Estimating the returns to farming and fishing using a sibling approach

Johan Blomquist, Martin Nordin, Staffan Waldo
Background

• Low incomes in agriculture and fishing

• Statistics Sweden (average monthly wage 2013)
  – Agriculture: 2,400 €/month
  – Fisheries: 2,500 €/month
  – Pre-secondary education: 2,600 €/month
  – Secondary education: 2,900 €/month
  – Post-secondary education: 4,000 €/month
Background

• What is the income penalty for choosing agriculture/fisheries?

• Unobserved characteristics (ability, motivation, etc.) correlated with both career choices and incomes

• Consequence: Income differences overestimate the income penalty for low-paid jobs
Background

• Agriculture and fishing are special!

• Strong intergenerational ties (in agriculture)
  – 80% of the fathers among U.S farmers have a background in farming (Long and Ferrie, 2013)
  – Economic performance of father’s farm is a strong predictor of the probability of following

• Farm and fishery specific factors
  – Influence the decision to become a farmer/fisher
  – Influence future incomes (in farming/fishing)
  – Positive selection into farming/fishing?
Background

Research question:

*How large is the income penalty for children following their parents’ footsteps?*

- In agriculture
- In fisheries
Empirical Methodology

- A sibling comparison framework
- Compare incomes between same-sex siblings for children with fathers in agriculture/fishing
- Control for farm/fishery specific factors

\[ \ln y_{ij} = \alpha + \delta_j + \beta F_{ij} + \gamma X_{ij} + \varepsilon_{ij} \]

- Control variables: age, education, marital status, regional dummies
Data

- Statistics Sweden: LISA database and Multigenerational register

- To establish the intergenerational links
  - Individuals (fathers) in farming/fishing 1997-2000
  - Identify their children
  - Income in 2012 (age 27-65)
  - Income > 50,000 SEK/year (5,400 € /year)
Data

- Descriptive statistics for children (27-65) in 2012
  - Share working in father’s occupation

<table>
<thead>
<tr>
<th></th>
<th>Farmer children</th>
<th>Fisher children</th>
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<tbody>
<tr>
<td></td>
<td>Sons</td>
<td>Daughters</td>
</tr>
<tr>
<td>Observations</td>
<td>12,690</td>
<td>11,445</td>
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<td>Share working in father’s occupation</td>
<td>.262</td>
<td>.059</td>
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Long and Ferrie (2013): Shares, Britain: 0.2, US: 0.15 (agriculture)

Lentz and Laband (1992): 0.3 of lawyer’s sons expected a career in law. 0.15 actually became lawyers
Data

• Full-siblings (27-65 years)

• Sample size
  – 6,160 farmer sons
  – 5,195 farmer daughters
  – 569 fishing sons

• Very few fishing daughters (<10)
## Results

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<tr>
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- Fisher sons who become fishers earn 20% less than their brothers
- Standard wage regressions underestimate the income differences
## Results

Some sensitivity analysis

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Summary

• Idea: Farm/fishing specific factors important when specifying wage regressions

• Standard wage regressions underestimates the income differences
  – Positive selection into farming and fishing

• Fisher sons in fishing earn 20-25% lower incomes than their brothers outside fishing

• Farmer sons (daughters) in farming earn 25-30% (20-25%) lower incomes than their brothers (sisters) outside agriculture
Thanks for your attention!
Outline

• Background
• Empirical methodology
• Data
• Results
• Summary
Fishing with Dad
Data

• Descriptive statistics for children (27-65) in 2012
  – Share working in father’s occupation

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