U.S. Agricultural Land Markets and Foreign Investment

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Land Markets

• Drivers of value are unique to the area
• Agricultural productivity should be main determinant
  • Soils
  • Slope
  • Weather patterns
  • Irrigation
• But there are other factors that affect price
  • Recreational demand
  • Urban-suburban expansion
  • Oil and gas
  • Wind and solar
Current Environment

• Foreign investment is a very politically charged topic in many states
• Many states are proposing/passing legislation to restrict foreign ownership of farmland
• Some federal legislative proposals are also coming forward
• Great deal of focus on Chinese purchases

Chinese company’s purchase of North Dakota farmland raises national security concerns in Washington

Why A Secretive Chinese Billionaire Bought 140,000 Acres Of Land In Texas
Background on AFIDA

- American Foreign Investment Disclosure Act of 1978 (AFIDA)
- AFIDA grants the USDA authority to monitor land acquisitions and record transaction information
  - Name of foreign entity or person
  - Country of residence
  - Parcel acreage
  - Land use (cropland, pasture, forest, other ag land)
  - Purchase price
  - Date of transfer
- Acquisitions can be purchases or leases that are 10 years or more
Background on AFIDA

• Failure to comply with AFIDA results in a civil penalty of up to 25% of fair market value of the land
• USDA publishes an annual report of foreign ownership or leasing of U.S. land and the state where the land was acquired
• AFIDA doesn’t track commercial or residential acquisitions
Current Legislative Activities

• National Agricultural Law Center at the University of Arkansas

• No federal law prohibits the ownership of private land by foreign persons or entities
  • There is proposals to mandate reporting for leases 5 yrs+ rather than 10 yrs+

• Approximately 24 states have laws that seek to restrict to some degree foreign ownership or investments in private ag land
  • The laws vary widely by state in definitions of “agricultural land” and “farming”, who can buy land, and amount of land that can be bought

• As of 2023, most states have proposed, or have plans to propose, at least one piece of legislation that will prohibit or limit private land ownership by foreign entities in their state

https://nationalaglawcenter.org/foreign-investments-in-ag/
Data on Foreign Ownership

- Obtained a copy of the AFIDA database through 2020 used by USDA Farm Service Agency via a Freedom of Information Act request
  - Contains over 40,000 voluntarily reported ownership or long-term leases by foreign owners
- Created tables and maps to help visualize what is going on with foreign acquisitions across space and time
Top 5 Foreign Landowners

- Largest U.S. *cropland* holdings by country:

<table>
<thead>
<tr>
<th>Country</th>
<th>Holdings (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>3,860,595</td>
</tr>
<tr>
<td>Italy</td>
<td>1,672,283</td>
</tr>
<tr>
<td>Portugal</td>
<td>794,067</td>
</tr>
<tr>
<td>Germany</td>
<td>603,871</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>601,886</td>
</tr>
</tbody>
</table>

- Largest U.S. *total* holdings by country:

<table>
<thead>
<tr>
<th>Country</th>
<th>Holdings (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>12,361,087</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4,944,700</td>
</tr>
<tr>
<td>Italy</td>
<td>2,702,871</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,329,952</td>
</tr>
<tr>
<td>Germany</td>
<td>2,063,406</td>
</tr>
</tbody>
</table>

- Total amount foreign owned or leased land in 2020 was 37.6 million acres, which represents about 2.9% of all privately held U.S. ag land
### Top States with Foreign Ownership

- U.S. land holdings of agricultural and forest land by foreign investors

<table>
<thead>
<tr>
<th>State</th>
<th>Holdings (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>4,806,689</td>
</tr>
<tr>
<td>Maine</td>
<td>3,519,099</td>
</tr>
<tr>
<td>Alabama</td>
<td>1,809,173</td>
</tr>
<tr>
<td>Colorado</td>
<td>1,783,096</td>
</tr>
</tbody>
</table>

- 2020 Agricultural and non-agricultural acquisitions

<table>
<thead>
<tr>
<th>State</th>
<th>Acquisitions (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oklahoma</td>
<td>384,022</td>
</tr>
<tr>
<td>Texas</td>
<td>360,047</td>
</tr>
<tr>
<td>Colorado</td>
<td>286,036</td>
</tr>
<tr>
<td>Kansas</td>
<td>200,046</td>
</tr>
</tbody>
</table>
Canda is the largest owner of U.S. farmland, which includes cropland, pasture, and forest land.

Some countries have bought more recently, while others are long-standing owners.

China is #18.
Top 25 Foreign Holdings of U.S. Land

• Canda is also the largest leaseholder of U.S. farmland
Foreign Owned or Leased Land

Foreign interests in US agricultural land in 2000: 12 mil. acres owned and 0.18 mil. acres leased.
Foreign interests in US agricultural land in 2020: 26 mil. acres owned and 12 mil. acres leased.

Foreign Owned or Leased Land

Cumulative Foreign Interest in Ag Land:
Purchased vs Leased (mil. acres)
2000-2020

Cumulative Foreign Interest in US Cropland:
Purchased vs Leased 2000-2020
Foreign Ownership: Energy

[Pie chart showing ownership and leasing of non-energy and energy assets, and a bar chart illustrating the acres in millions for owned and leased energy resources with different colors representing various energy types.]
Foreign ownership: US Allies

Ag Land Owned by US Allies vs. Adversaries

- Canada
- Netherlands
- Other
- Italy
- United Kingdom
- Germany
- Portugal
- France
- Denmark
- Luxembourg
- Ireland
- China
- Venezuela
- Iran
- Cuba
- Russia

Neutral: 12%
US Adversaries: 1%
US Allies: 87%

Acres
Chinese Investment in U.S. Ag Land

China Holdings in U.S. (acres)

- 2013 Purchase of Smithfield Foods by Chinese company
- Acquired subsidiary Murphy Brown and all their land holdings
Chinese Investment in U.S. Ag Land

- Total holdings of 352,140 acres
- Slightly less than 1% of foreign held acres
Foreign Interest in U.S. Agricultural Land: Empirical Research

With
Wendong Zhang, Cornell University
&
Festus Attah, Auburn University
Research Question

• Are purchases made by foreign entities systematically different from those made by others in the farmland market?

• Do they differ by per acre price paid?
Data Sources

• AFIDA sales transactions
  • FOIA request to Farm Service Agency
  • 1978 to 2020
    • Includes ownership, buyer, sale prices, county/state, and land-use details

• Focused on foreign sales for 11 states
  Illinois           Missouri
  Indiana           Nebraska
  Iowa              North Dakota
  Kansas            South Dakota
  Michigan          Wisconsin
  Minnesota
Data Sources

• Domestic sales data for those 11 states
  • Collected from two sources: individual county assessor offices and private company
  • 2015 to 2020
Data Methods

• Data on domestic sales is 50-100 times more than the number of corresponding foreign land sales recorded by AFIDA

• Foreign buyers are likely to be systematically different that domestic buyers
  • Target different types of farmland, different geographical regions or pay different prices due to transaction costs of buying in the U.S.
  • Would result in selection bias if we did a simple comparison

• Used a coarsened covariate matching method to construct a matched sample that contains comparable foreign and domestic sales
  • Mimics the process used by appraisers to find comparable sales
### Data Comparisons

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ($)</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Price Per Acre</td>
<td>6,536</td>
<td>4,302</td>
</tr>
<tr>
<td>Domestic Price Per Acre</td>
<td>5,745</td>
<td>3,652</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (acres)</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Total Acres</td>
<td>461</td>
<td>650</td>
</tr>
<tr>
<td>Domestic Total Acres</td>
<td>158</td>
<td>139</td>
</tr>
</tbody>
</table>
Model

• Hedonic model of land prices using matched sales

\[
\log(\text{price per acre}) = f(\text{acres}, \text{acres}^2, \text{tilleable\%}, \text{AFIDA DV}, \text{county FE, year FE})
\]

• OLS regression
## Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>OLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres</td>
<td>-0.0001</td>
</tr>
<tr>
<td>Acres$^2$</td>
<td>2.62E-08</td>
</tr>
<tr>
<td>Tillable%</td>
<td>0.456***</td>
</tr>
<tr>
<td>AFIDA DV</td>
<td>0.137**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>84.84</td>
</tr>
<tr>
<td>Observations</td>
<td>925</td>
</tr>
</tbody>
</table>

Note: Rank = 10, County FE’s and Year FE’s included, ***p-value 0.01, **p-value 0.05, *p-value 0.10

Foreign buyers in the Midwest pay a 13.7% premium for agricultural land over domestic buyers.
Results

- This is similar to the results of Seifert et al. (2021) who use data from eastern Germany
  - They show that farmers have better knowledge of local market conditions and can secure land at lower prices than non-local buyers

- Curtiss et al. (2021) find that local agricultural buyers in the Czech farmland market pay relatively low prices
  - Non-agricultural buyers bid relatively high prices in an attempt to break down local relationships between agricultural buyers and local sellers
Conclusions

• Leasing is a common way to acquire access to land in U.S., especially cropland
• Many foreign investors are motivated to develop wind and solar rights
• Limits on demand for farmland may adversely affect the price paid for land

• Purpose of this research is to inform policy-making process

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