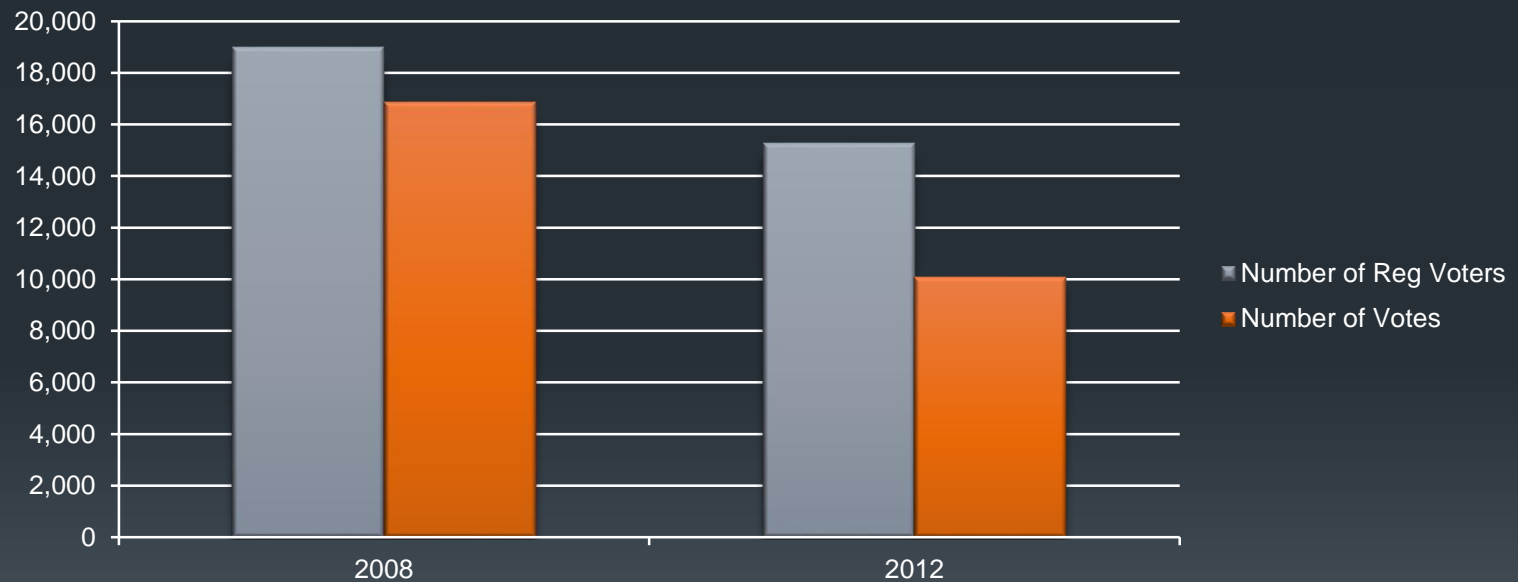
- Example of the Excel Analysis

2008	Average # Voters	18,980
	SD # Voters	1822.389876
	Average # Voted	16,837
	SD Voted	1624.20094
2012	Average # Voters	15278
	SD # Voters	1800.921014
	Average # Voted	10069
	SD Voted	1181.605801

# ANALYSIS



**Average Number of Voters per State  
(in Thousands)**



# ANALYSIS

- DATA INDICATES THAT LESS PEOPLE REGISTERED TO VOTE IN 2012 THAN IN 2008.

Year	Variance	Bound
2008	166.718954	25.8
2012	164.705882	25.668

- Variance and Bound were actually quite close, but overall there were less votes cast in 2012

Diff 2008	Diff 2012	Diff Between
0.88709168	0.65905223	0.80495258

- In 2008, there was an 88% Voter turnout, compared to a 66% turnout in 2012.

# CONCLUSION

- THE MORE CONCERNING OUTCOME OF THIS SAMPLING IS THAT IN 2012 THERE WAS A 20% DECREASE IN THE VOTER PARTICIPATION FROM 2008.
- The Systematic sampling let me quickly find this trend and analyze the voter turn-out behavior in these 2 federal election years.
- I found that sampling could be done much quicker and easier than I had anticipated. And more importantly, it reveals trends that are worthy of further study.