

# **Domestic Institutions, Geographic Concentration, and Agricultural Liberalization: Evidence from Remote-Sensed Cropland Data**

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# Motivation: Explaining the Patterns of Agricultural Protectionism Across Democracies

- Agricultural protectionism:
  - ~> The cost of food is key to survival and health
- Yet, the extent of farmer protection varies across countries
- Avg. tariff rate for agriculture is 22.56%, more than double the rate for industrial products at 10.03%.

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- 2 Data: Develop a new measure of product-level, geo-con of agricultural commodities using remote-sensed cropland data
- 3 Empirical Findings: Parliamentary systems liberalize geographically concentrated products more than presidential systems

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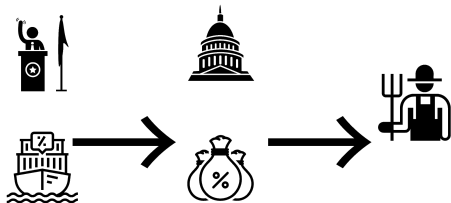
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Executives

Legislatures

Qualitative evidence

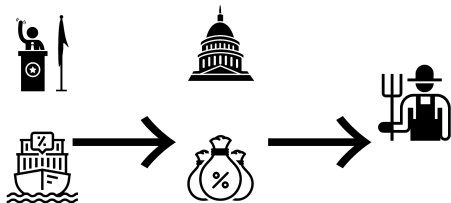


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## Qualitative evidence

- No entourage of interest groups at TPP meetings
- USTR: “Members of Congress seek meetings with USTR not during trade negotiations, but after signing”

# Parliamentary Systems

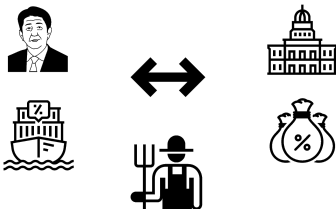
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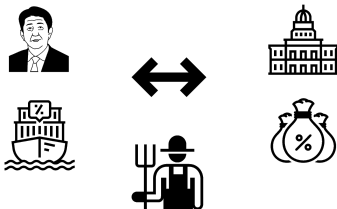




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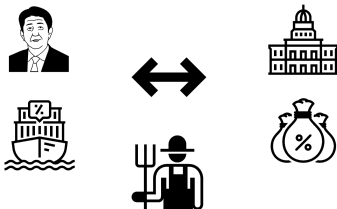
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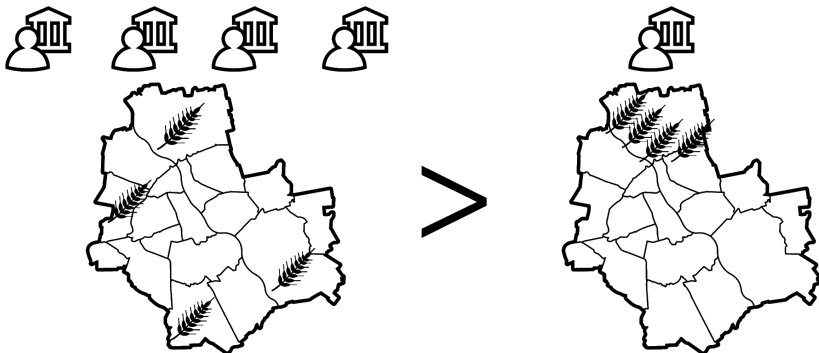


## Qualitative evidence

- Entourage of Japanese agricultural organizations camping out at TPP meetings
- Japan's LDP formed “Negotiation team” and “Compensation team”—both traveled together for TPP meetings

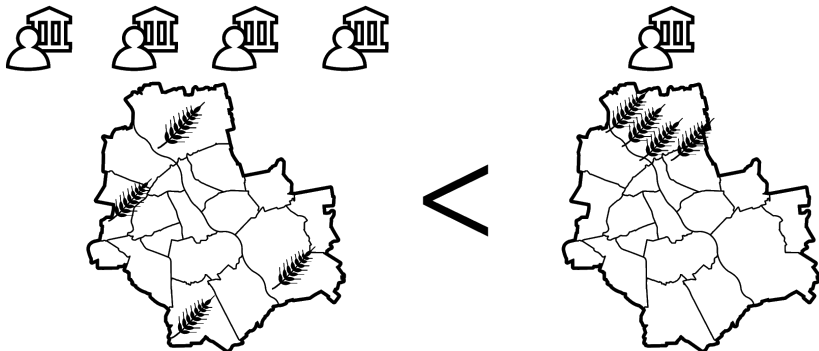
# Geographic Concentration under Presidential Systems

- High geographic diffusion = More legislative power in Congress for compensation under presidential systems



# Geographic Concentration under Parliamentary Systems

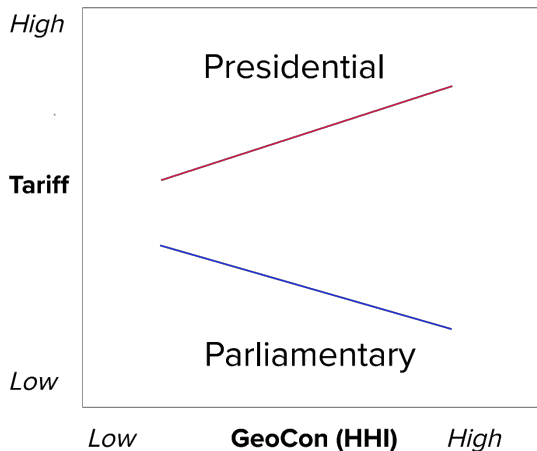
- High geographic concentration = Efficient & credible compensation bargain within ruling party under parliamentary systems



# Hypotheses

- Hypothesis 1:
  - ▶ Parliamentary systems are more likely to **liberalize geographically-concentrated products** and **protect diffused products** because the government can strike the compensation bargain easier with the former.
  
- Hypothesis 2:
  - ▶ Presidential systems are more likely to **liberalize geographically diffused products** products and **protect concentrated products** because the government cannot strike the compensation bargain either way and diffused industries are better able to build a larger legislative coalition for budget

# Prediction



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  - ▶ Standardized geo-con measures across countries and crops
  - ▶ Errors relatively uncorrelated with politics or government capacity
  - ▶ Geo-con calculation not constrained by administrative borders

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where  $N_{ijc}$  is the total amount of crop  $i$  produced in a grid cell  $j$  in country  $c$  and  $N_{ic}$  is the total production of crop  $i$  in country  $c$

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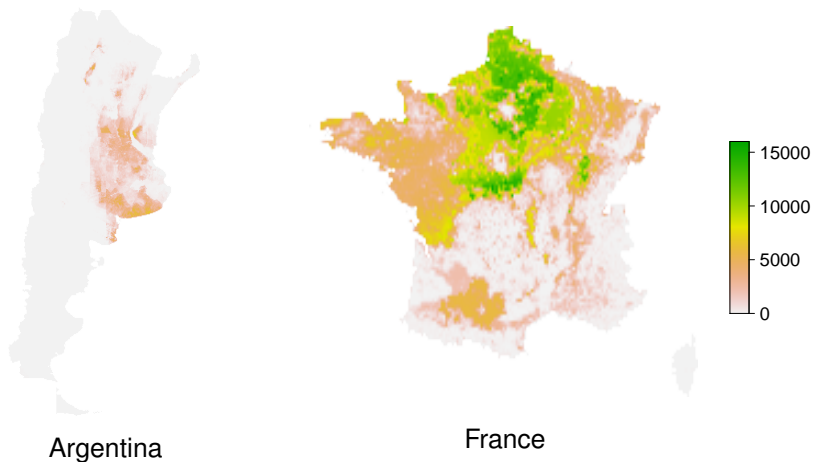
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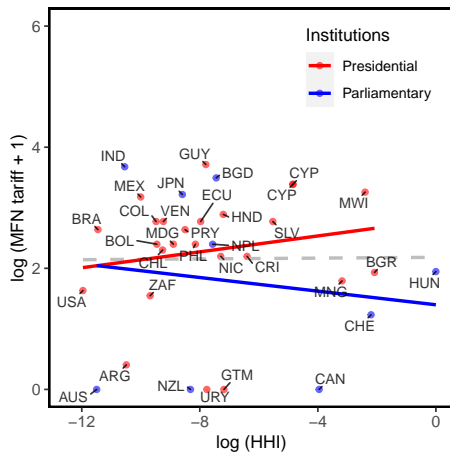
- Match HHI for each crop with tariff lines at HS6 level

# Geographic Concentration of Wheat Production

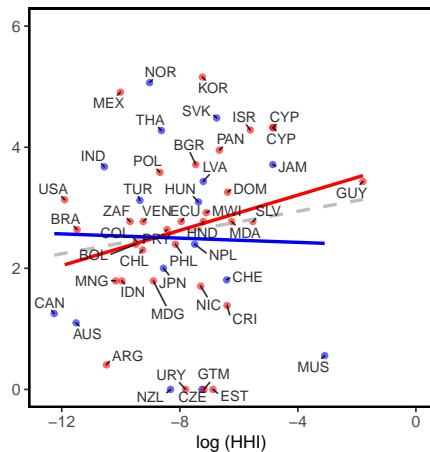


- Production volume (tons) in each grid cell

# Agricultural Protection and Political Institutions



Orange



Potato

- Gray dashed line represents pooled effect

# Empirical Findings

	Outcome: $\log(\text{MFN tariff} + 1)$		
Explanatory variables	(1)	(2)	(3)
$\log(\text{HHI})$	-0.060 (0.028)	-0.059 (0.029)	-0.013 (0.060)
Presidential	0.792 (0.279)	0.804 (0.267)	1.334 (0.213)
$\log(\text{HHI}) * \text{Presidential}$	0.125 (0.025)	0.127 (0.024)	0.172 (0.029)
Control variables	<i>N</i>	<i>N</i>	<i>Y</i>
Crop fixed effects	<i>N</i>	<i>Y</i>	<i>Y</i>
Observation	455	455	297

- Control variables: GDP per capita (log), production of each crop, and import and export (US Dollar 2000, both at HS6 level)

# Wrap Up

- Conventional wisdom
  - ▶ Bottom-up view: geo-con  $\rightsquigarrow$  collective action  $\rightsquigarrow$  trade protection
  - ▶ Vote-buying view: geo-con  $\times$  electoral institutions  $\rightsquigarrow$  trade protection
- Our argument
  - ▶ Consider two alternative instruments: trade protection and compensation
  - ▶ Compensation politics as a bargain between an executive & legislative branches
  - ▶ Heterogeneous effects of geo-con between parliamentary vs. presidential systems due to ease vs. difficulty in striking bargain
- Future tasks
  - ▶ Generalizability beyond agriculture?
  - ▶ Causal identification using “overlapping” trade agreements (e.g., South Korea vs. Japan)



If you have any questions or comments:

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# Diagnosis

- Following Hainmueller, Mummolo, and Xu, we plot the relationship between our outcome variable (MFN tariff rates) and explanatory variable (HHI) for presidential and parliamentary systems with the linear regression lines (red) and LOESS fits (blue)
- Two lines are close to each other in both plots, which validates our linear interaction effect assumption

