Distance is the Soul of Beauty

How do Acquaintances Reform Political Ideology?

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Research Motivation

Introduction

- Why do we care?
  - The research idea comes from daily conversation.
  - The results of this paper might be able to help with other conflict regions, e.g. Scotland and U.K., Catalonia and Spain.
- Facts:
  1. In 2008, a sudden lift of long-time travel ban of Chinese tourists to Taiwan provided a natural policy experiment.
  2. From 2008, the mainstream public opinion took a U-turn, from favor China to against.
- Main Goal:
  - Identify the effect of policy. Does it render unification more favorable? Or does it push Taiwan further away?
- Method (in a nutshell):
  - We can answer it by comparing the results of presidential elections before and after the shock.

Background and Facts

Political Spectrum in Taiwan

- Bipartisan. Two major political parties since 1986.
- Since 1996, both have candidates in presidential elections.
- Positions vary in different topics. (Not only diff. in cross-strait.)

	民主進步黨 Democratic Progressive Party	中國國民黨 kuomintang
Acronym	DPP	KMT
Est.	1986	1919
Ideology	Left; Liberal	Right; Conservative
Cross-strait	Taiwanese Independence	Conditional Unification
Allies	US & Japan	China
Incumbency	2000-2008; 2016-2024	1996-2000; 2008-2016

Mostly Harmless Cross-strait History

1945 - Chinese Civil War began (and never ends).

1949 - People's Republic of China was established in Beijing.

- Republic of China retreated to Taiwan, HQ in Taipei.

1950 - Cold War era: PRC backed by the USSR, ROC backed by the US.

1971 - US switched diplomatic recognition under J. Carter's term.

- PRC took over the seat of "China" in the UN.

- Taiwan Independence movement began.

1979 - China Economic Reform started. 1982 Deng Xiaoping's remarks.

1987 - Lifting of Martial Law in Taiwan.

1992 - Consensus: one China with different interpretations.

1996 - First direct presidential election was held in Taiwan.

2000 - DPP claimed the victory on presidential election for the first time.

2001 - China joined World Trade Organization; (Taiwan joined in 2002)

2008 - Taiwan opened the broader to tourists from China.

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Election Results (Territories, N=368)

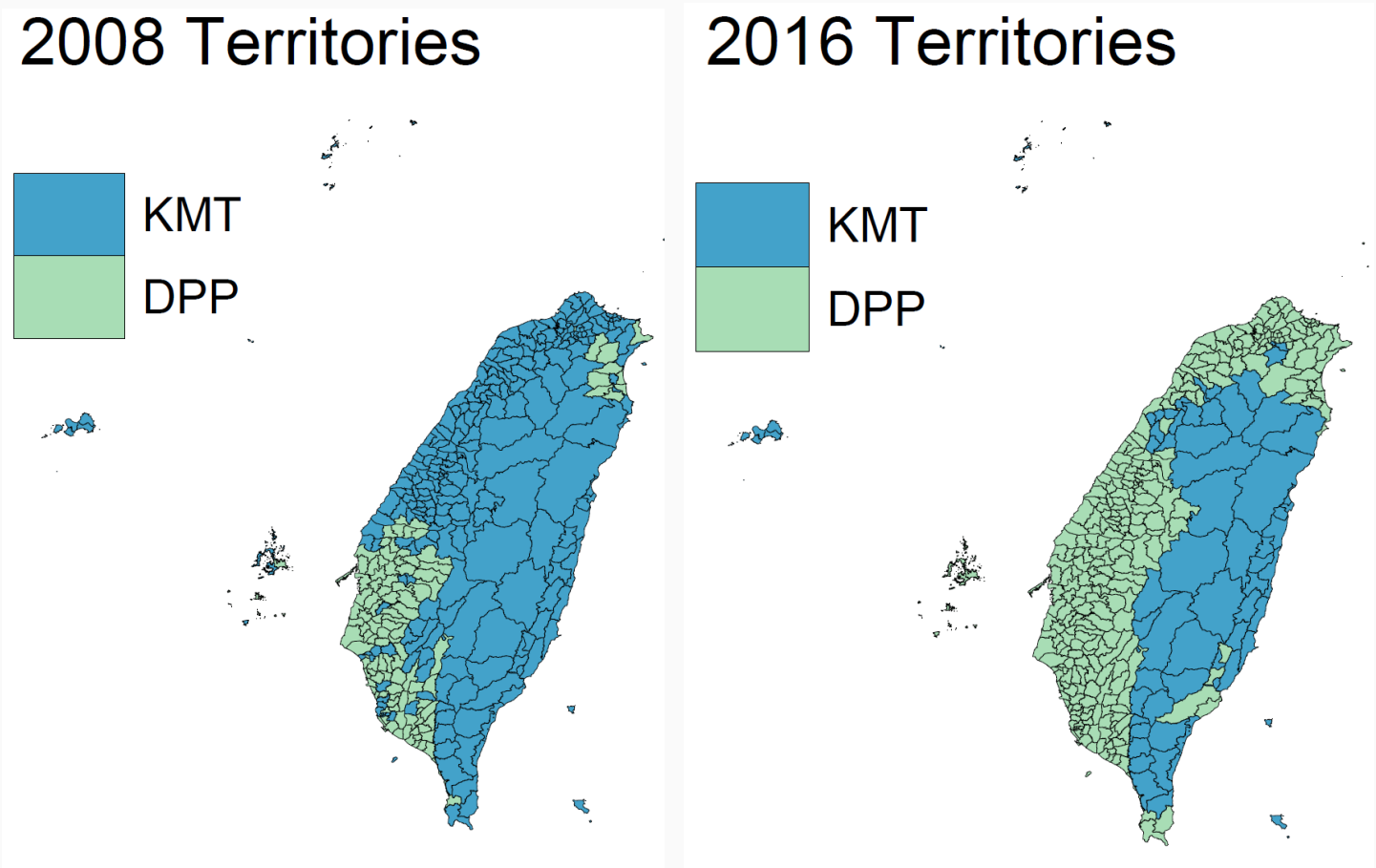


Figure 1: 2008 v.s. 2016 Territories (source:CEC)

Election Results (Voting Share Margin, N=368)

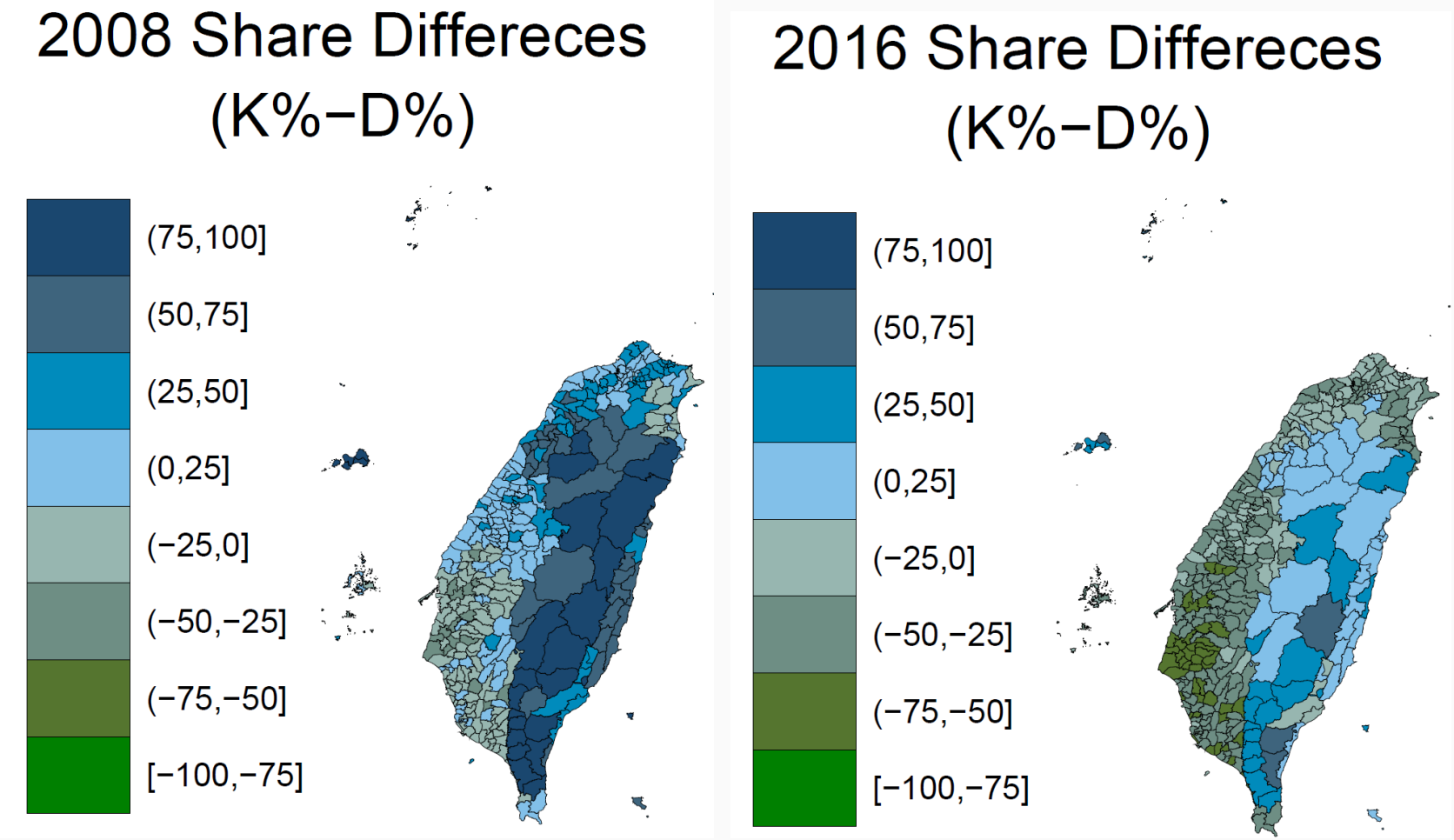
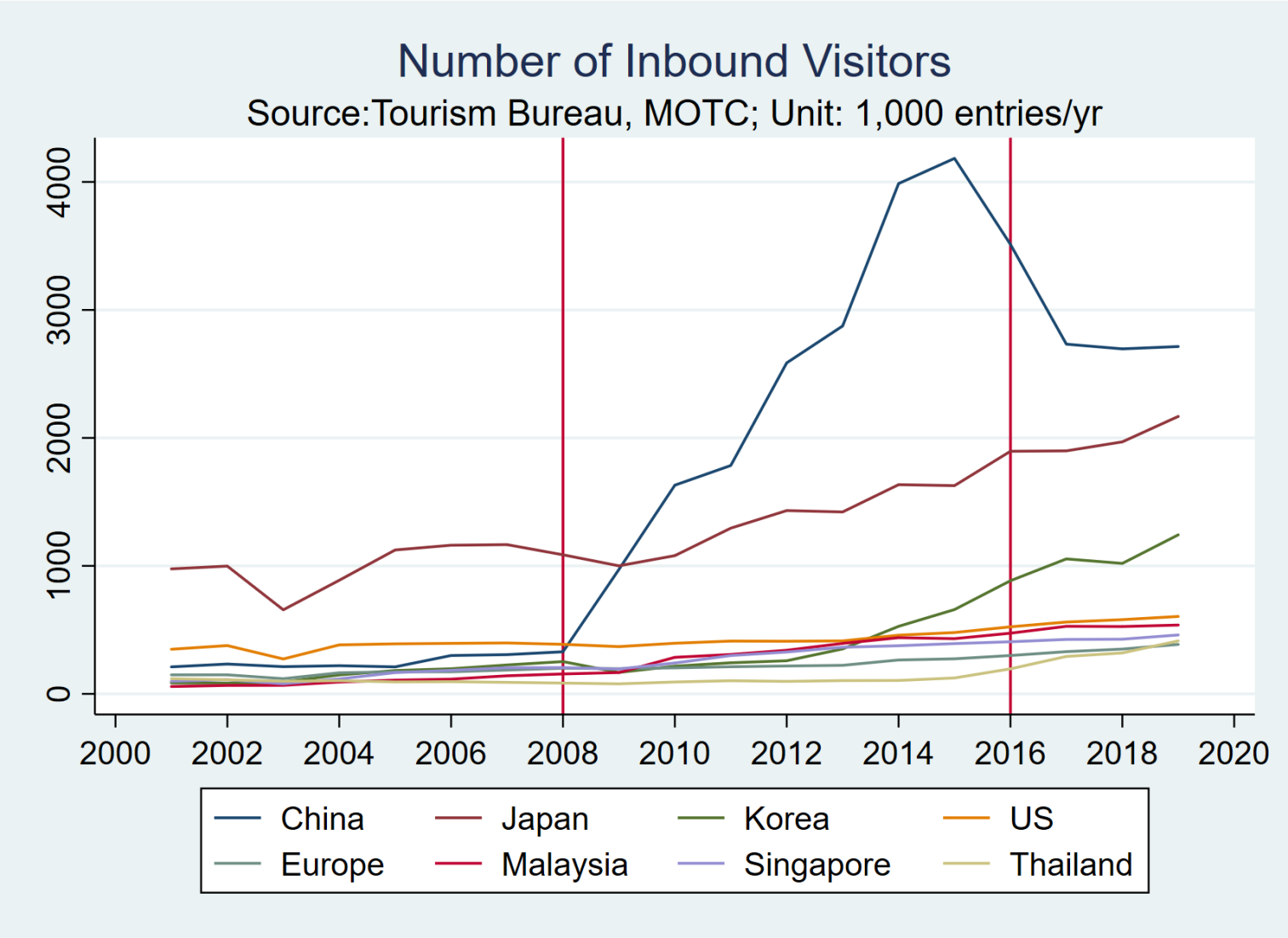


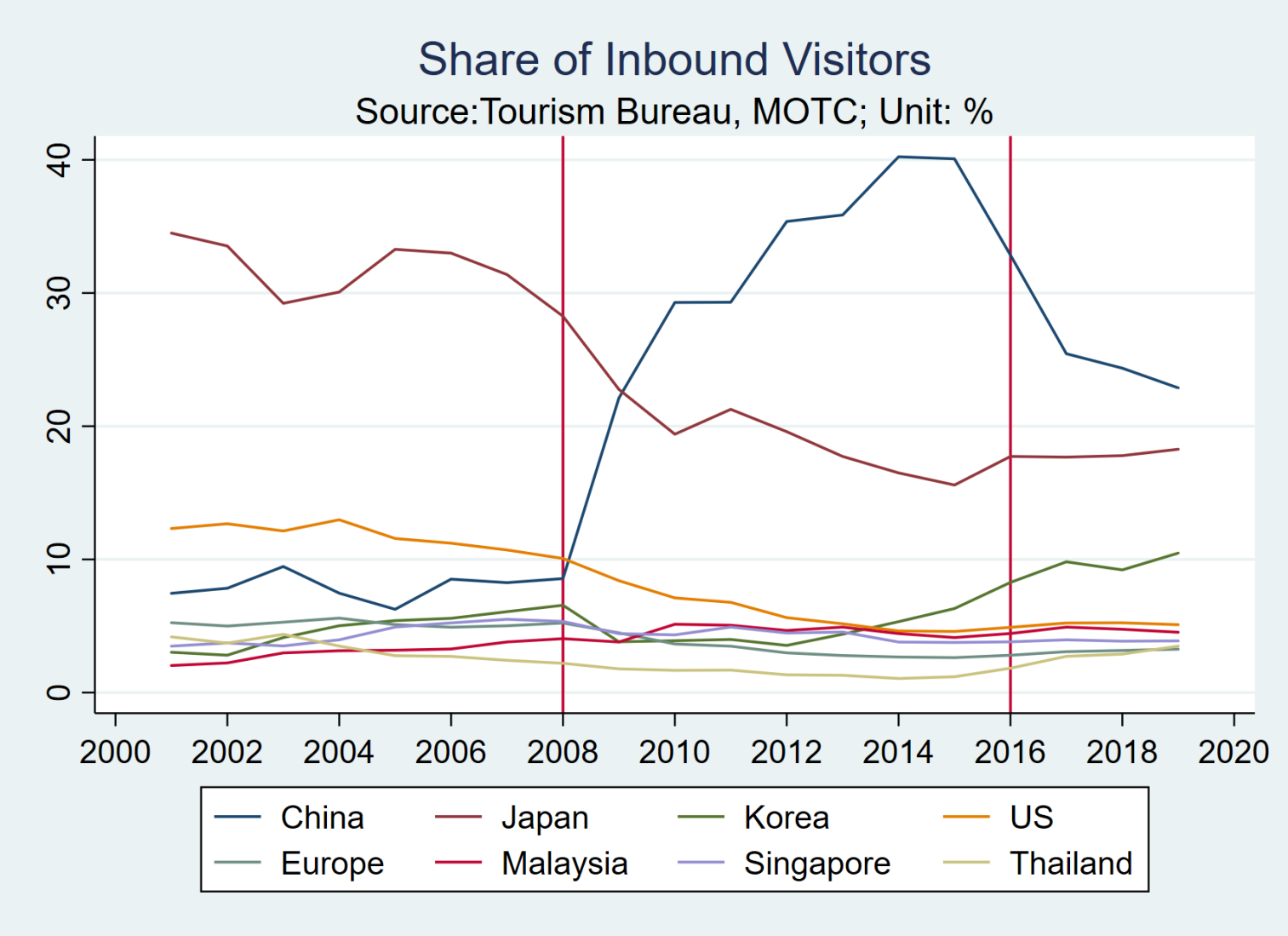
Figure 2: 2008 v.s. 2016 Share Differences (source:CEC)

Chinese Tourists



Data Source: Tourism Bureau, MOTC

Chinese Tourists in (%)



Data Source: Tourism Bureau, MOTC

Old Theories (to challenge)

Two economic perspectives of contributions:

- Micro perspective: Contact Theory
  - Gordon W. Allport (1950).
  - The theory holds that *contact between two groups can promote tolerance and acceptance*, given that equal status among groups and common goals exist.
- Macro perspective: Stages of Integration
  - Béla A. Belassa (1961, 1976).
  - (i) trade $\rightarrow$ (ii) factor $\rightarrow$ (iii) policy $\rightarrow$ (iv) total
  - (I) Economic Integration $\rightarrow$ (II) Political Integration
- But both were not the case in cross-strait context.
  - Do rarely-seen tourists' appearances affect the ideology?
  - Note: I am not answering "why" in this paper. But it will be great topic to work on.

Literature

- Trade, Election, and China Shock
  - Autor et al (China Syndrome; AER, 2010)
  - Autor et al (Importing Polarization; NBERWP, 2020)
  - Magistretti and Tabellini (2018)
- Regression Discontinuity
  - Lee (US Congressional Incumbency; J. Econometrics, 2007)
  - Lee and Lemieux (User Guide of RD; JEL, 2010)
  - Cattaneo, Idrobo and Titiunik (2018a)
- GIS on Stata, Mapping, and Calculation
  - Crow and Gould (Working with spmap and maps, StataCorp)
  - Friedrich Huebler's blog
  - Picard (geodist; Statistical Software, 2010)

Data

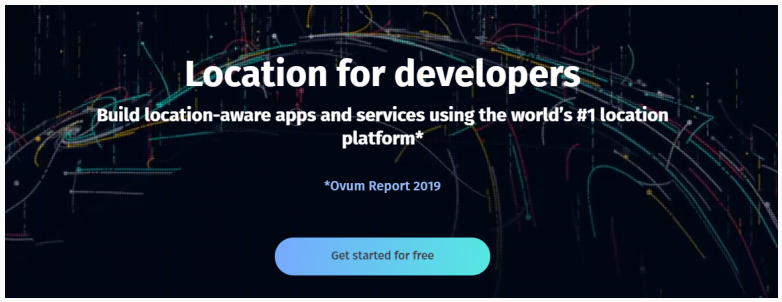
Electoral Data

- Data Source: Central Election Commission (CEC)
  - The Central Election Commission is the permanent statutory agency responsible for managing local and national elections.
- District-level data includes: 22 municipalities, 368 districts across Taiwan. (3 remoted islands were temporarily excluded)
- Timing of Election icludes: 2008 (before the policy shock); 2016 (after the policy shock) [expandable]
- Outcome Variables: Winning Margin (kdmargin), Voting Share Margin (kdsharemargin).

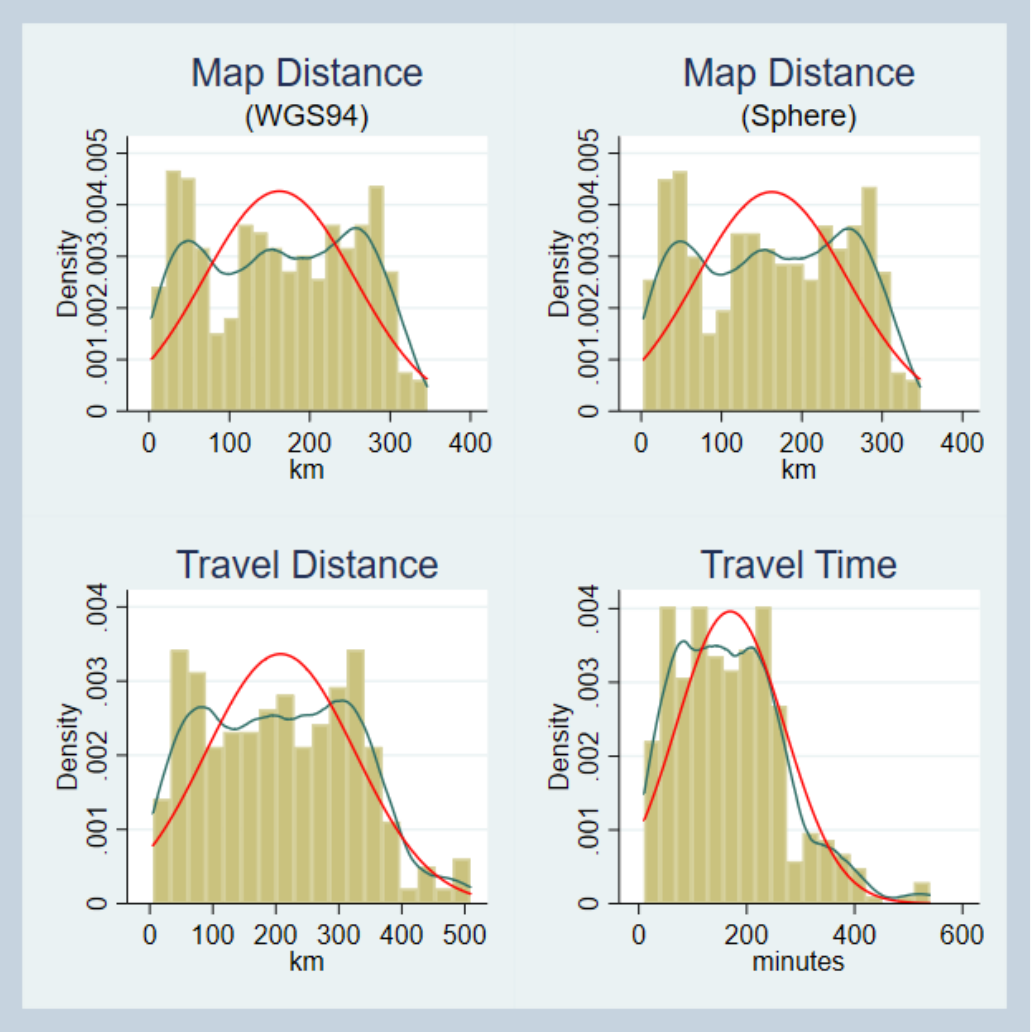
Geographical Data

No.	Data	Source
1	Coordinates of Districts	Ministry of Interior
2	Shape, Boundaries, and GIS files	National Land Surveying and Mapping Center
3	Map Distance	Stata (Picard, 2010)
4	Travel Distance and Time	Here Technologies API

- Map Source: HERE Technologies. https://here.com/
- Coordinate + HERE.com API service + Stata-Macro $\rightarrow$(find out)$\rightarrow$ Travel time between 358 districts and TPE.



Which Distance?



- Are geographical distances good proxies for tourists exposure?
- Travel time to the major airport should be more reasonable. Map

Methodology

Regression Discontinuity

Why RD?

- Many "unobserved" things contribute to the result of election.
  - OLS, GLS, GMM (possibly) render omitted variables bias.
  - OLS results could only show the correlation.
- There exists a cutoff to categorize two kinds of districts.
  - Long travel times v.s. short travel times from airport.
  - Larger-scale exposure to the tourists v.s. smaller-scale exposure to the tourists.
- Other reasons, Lee and Lemieux (2010)
  - The "unobserved" factors tend to be continuous.
  - The districts i can not directly manipulate its treatment, whether getting exposure of tourists or not.
  - We need not additionally assume the distributions of the unknown factors.

Identification - 1

Sharp RD (Lee(2008), Lee and Lamieux (2010))

$$Y_i = D_i\tau + W_i\delta_1 + U_i \tag{1}$$

$$D_i = 1[X_i \geq c] \tag{2}$$

$$X_i = W_i\delta_2 + V_i \tag{3}$$

Y_i : Outcome variables. K-D Margin, K%-D%

D_i : Treatment. The district is exposed to tourists or not.

X_i : Assigning variable. The travel time to TPE airport

W_i : Unobserved endogenous variable. The real tourist numbers; which is assumed to have the effect on the result of election Y_i.

c : The arbitrary cutoff of travel time.

Note: (3) comes from old tourist literature that distance negatively correlated with the number of tourists, so that $\delta_2 \neq 0$.

Identification - 2

- Since districts can not precisely control W_i via X_i.
  - It is not always the case that the longer travel time from the airport brings fewer tourists. The districts have"no full control" to be tourism hot spots or not. (RD seems valid!)
- Then, the question becomes the problem of models selection.
- Should we run the Linear polynomial? Quadratic?

$$Y_i = \tau 1[X_i > c] + \delta_1(X_i - c) + U_i$$
$$Y_i = \tau 1[X_i > c] + \delta_1(X_i - c) + \delta_2(X_i - c)^2 + U_i$$

... or higher degree local polynomial?

RD Graph(s) for Model Selection (Linear)

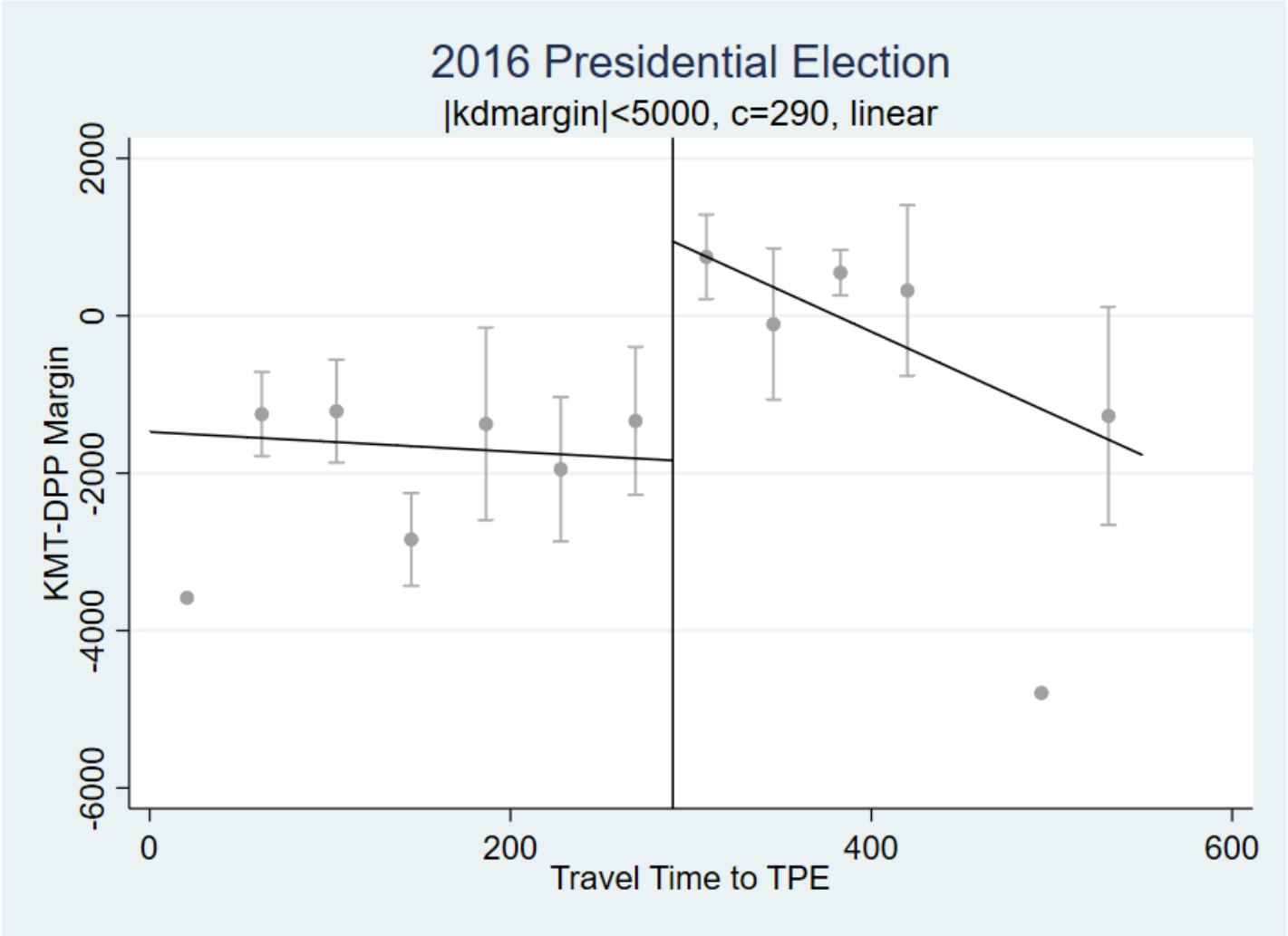


Figure 3: RD Polynomial = Linear; Data = 2016; Cutoff = 290 minutes

RD Graph(s) for Model Selection (Quadratic)

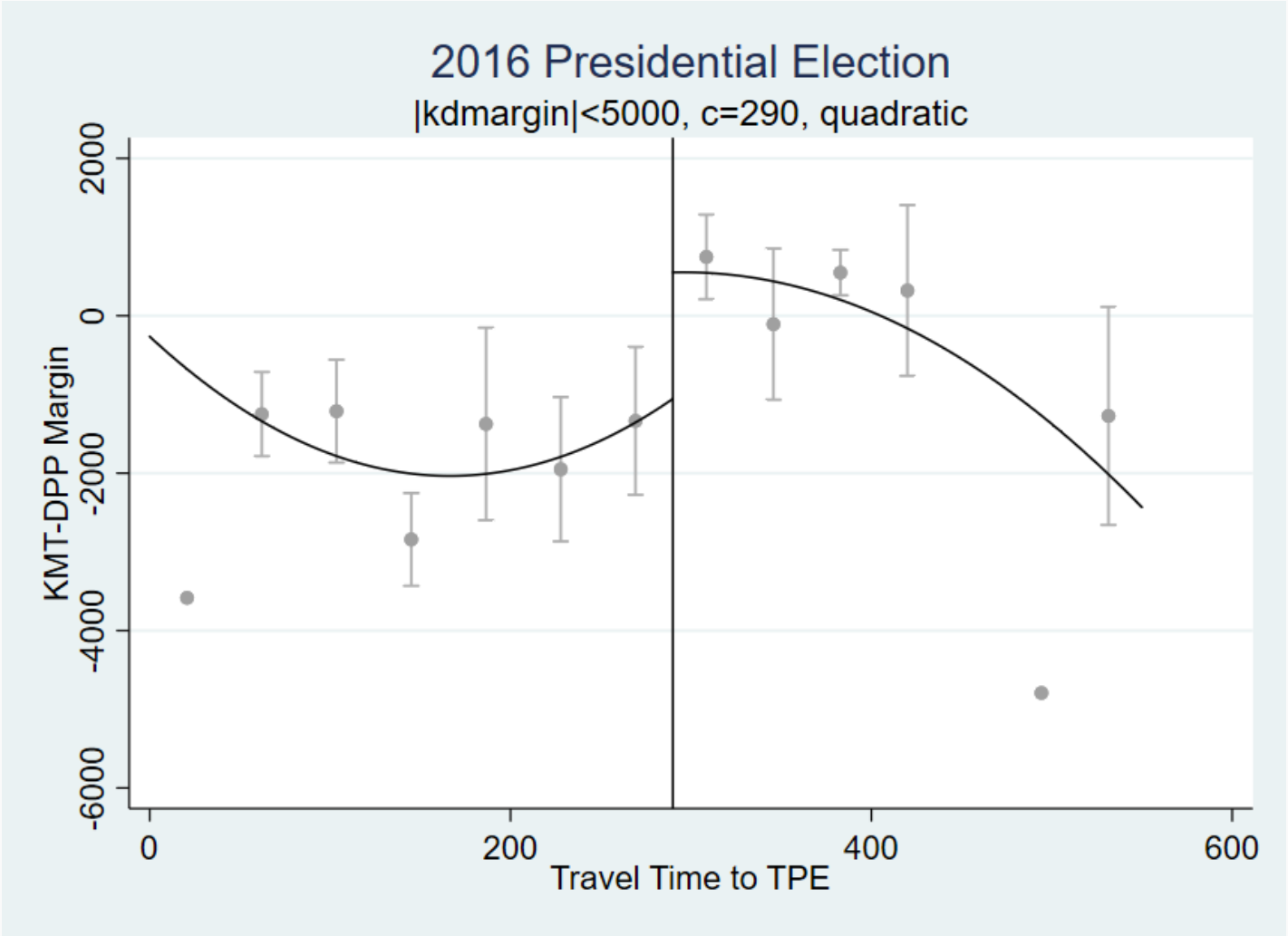


Figure 4: RD Poly. = Quadratic; Data = 2016; Cutoff = 290 minutes

RD Graph(s) for Model Selection (Cubic)

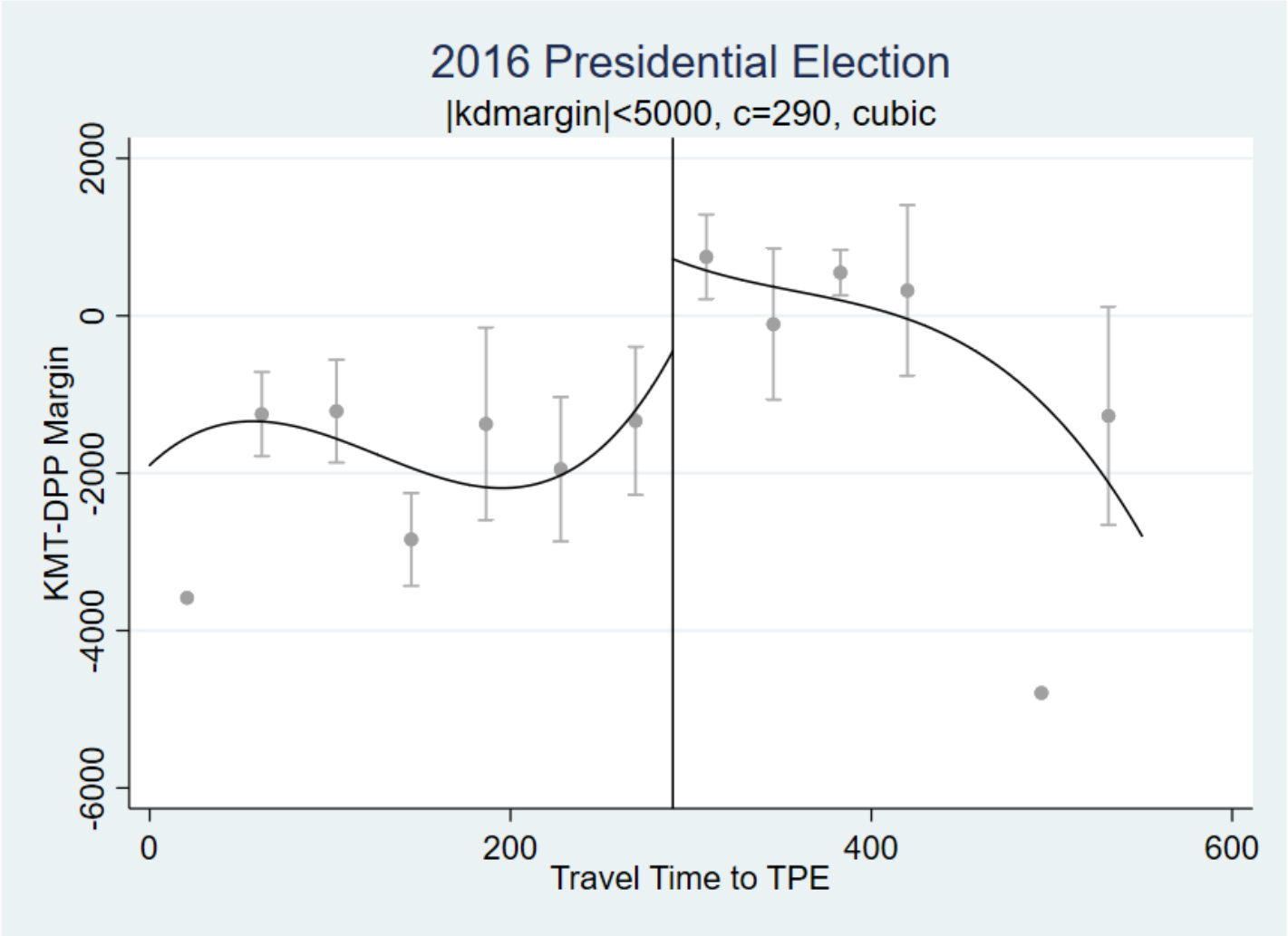


Figure 5: RD Poly. = Cubic; Data = 2016; Cutoff = 290 minutes

RD Graph(s) for Model Selection (Quartic)

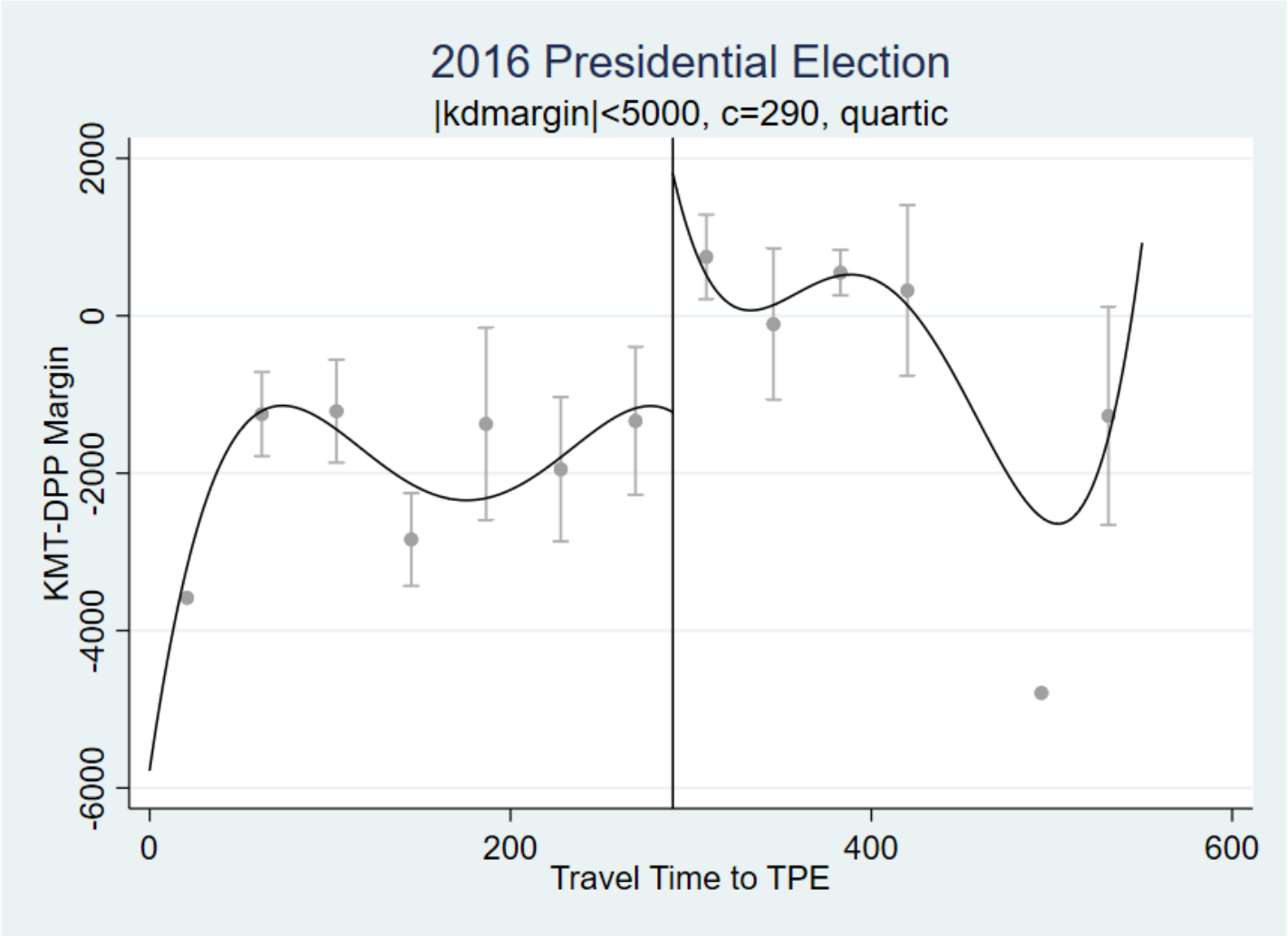


Figure 6: RD Poly. = Quartic; Data = 2016; Cutoff = 290 minutes

Results

RD Result of 2016 Vote Margin

- RD Estimate represents $\hat{\tau}_t$, at year t, the vote jump between more-exposure and less-exposure districts, given the cutoff c.

Table 1: 2016 KMT-DPP Vote Margin

	(1) kdmargin	(2) kdmargin	(3) kdmargin	(4) kdmargin
RD_Estimate	621.4	1262.3	5071.3*	8002.5*
	(0.577)	(0.400)	(0.046)	(0.015)
N	355	355	355	355
p	1	2	3	4
c	290	290	290	290

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

RD Result of 2008 Vote Margin

Table 2: 2008 KMT-DPP Vote Margin

	(1) kdmargin	(2) kdmargin	(3) kdmargin	(4) kdmargin
RD_Estimate	1745.3	2194.3	1449.4	4657.2
	(0.119)	(0.083)	(0.294)	(0.125)
N	355	355	355	355
p	1	2	3	4
c	290	290	290	290

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

If we use "Voting Share Margin..."

- What about the share margin in 2016?

Table 3: 2016 KMT-DPP Share Margin

	(1) kdsharediff	(2) kdsharediff	(3) kdsharediff	(4) kdsharediff
RD_Estimate	53.39***	43.77	37.69	42.05
	(0.000)	(0.105)	(0.242)	(0.276)
N	355	355	355	355
p	1	2	3	4
c	290	290	290	290

p-values in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Using "share margin" might eat up a lot of variations in the votes... so the difference is not as clear as the "vote margin."

Once again, compare with 2008

Table 4: 2008 KMT-DPP Share Margin

	(1) kdsharediff	(2) kdsharediff	(3) kdsharediff	(4) kdsharediff
RD_Estimate	51.50**	37.98	31.24	35.86
	(0.002)	(0.170)	(0.337)	(0.351)
N	355	355	355	355
p	1	2	3	4
c	290	290	290	290

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Robustness Check & Placebo Test

- When c deviates from 290, the results become not as clean.
- Limiting the sample in some range, e.g. kdsharemargin < 30, would not help the the statistical inference.
- Complete discussion will be shown in the paper!

Conclusions

Distance is the soul of Beauty? v.s.

Acquaintance is the Passport to the Fortune?

- From what we have seen in the data in Taiwan of 2008 and 2016, the open boarder policy actually hurts the sense of Chinese identification.
- But we haven't answered why.
  - A potential explanation could be the selection of tourists.
- Future Work
  - Add additional time points and more elections into analysis.
  - Build a dynamic theoretical model to explain it.
  - Service in Trade could be explain by the "psychological" distance just as the Gravity Model in Modern Trade Theory?

Q&A

- **Thank you for the attendance, sincerely.**
- This is a preliminary draft. Any feedback will be appreciated.
- The slides and draft will be soon posted on my page.
- Link: http://jeffjkuo.github.io
- email: jeffkuo@gwu.edu

Geographical Map of Taiwan

Back to Territories GIS | Back to Vote Share Margin GIS | Back to Distance Comparison