

Analyzing Philippine Election Data

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February 14, 2023

Objectives

- Be familiar with more data science applications
- Possibly get ideas for your project!
- Have a better understanding of Philippine history and politics

If you were running a political campaign,
who would you cater your messaging to?
Where would you campaign?

Traditional Political Surveys

- Expensive
- Susceptible to underrepresent populations
- Data cannot be retroactively appended
- Cannot be done in the past

2016 Philippine vice presidential election



← 2010

May 9, 2016

2022 →



Candidate	Leni Robredo	Bongbong Marcos
Party	Liberal	Independent
Popular vote	14,418,817	14,155,344
Percentage	35.11%	34.77%



Candidate	Alan Peter Cayetano	Francis Escudero
Party	Independent	Independent
Popular vote	5,903,379	4,931,962
Percentage	14.38%	12.01%

2022 Philippine presidential election



← 2016

May 9, 2022

2028 →

Opinion polls

Turnout

83.07% ▲ 2.38pp



Candidate	Bongbong Marcos	Leni Robredo
Party	PFP	Independent ^[a]
Alliance	UniTeam	TRoPa
Running mate	Sara Duterte	Francis Pangilinan
Popular vote	31,629,783	15,035,773
Percentage	58.77%	27.94%

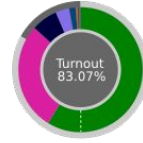


Candidate	Manny Pacquiao	Isko Moreno
Party	PROMDI	Aksyon
Alliance	MP3	
Running mate	Lito Atienza	Willie Ong
Popular vote	3,663,113	1,933,909
Percentage	6.81%	3.59%

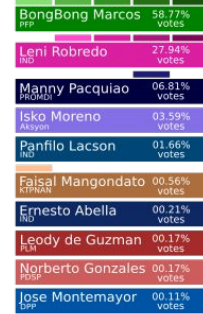
2022 Philippine Presidential Election Map Results

Robredo
Marcos
Escudero
Cayetano

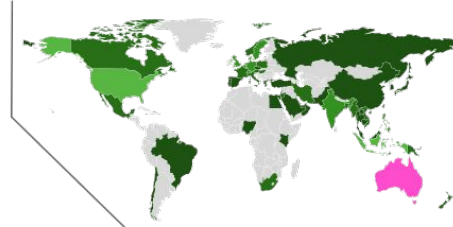
Absentee voters
Local voters
Detainee voters
Overseas voters



Candidates Vote share (%)



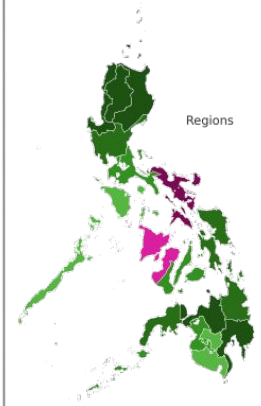
Detainee voters
Local absentee voters



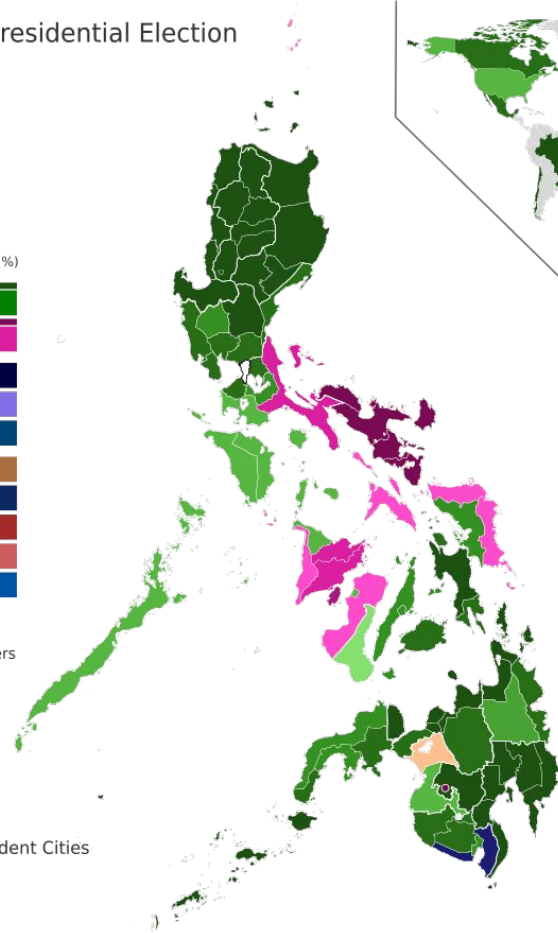
Overseas



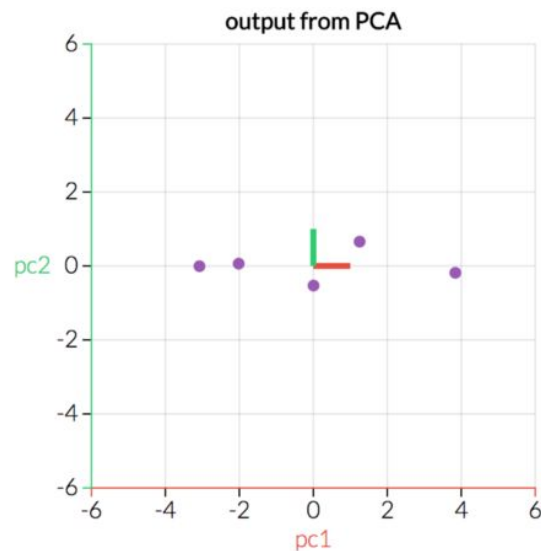
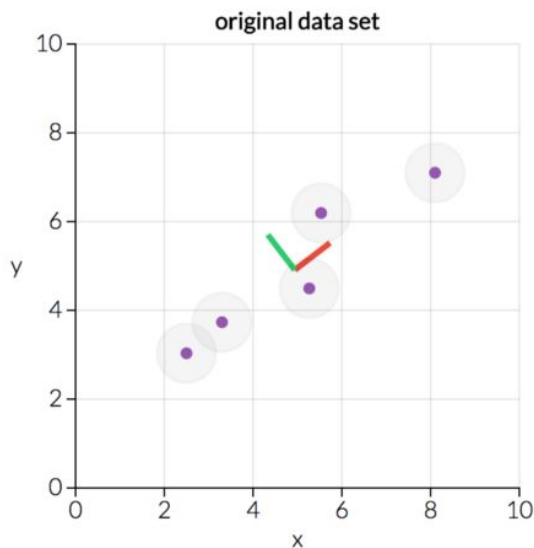
Regions



Provinces and Independent Cities

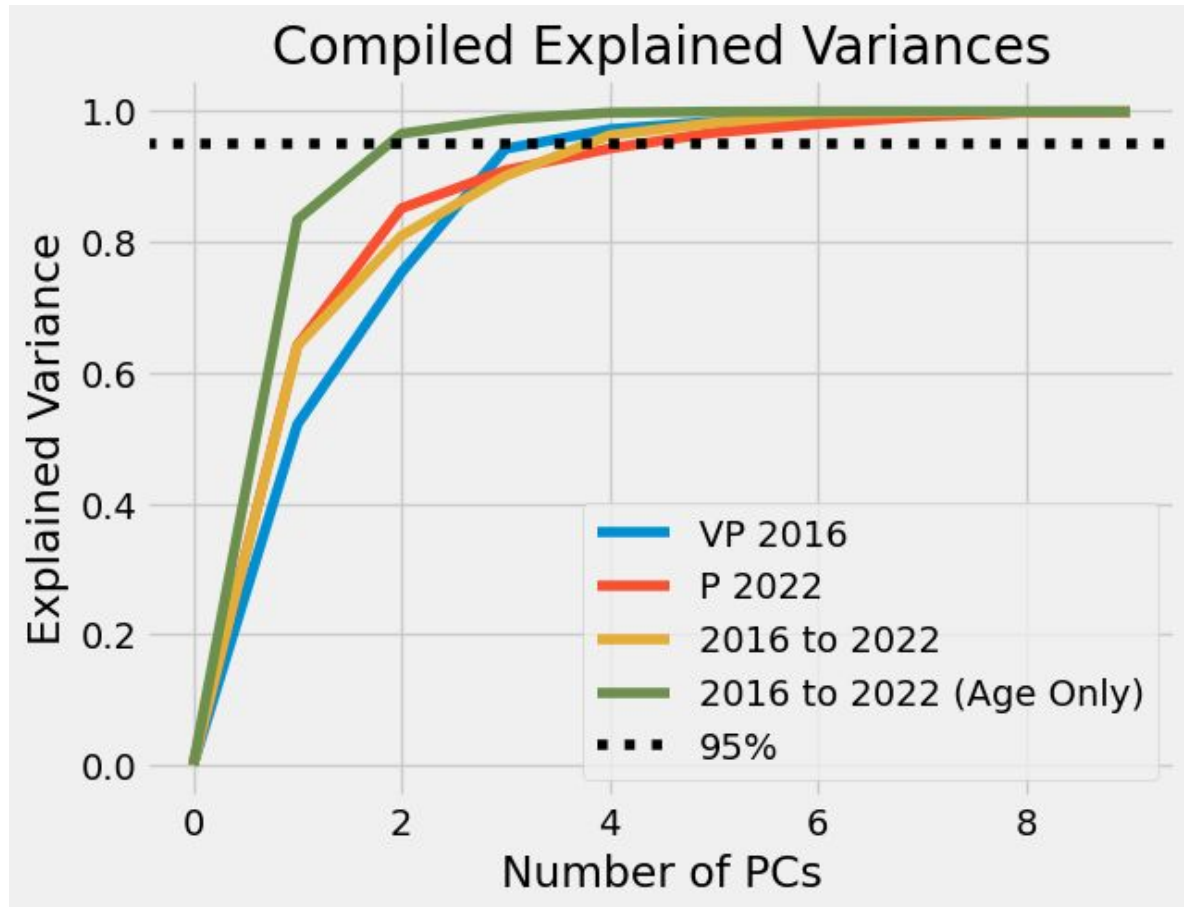


PCA reduces dimensionality of the data

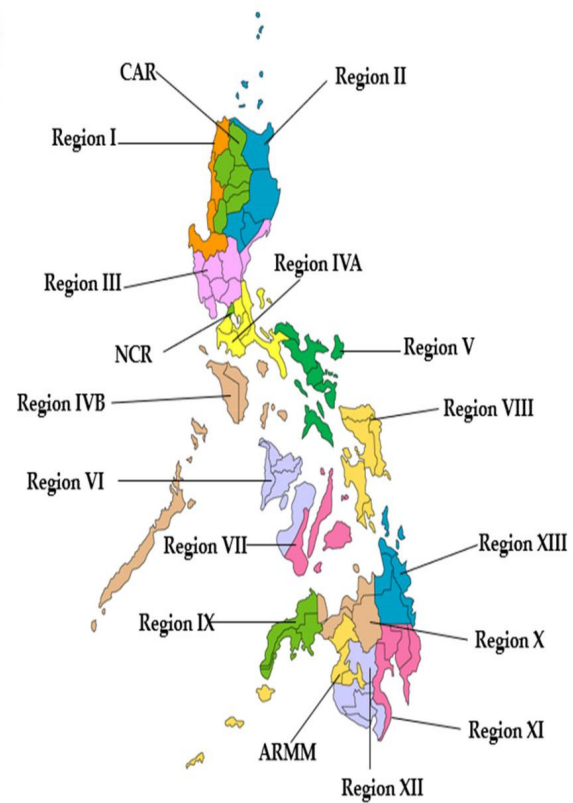
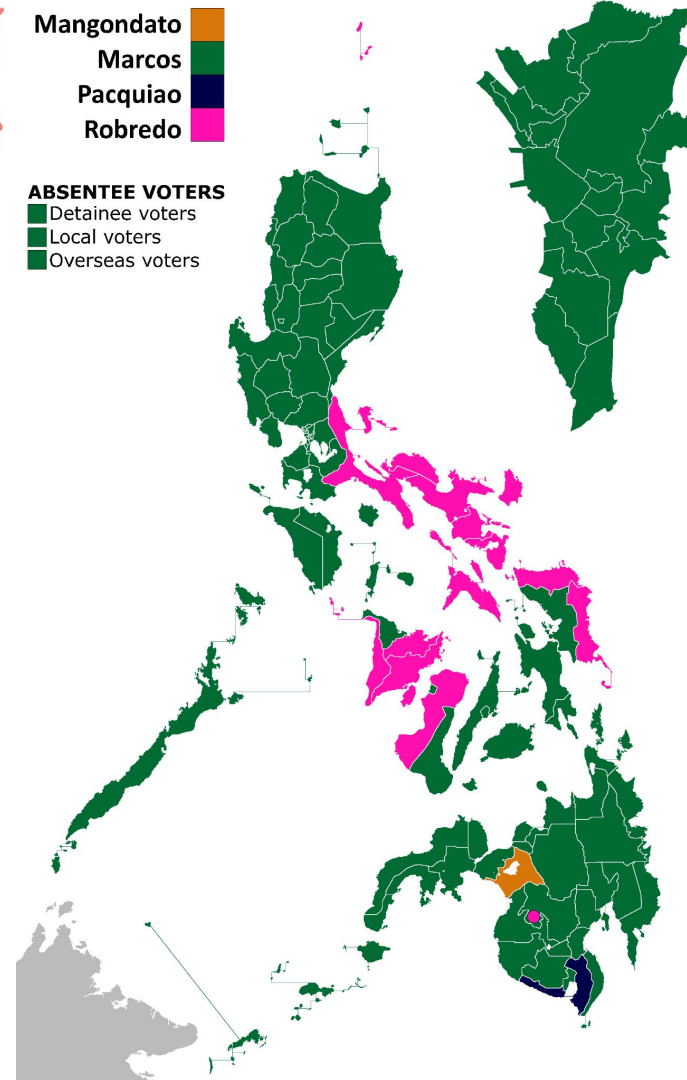
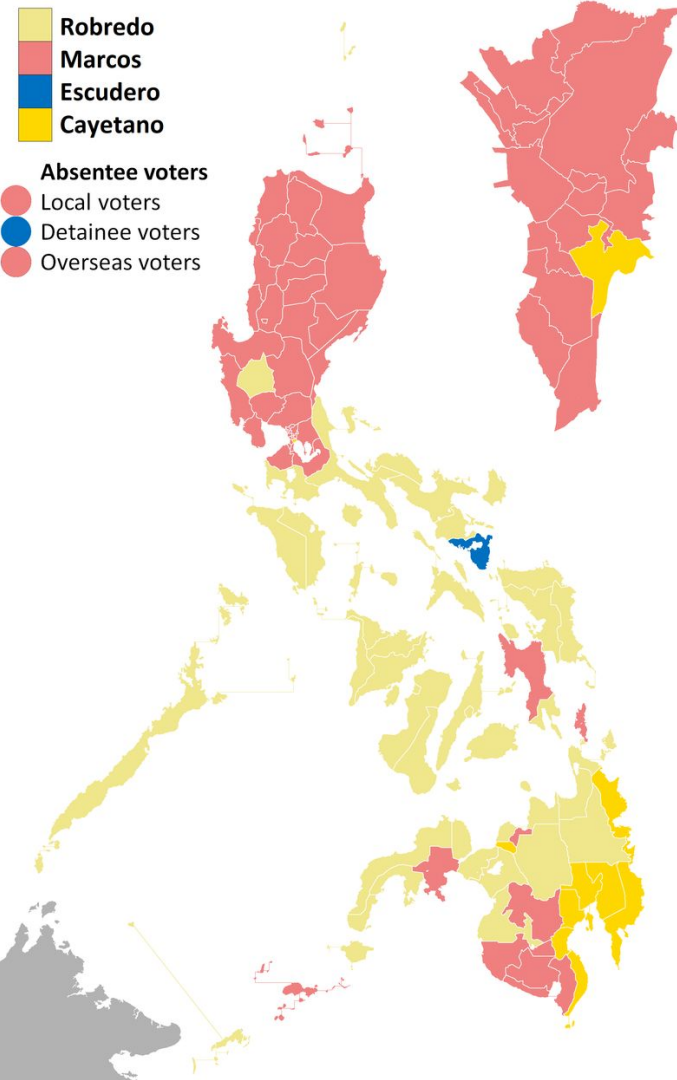


PCAs for Election Data and Demographics

- 2016 Vice Presidential & 2022 Presidential Elections
- Gender, age, marital status, literacy, indigenous status, disability status
- Data in percentages
- Change in percentage for Marcos and Robredo computed
- Age only also computed for percentage change

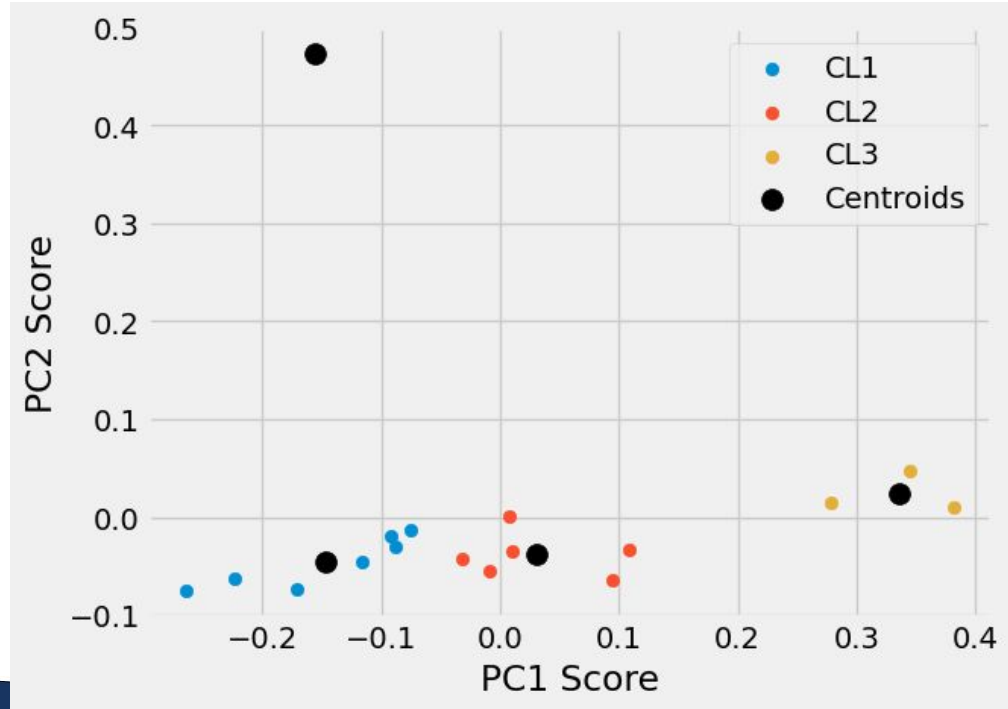


Clustering



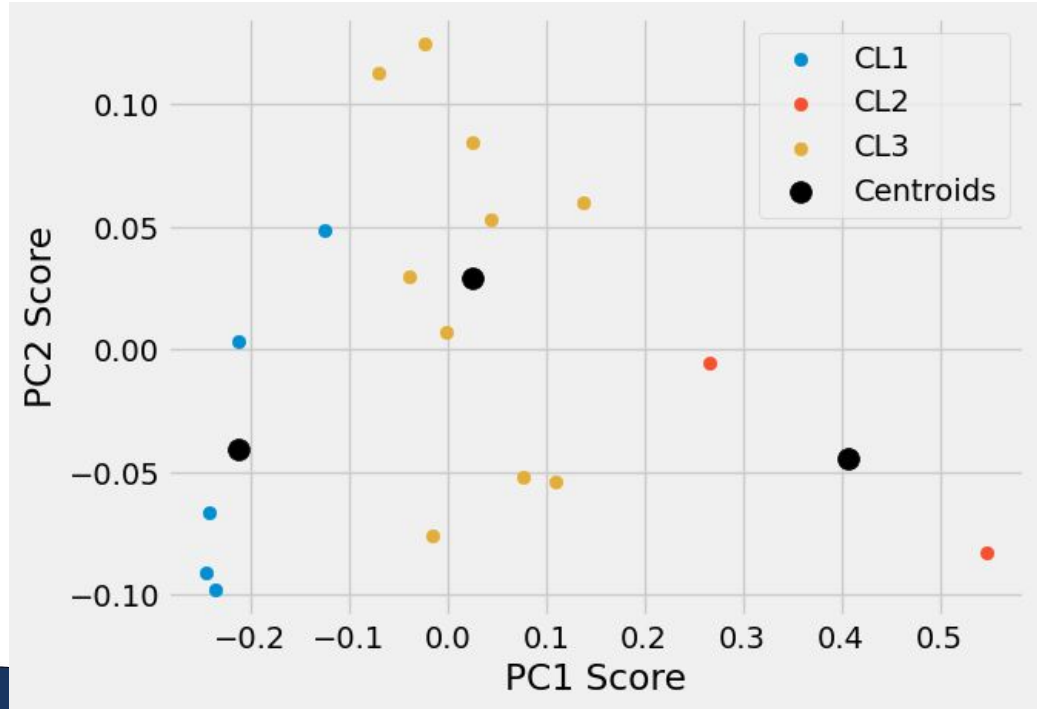
What are the battleground regions? (2016)

	Province	cluster
0	NCR	1
1	CAR	2
2	REGION I	2
3	REGION II	2
4	REGION III	1
5	REGION IV-A	1
6	REGION IV-B	0
7	REGION V	0
8	REGION VI	0
9	REGION VII	0
10	REGION VIII	1
11	REGION IX	0
12	REGION X	0
13	REGION XI	1
14	REGION XII	1
15	CARAGA	0
16	BARMM	3



What are the battleground regions? (2022)

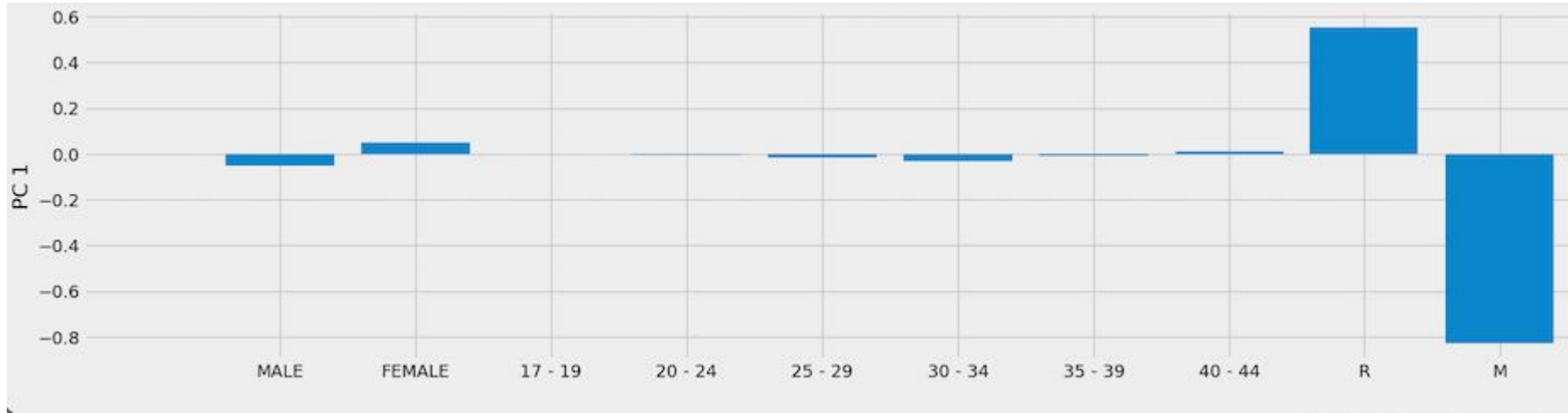
	Province	cluster
0	NCR	2
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4	REGION III	2
5	REGION IV-A	2
6	REGION IV-B	2
7	REGION V	1
8	REGION VI	1
9	REGION VII	2
10	REGION VIII	2
11	REGION IX	2
12	REGION X	0
13	REGION XI	0
14	REGION XII	2
15	CARAGA	2
16	BARMM	2



Even just looking at the PCs, we were able to see...

- In 2016, Marcos fared well with married Filipinos above the age of 24
- In 2022, single females of generally all ages voted for Robredo, with Isko Moreno as the second choice
- Single women above the age of 35 changed their vote to Robredo

Why weren't women younger than 35 voting for Robredo?





when was edsa revolution



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Tools

About 1,750,000 results (0.62 seconds)



Philippine Revolution

August 23, 1896



Communist rebellion in th...

March 29, 1969



EDSA III

April 25, 2001

[Feedback](#)

People also ask

When did the EDSA Power Revolution start?



What happened to 1986 EDSA Revolution?



When did EDSA 2 happen?



[Feedback](#)

https://en.wikipedia.org/wiki/People_Power_Revolution

[People Power Revolution - Wikipedia](#)

The People Power Revolution, also known as the EDSA Revolution or the February Revolution,

People Power Revolution



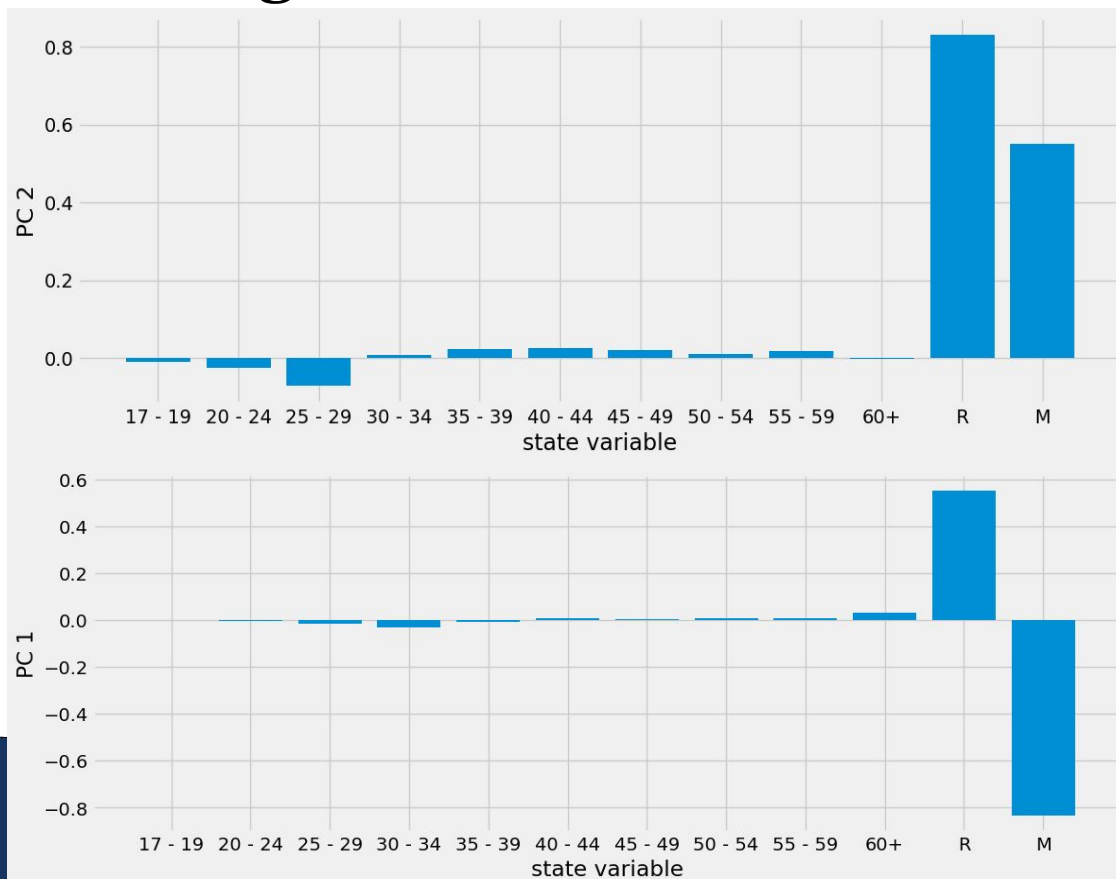
Feb 22, 1986 – Feb 25, 1986

The People Power Revolution, also known as the EDSA Revolution or the February Revolution, was a series of popular demonstrations in the Philippines, mostly in Metro Manila, from February 22 to 25, 1986. There was a sustained campaign of civil resistance against regime violence and electoral fraud. [Wikipedia](#)

Dates: Feb 22, 1986 – Feb 25, 1986

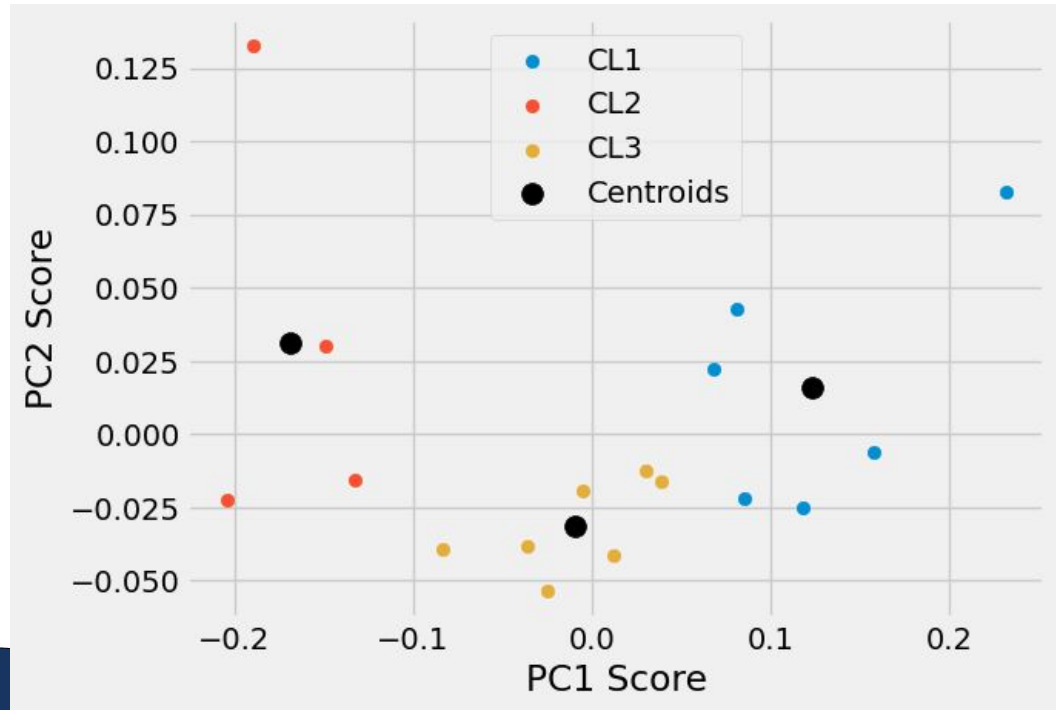
Location: Manila, Quezon City

Voters born after the revolution were more likely to change their vote for Marcos



Berkeley
UNIVERSITY OF CALIFORNIA

	Province	cluster
0	NCR	0
1	CAR	2
2	REGION I	0
3	REGION II	0
4	REGION III	0
5	REGION IV-A	0
6	REGION IV-B	2
7	REGION V	0
8	REGION VI	2
9	REGION VII	1
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11	REGION IX	2
12	REGION X	1
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14	REGION XII	2
15	CARAGA	1
16	BARMM	2



The Marcos campaign knew exactly who
to target and where

Future Work

- Compare with survey data to validate
- Add more data points (social media usage, income levels, etc.)
- **Analyze local election data, especially with respect to political dynasties**

This research is dedicated to the victims
and survivors of Martial Law.
Never forget.