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**The Effect of Recency Bias on Crop Insurance
Purchases in the Mississippi Delta Region**

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***Invited presentation at the 2018 Southern Agricultural Economics Association Annual
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The Effect of Recency Bias on Crop Insurance Purchases in the Mississippi Delta Region

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Recency Bias

The psychological bias of placing greater importance on new information or recent experience at the expense of older knowledge.

Enables Decisions

Distorts Perceptions

Recency Bias's Effect on Decision Making

People are Bad Risk Analysts (Kunreuther et al., 2002)

Biases Enable Quick Decision Making

- Framing (Johnson et al., 1993)
- Heuristics (Camerer and Loewenstein, 2011)
- Memory Recall (Hogarth and Einhorn, 1992)

Recency Bias Distorts Risk Perception

Recent Events Raise Risk Awareness (Johnson et al., 1993)

Losses Cause Emotional Response (Kousky, 2017)

Recent Events Distort Probability Interpretation (Barron & Yechiam, 2009)

Recency Bias in Insurance

Insurance Purchases Increase After Losses

- Terrorism Insurance (Johnson et al., 1993)
- Travel Insurance (Johnson et al., 1993)
- Flood Insurance (Gallagher, 2014; Kousky, 2017)
- Rainfall Insurance (Stein, 2016)

Research Question and Hypothesis

Do farmers in the Mississippi Delta exhibit recency bias in their insurance purchases?

Hypothesis: Farmers will purchase more crop insurance in years following a disaster.

Method

OLS Regression

Crop Insurance Participation

- Liability Acre (a measure of risk transferred)
- Policies Earning Premium (measures number of insurance policies purchased)

Loss History

- Indemnity per Acre in Prior Year
- Prior Year Loss Ratio
- Categorical Measure of Disaster (counties with a Loss Ratio in excess of 100%)

Data

216 matched pairs of data were analyzed for 10 years of crop insurance data from 24 counties in AR, LA, and MS

Data Obtained from RMA Summary of Business Database

Results

IV: Prior Year Indemnity per Acre, DV: Liability per Acre: $R^2=.04$ $p=.013$

IV: Prior Year Loss Ratio, DV: Liability per Acre: $R^2=.000$ $p=.869$

IV: Prior Year Disaster (Categorical), DV: Liability per Acre: $R^2=.001$ $p=.760$

IV: Prior Year Indemnity per Acre, DV: Policies Earning Premium: $R^2=.001$ $p=.599$

Analysis

Results were mixed, but most operationalizations of insurance purchases suggest there is not a relationship between prior year's losses and crop insurance purchases in the Delta. At best, the relationship is weak.

Prevailing literature suggested a significant, positive relationship between loss experiences and insurance purchases, this does not appear to be the case in the Delta.

Implications

Farmers in the Delta do not appear to exhibit recency bias in crop insurance decision making.

Crop Insurance in the Delta presents a unique case of the effects of recency bias on risky decisions.

Further testing must be conducted to confirm the validity of this claim, but these results could be a test of the limits of recency bias in risk perception.

Discussion

Are farmers in the Delta superior analysts of risk?

Are extraneous factors distorting the effects of recency bias on crop insurance purchasing decisions?

- Impact of Government Programs on Crop Insurance Demand (Sherrick et al., 2004, Kousky et al., 2013)
- Impact of Risk Management Alternatives
- Demographic Characteristics

Limitations

Small Sample Size

Method Employed

Cross-Sectional Methodology

Conclusions

Crop insurance demand is an important topic that warrants further study.

RMA's Crop Insurance Database is an effective tool in studying behavioral questions surrounding demand for insurance products in a commercial setting.

There is still much to learn about how consumers make decisions under uncertainty, and crop insurance provides a fertile testing ground to expand our understanding.

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