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**The Risk Attitudes of U.S. Farmers:
Comparisons to the General Population and Business Owners**

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***Poster prepared for presentation at the Agricultural & Applied Economics Association 2011
AAEA & NAREA Joint Annual Meeting, Pittsburgh, Pennsylvania, July 24-26, 2011.***

*Roe acknowledges research support from the Ohio Agricultural Research and Development Center,
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The Risk Attitudes of U.S. Farmers: Comparisons to the General Population and Business Owners

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Abstract

I compare the risk attitudes of a large, representative sample of farmers to representative samples of the general population and of non-farm small business owners using a robust survey measure of risk tolerance. I find no difference between farmers and the general population in average risk tolerance while small business owners are significantly more risk tolerant than farmers. If farmers shared the same demographic profile as the general population, farmers would be significantly more risk tolerant while if farmers shared the profile of nonfarm business owners they would have similar risk tolerance.

Motivation

Entrepreneurism

- Knight, quoting von Thunen, said an entrepreneur is one who is rewarded for “(1) ... [taking] certain risks ... which cannot be insured against and (2) the extra productivity...due to ... his sleepless nights when he is planning....”
- Theoretical models link risk attitude to entrepreneurship
 - Kihlstrom & Laffont (1979)
- Empirical support for this linkage also exist among actors in the general economy
 - Van Praag & Cramer (2001)

Farmers

- Face uninsurable risk and have ‘sleepless nights’
- Risk tolerance is heritable (Cesarini et al. 2009) and drives migration (Dohmen et al.)
- Farmers beget farmers (Laband and Lentz 1983)

Farm Programs: Reduce uninsurable risk

Question: Have farm programs decreased the risk tolerance of U.S. farmers?

- Difficult to answer, but I ask a related question:
 - How does the risk tolerance of U.S. farmers compare to...
 - The general U.S. population
 - The U.S. non-farm business owner population

Data and Methods

Farmer Survey

- Mail survey (4 contacts) of 6000 US farmers in winter 2010.
- Primary focus on used farm machinery market participation.
- 671 undeliverables + 2585 responses → 48.5% response rate.
- Sample is balanced by region, clustered at the zip-code level, oversamples larger farmers.

General and Business Population Survey

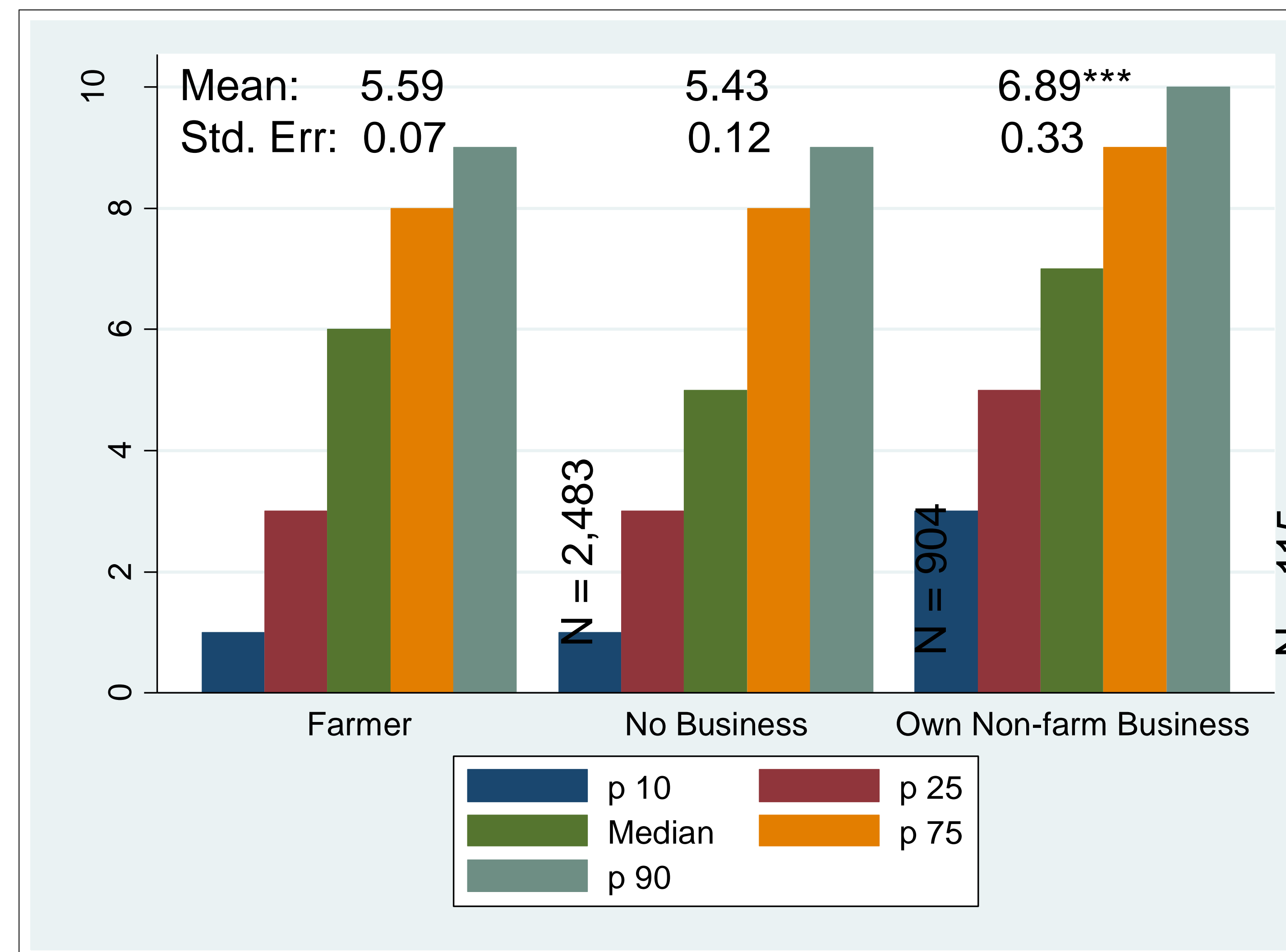
- Added key questions to a weekly commercial omnibus survey.
- One-third completed via visual (internet)format; all others answered via phone.
 - No effects of phone format on average risk tolerance responses
- 1,019 complete responses (response rate of 8%, which is common for rapid, omnibus surveys)
 - 11% report being owner of a small business (U.S. Census estimates 11.8%)
- Weighted to be representative of the general U.S. Population

The Risk Tolerance Question (Dohmen et al.)

“How do you see yourself? Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?”

Don't like to take risks 1 2 3 4 5 6 7 8 9 10 11 Fully prepared to take risks

Results



| Demographics | Farm | -----Nonfarm----- | | Diff |
|----------------------|------|-------------------|----------|-------|
| | | Gen Pop | Business | |
| % Male | 95.1 | 46.8 | 58.1 | A B B |
| Age | 59.7 | 46.5 | 46.1 | A B B |
| % White | 96.8 | 66.8 | 78.5 | A B B |
| % Income < 50K | 28.3 | 56.8 | 34.5 | A B A |
| % Income > 100k | 28.2 | 12 | 29.6 | A B A |
| % Ed HS or Less | 41.9 | 43.9 | 29.5 | A A A |
| % Ed College or More | 27.2 | 25.6 | 42.2 | A A B |

| If farmers had the demographic profile of ... | Farmer Risk tolerance would be... | Reference Group |
|---|-----------------------------------|----------------------|
| .. General U.S. population | 6.20 [6.06, 6.35] | 5.52 [5.43, 5.60] |
| .. Non-farm business owners | 6.70 [6.20, 7.20] | 6.83 [6.32, 7.33] |
| .. Farmers | 5.66 [5.59, 5.72] | -- |

Notes: Numbers in the bottom table are point predictions and 95% confidence intervals from a tobit model of farmer risk tolerance rating as a function of the demographics of the group referenced in the first column. The final column provides the prediction of risk tolerance rating from the reference group's own model of risk tolerance. For example, in the first row, if farmers looked like the general U.S. population, the model predicts an average risk tolerance rating of 6.20; the tobit model of the general U.S. population predicts that the average U.S. respondent will have a risk tolerance rating of 5.52.

Conclusions

- Farmer risk tolerance is similar to that of the general population but significantly lower than that of non-farm business owners.
- Farmer demographics are distinct from non-farmers: they are older and more male than non-farmers and have greater income than non-business owners.
- Once I adjust for these demographic differences using an Oaxaca-Blinder decomposition, I find farmers are *more risk tolerant* than non-business owners and *similarly risk tolerant* as non-farm business owners.
- The findings are based upon cross sectional data; hence causal interpretations are unwarranted.
- The findings do stimulate questions concerning the role of farm sector characteristics such as farm programs and the unusual nature of entry into farming (primarily via inheritance of land) in shaping the willingness of U.S. farmers to bear risk.

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Acknowledgements

Salaries and research support were provided by the National Institute of Food & Agriculture (grant# 2008-25400-18701), the Ohio Agricultural Research and Development Center, The Ohio State University, and by the McCormick Chair in Agricultural Marketing and Policy, The Ohio State University.