

Is Distance the Soul of Beauty?

How Open-border Policies Change the Political Ideology in Taiwan?

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Research Motivation

Introduction

- Why should We Care?
 - The results might be able to help with other regions with political tense, e.g. Brexit, Catalonia-Spain, Korean Peninsula.
 - A counter example for those would like to ease the tension starting from the economic integration.
- Central Question:
 - Does Economics Integration bring in the Political Convergence?
- Policy Shock & Fact Check:
 1. From 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 in Taiwan took a U-turn, from favor China to against.
- Anecdote:
 - The research idea comes from my daily conversation with the colleagues from China.

Introduction (cont.)

- Main Goal:
 - Identify the effect of Open-border policy, as a part of BTA.
 - Does more economic gains by welcoming more mainland tourists render unification more favorable?
 - Or does it push Taiwan further away from China?
- Preview of Primary Results:
 - Comparing the RD results in two presidential elections ('08, '16) in Taiwan, we found in 2016 (post-shock), the boundary between the tourists-exposed and non-exposed areas is more significant.
- Method in a Nutshell:
 - Create a index of the exposure of the Chinese tourists across the electoral districts in Taiwan.
 - For today, we use the “travel time” between the main airport in Taiwan to the electoral districts.
 - We can answer it by comparing the results of presidential elections before and after the shock.

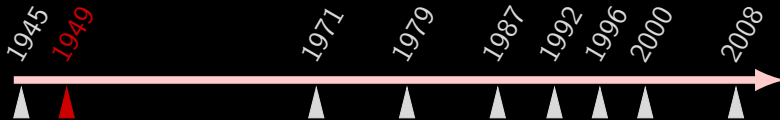
Background and Facts

Mostly Harmless Cross-strait History



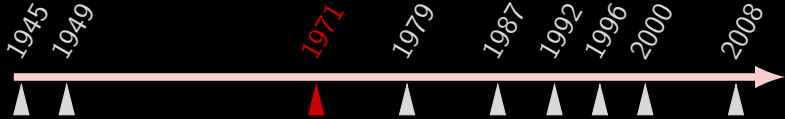
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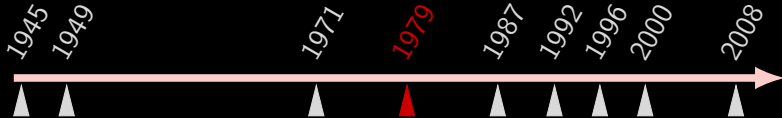
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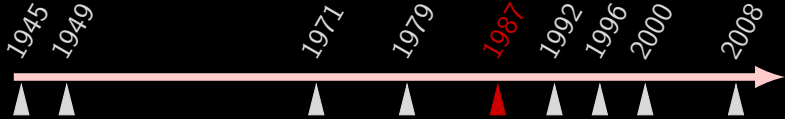
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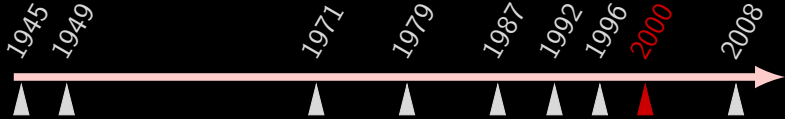
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Political Spectrum in Modern Taiwan

- Bipartisan. Democratic Progressive Party was formed in 1986.
- Since 1996, both parties nominated presidential candidates.
- Ideological differences across the topics.

Name	Democratic Progressive Party	Kuomintang Chinese Nationalist Party
Logo		
Acronym	DPP	KMT
Established Yr.	1986	1919
Incumbency	2000-2008; 2016-2024	1996-2000; 2008-2016
Ideology	Left; Liberal	Right; Conservative
Cross-strait	Taiwanese Independence	Conditional Unification
Foreign Policy	Pro-U.S.	Lean to China

Electoral Results (Territories, N=368)

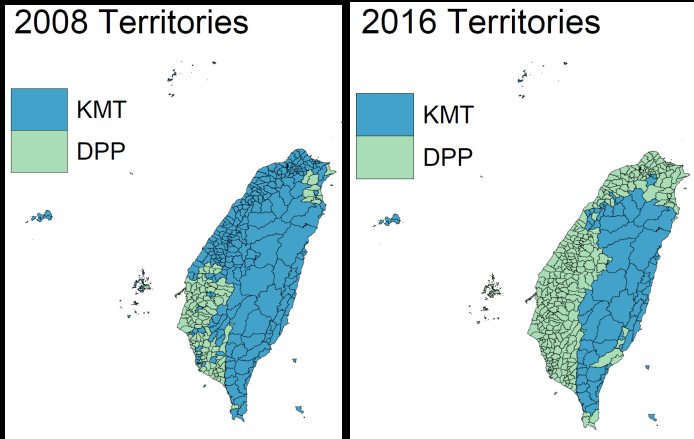


Figure (1) 2008 v.s. 2016 Electoral Results Territories
(source: Central Election Committee in Taiwan)

Election Results (Voting Share Margin, N=368)

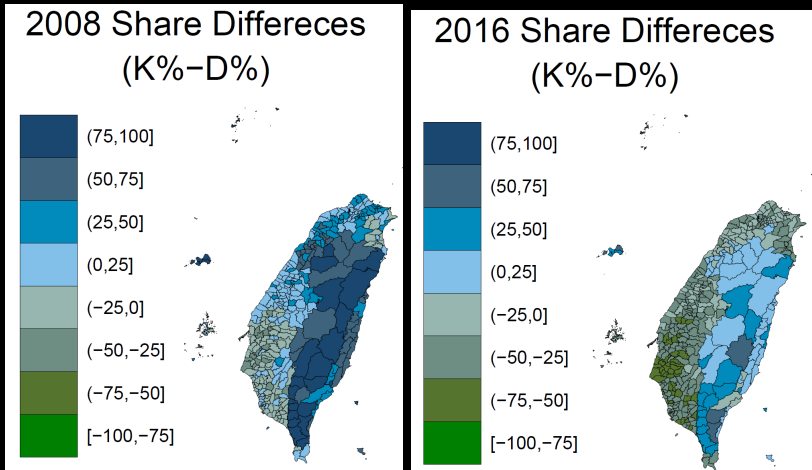
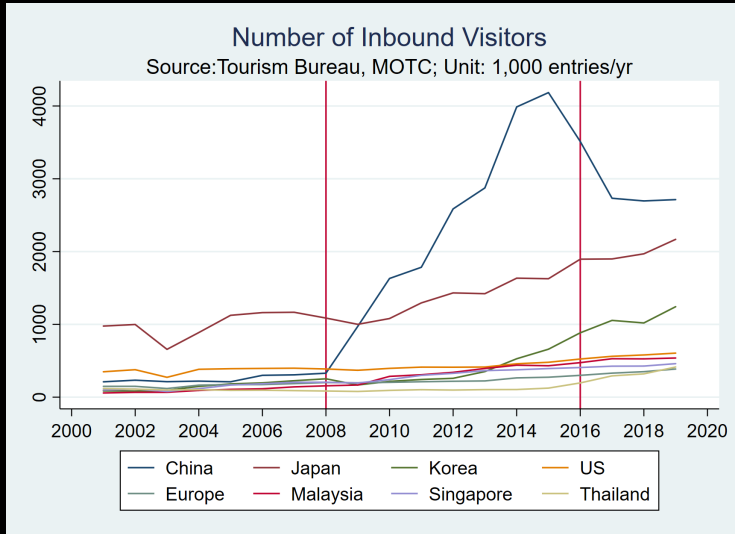
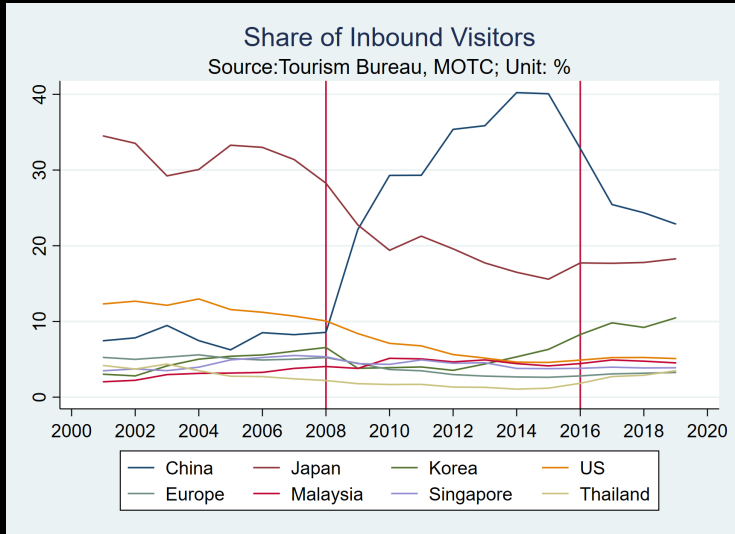


Figure (2) 2008 v.s. 2016 Share Differences (source:CEC)

Chinese Tourists



Chinese Tourists in (%)



Related Literature

Related Literature

- Trade, Election, and China Shock
 - Autor et al ([ADH] China Syndrome; AER, 2010)
 - Autor et al (Importing Polarization; NBERWP, 2020)
 - Magistretti and Tabellini (CEPR DP14336, 2018, 2020)
- Tourism, Trade, and Development
 - Faber and Gaubert (AER 2019)
- 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 Distance Calculation
 - Crow and Gould (Working with spmap and maps, StataCorp)
 - Picard (geodist; Statistical Software, 2010)
 - Friedrich Huebler's blog

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. Balassa (1961, 1976).
 - (i) trade → (ii) factor → (iii) policy → (iv) total
 - (I) Economic Integration → (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.

Data



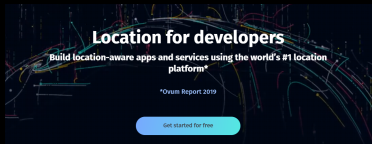
Electoral Data

- Data Source: Central Election Commission (CEC)
 - The Central Election Commission is the permanent independent 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 includes: 2008 (before the policy shock); 2016 (after the policy shock) [expandable]
- Outcome Variables: Winning Margin (kdmargin), Voting Share Margin (kdsharemargin).

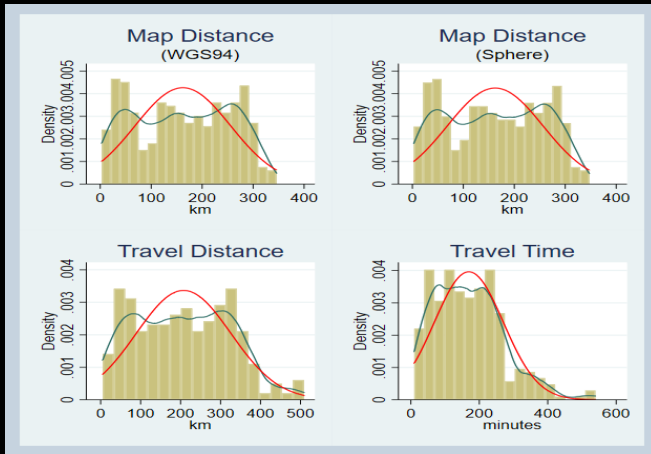
Geographical Data

	Data	Source
1	Coordinates of Districts	Ministry of Interior, Taiwan
2	Shape, Boundaries, and GIS files	Nat'l Land Surveying and Mapping Center
3	Map Distance	Stata (Picard, 2010)
4	Travel Distance and Time	Stata, HERE Technologies Inc. API

- Map Source: HERE Technologies. <https://here.com/>
- Coordinate + HERE.com API service + Stata
→ Travel time between 358 districts and Taoyuan International Airport (TPE).



Which Distance?



- Are geographical distances good proxies for tourists exposure?
- Travel time to the major airport should be more reasonable. [Map](#)
- We exclude the island and the districts are not located in Taiwan.

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 Design (Lee(2008), Lee and Lamieux (2010))

$$Y_i = D_i\tau + W_i\delta_1 + U_i \quad (1)$$

$$D_i = 1[X_i \geq c] \quad (2)$$

$$X_i = W_i\delta_2 + V_i \quad (3)$$

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?

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

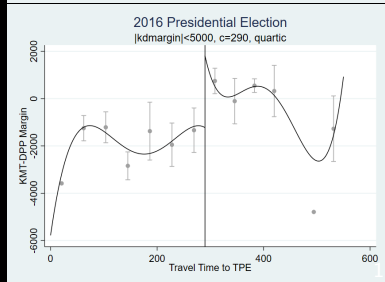
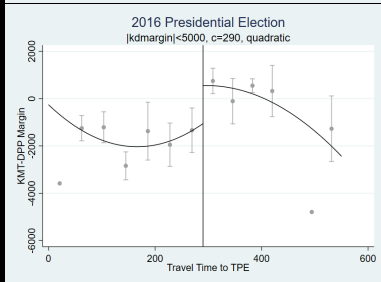
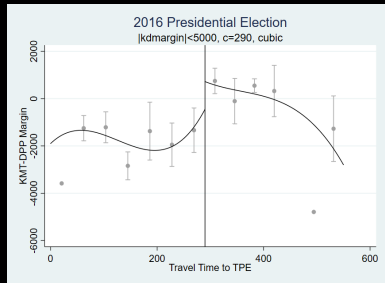
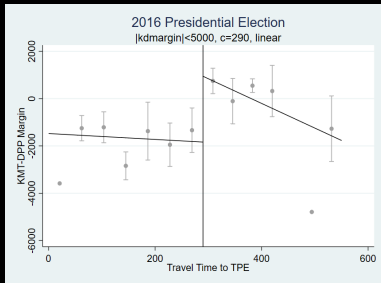
$$Y_i = \tau 1[X_i > c] + \delta_1(X_i - c) + \delta_2(X_i - c)^2 + U_i$$

...or higher degree local polynomial?

- We pin the $c = 290$ minutes. Conventionally, Taiwanese thinks that the maximum one-day trip is around 5-hours (4 hours and 50 minutes) from Taipei to Kaohsiung.

RD Graph(s) for Model Selection

Use '16 electoral result as an example:



'08 v.s. '16 Vote Margin (K-D)

Table (1) 2008 KMT-DPP Vote Margin

Polynomial Outcome Var.	linear kdmargin	quadratic kdmargin	cubic kdmargin	quartic kdmargin
RD_Estimate	1745.3 (0.119)	2194.3 (0.083)	1449.4 (0.294)	4657.2 (0.125)
<i>N</i>	355	355	355	355
<i>c</i>	290	290	290	290
<i>p</i> -values in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$				

Table (2) 2016 KMT-DPP Vote Margin

Polynomial Outcome Var.	linear kdmargin	quadratic kdmargin	cubic kdmargin	quartic kdmargin
RD_Estimate	621.4 (0.577)	1262.3 (0.400)	5071.3* (0.046)	8002.5* (0.015)
<i>N</i>	355	355	355	355
<i>c</i>	290	290	290	290
<i>p</i> -values in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$				

'08 v.s. '16 Voting Share Margin (K%-D%)

Table (3) 2016 KMT-DPP Share Margin

Polynomial Outcome Var.	linear kdsharediff	quadratic kdsharediff	cubic kdsharediff	quartic kdsharediff
RD_Estimate	53.39*** (0.000)	43.77* (0.105)	37.69 (0.242)	42.05 (0.276)
<i>N</i>	355	355	355	355
<i>c</i>	290	290	290	290

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

Table (4) 2008 KMT-DPP Share Margin

Polynomial Outcome Var.	linear kdsharediff	quadratic kdsharediff	cubic kdsharediff	quartic kdsharediff
RD_Estimate	51.50** (0.002)	37.98 (0.170)	31.24 (0.337)	35.86 (0.351)
<i>N</i>	355	355	355	355
<i>c</i>	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? or

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 impression of China, from the perspective of Taiwanese.
- But we didn't answered why.
 - A potential explanation could be the selection of tourists.
- Future Work
 - Add additional time points and more elections into analysis.
 - Expand the dataset to all 6 times presidential elections.
 - Use the local election as a control group, to see if the clarification of the boundary show up in the local elections too.
 - 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?

- **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

