OVERVIEW OF STUDIES:
LAND TENURE

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Outline

- Motivation
  - Land markets, property rights, investment and adoption

- Some examples from non-experimental studies
  - Some good and some bad news

- Examples of ongoing RCTs
Land markets

- Sensitive policy topic in many countries
  - Land key input in any agricultural production,
  - But also so much more than that (~power, family relations, culture, ...)
  - Strong link with distributional debates

- For those of interested in agricultural technology adoption:
  - Important to understand to what extent constraints in the land market may limit increases in agricultural productivity
Property rights and land markets

- Property rights insecurity and land markets
  - Impact on investment
  - Impact on credit
  - Impact on land allocation
  - (and increasingly also impact on other outcomes such as fertility, labor markets, civil participation, self-esteem, etc)

- Much attention and literature on the first 2, much less on the last
- But on the longer-run allocative inefficiency likely very important
- And even on the former: literature is inconclusive and many questions remain about the empirical evidence
- Yet: often very strong policy prescriptions and expensive interventions
Property rights and investments

- Strong theoretical reasons to believe incomplete or imperfect property rights might hamper investments
  - By reducing incentives to invest
  - Possibly also by reducing access to credit
- At the macro level, strong and/or strengthening of user rights believed to have been key for productivity increases in China (and elsewhere in Asia)
- Some micro-evidence seems to back this up
- BUT: Empirical micro-literature for Africa inconclusive
  - Possibly because:
    - Indigenous systems might offer adequate security
    - Investment may strengthen land rights (~ tree planting)
    - Credit markets are thin
Some findings in the literature (SSA)

- **Besley (1995):** Property rights increase plot investments in one region, but not in another in Ghana.
- **Braselle et al. (2002):** Lack of property rights can in fact increase tree planting in Burkina Faso.
- **Jacoby and Minten (2007):** Title has no significant effect on plot-specific investment in Madagascar.
- **Goldstein and Udry (2008):** More secure rights linked to political power increase fallow period in Ghana.
- **Deininger et al. (2008):** Find that registration program increased investment in soil and water conservation measures.
- **Fenske (2011):** Pools evidence from 9 countries
  - Tenure and investment significant for fallow and tree planting.
  - Less clear relationship with labor and other inputs.
Empirical work on land markets

- Very often suffers from serious concerns regarding causation (we will come back to this obviously)
- But also other concerns:
  - Confusion between ownership rights vs different type of user rights (Little “unbundling” of property rights)
  - Lack of attention to different means of accessing land
  - Lack of concern of general equilibrium effects
  - Ignoring of political and social sensitivities related to land
  - Failure to recognize certain particularities about this input market (as compared to others), such as:
    - Land markets are often local, transactions are infrequent, agents are not anonymous, information on both sides of the market
      - Allows for different insights related to allocative efficiency and distributional consequences
The good news...

- Some of these features sometimes allow to address the question about causation
  - IF the local context is very well understood
  - Possible to find “natural experiments”
  - Let’s look at some examples
    - Land rights in Ghana
    - Ethnic tensions and property rights in Guatemala
    - Co-ownership in Bulgaria
Example 1: Land rights in Ghana


- Security of property rights => investment
  - Fallowing
  - Variation in yields per hectare within plots of the same household (in multicropping casava-maiz) is related to length of fallow

- Set of complex and negotiable rights over land => investment => productivity
Empirical strategy

- Household fixed effects
- IV approach
  - Land rights are function of individual position in social and political hierarchies, conditional on crop characteristics
  - Furthermore: variation in plots of same individual, but with different provenance (~ political secure rights or not)
  - Land rights lead to higher investments, i.e. longer periods of fallow
Example 2. Ethnic Divisions, Contract Choice and Search Costs in Guatemala

- Does insecurity of property rights lead to:
  - An ethnically segmented tenancy market?
  - Interlinked contracts as an alternative enforcement mechanism (~contract choice)?

- Are there search costs (when markets are not local)?
Motivation: Vicious cycle

Unequal access to land
  social tensions
  ⇒ insecure property rights
  ⇒ segmented land rental market
  ⇒ + interlinked contracts

⇒ Inequality
  + Inefficiencies: 1) Idle and underused land
  2) Search costs
  3) Large scale conflicts
Property rights security?

- Formal title
- Title status plot mostly determined at end of 19th century (coffee boom and pro-activity individual possessors at that time, Naylor, 1967; McGreery 1994; Grandin 2000)
- Since then: land fragmentized among many owners, ...
- But title status of neighboring plots still correlated with each other
- Use average title status of upto 5 neighboring plots (from different owners) as instrument
  - Should be uncorrelated to many landlord and plot characteristics
  - Control for plot characteristics that might be spatially correlated (and possible related to title status)
  - Control for family background and other characteristics of the owner
Findings

- Insecurity of property rights related to ethnic segmentation land rental market
- Search costs to find tenant of preferred type
  ~ search costs and matching in labor market
  => inefficiencies (underused resources)
  - Or: price of scarcer tenants is higher because of bargaining power
- Choice of tenant is more important for fixed rent contract
  => Interlinked contract as enforcement
Example 3. Property Rights Imperfections and Resource Allocation in Bulgaria

- Privatization in Eastern Europe led to drastic changes in property rights
- This paper:
  - Cleary defined and complete property rights, but property rights imperfection imposed by law:
    - Co-ownership of restituted land by descendants of former owners
- How does co-ownership (joint property right) affect land allocation?
  - ~ increase in transaction costs
<table>
<thead>
<tr>
<th>Description</th>
<th>Plot-level</th>
<th>Household-level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive statistics</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Land allocation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Used by the owner</td>
<td>18.2</td>
<td>44.5</td>
</tr>
<tr>
<td>% Rented out to an other household</td>
<td>2.2</td>
<td>9</td>
</tr>
<tr>
<td>% Rented out to a cooperative</td>
<td>39.9</td>
<td>48.6</td>
</tr>
<tr>
<td>% Rented out to company</td>
<td>16.1</td>
<td>28.8</td>
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<tr>
<td>% Abandoned</td>
<td>23.6</td>
<td>43.7</td>
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<tr>
<td><strong>Land ownership</strong></td>
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<tr>
<td>Area owned per household (ha)</td>
<td>3.9</td>
<td></td>
</tr>
<tr>
<td>Area used by owner (ha)</td>
<td>0.6</td>
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</tr>
<tr>
<td>Number of plots owned per household</td>
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<tr>
<td>Average plot size (ha)</td>
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<tr>
<td>% co-owned parcels</td>
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<tr>
<td>Average number of owners per plot</td>
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<tr>
<td>Owner declares effective decision power</td>
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<td></td>
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<tr>
<td><strong>Other household characteristics</strong></td>
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<td></td>
</tr>
<tr>
<td>Age household head</td>
<td>65.8</td>
<td></td>
</tr>
<tr>
<td>Years of education household head</td>
<td>8.9</td>
<td></td>
</tr>
</tbody>
</table>
A natural experiment in Bulgaria

- Privatization occurred through restitution of land to the descendants of the pre-1946 owners

- Inheritance law prescribes that each heir has right to an equal portion of each plot

- Legislation prevents dividing up plots that would be smaller than 0.3 hectares after division

=> Led to forced co-ownership of 50% of the plots
Empirical strategy

- Regression discontinuity analysis using the non-linearity caused by the minimum plot size legislation
  - => Plots that after subdivision would be smaller than 0.3 hectares, have to stay in “forced co-ownership”

- Estimate whether the probability of certain types of land allocation changes discontinuously at the cut-off plot size

- Use within-household variation (household FE)
Probability that plot is rented out to cooperative or left abandoned

\[ \text{Prob (rent to cooperative or abandonment = 1)} \]

Plot size (ha)/number of co-owners

\[ a = -0.122 \quad t = -5.82 \]
Probability that owner has effective decision power on the plot

$\text{a} = 0.422 \quad t = 22.91$
Findings

- Co-ownership increases the likelihood that land is allocated to the default option
  - i.e. land abandonment or
  - land left in large-scale cooperatives

- Our results, combined with existing evidence, suggest that co-ownership leads to an inefficient allocation of land
The bad news...

- Natural experiments are hard to find
- Even when they exist the right data might not be there for the right moment in time
- What if instead of relying on natural experiments ("accidents of history"), we create our own experiments?
  - After all, we’ll be more sure then that they are experiments
  - On a sensitive topic as land, this is obviously not very easy
Some ongoing RCTs

- Titling in Rwanda
- Certification of land rights in rural Benin
- Demand for and impacts of property rights in Dar es Salaam (encouragement design)
- Rights clarification and formalization in Haiti
  - With village level clarification and randomized phase-in over 2 years
  - Formalization pilot at individual level
  - Questions on impacts in case of co-ownership (and insurance function of family land)
More broadly for your evaluations

- Even in impact evaluations on other interventions:
  Complexity of land rights and markets in many settings important to understand
  - Due to possible heterogeneity of impacts
  - As interventions might affect land dynamics
  - And hence also: possible unintended consequences that need to be understood
    - Equity (distributional)
    - Efficiency

  => Might affect longer-term effects/sustainability