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Nudge to Insure: Exploring Behavioral Economics in PRF-RI and WFRP Participation

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2019 SCC-76 Meeting

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Kansas City, MO

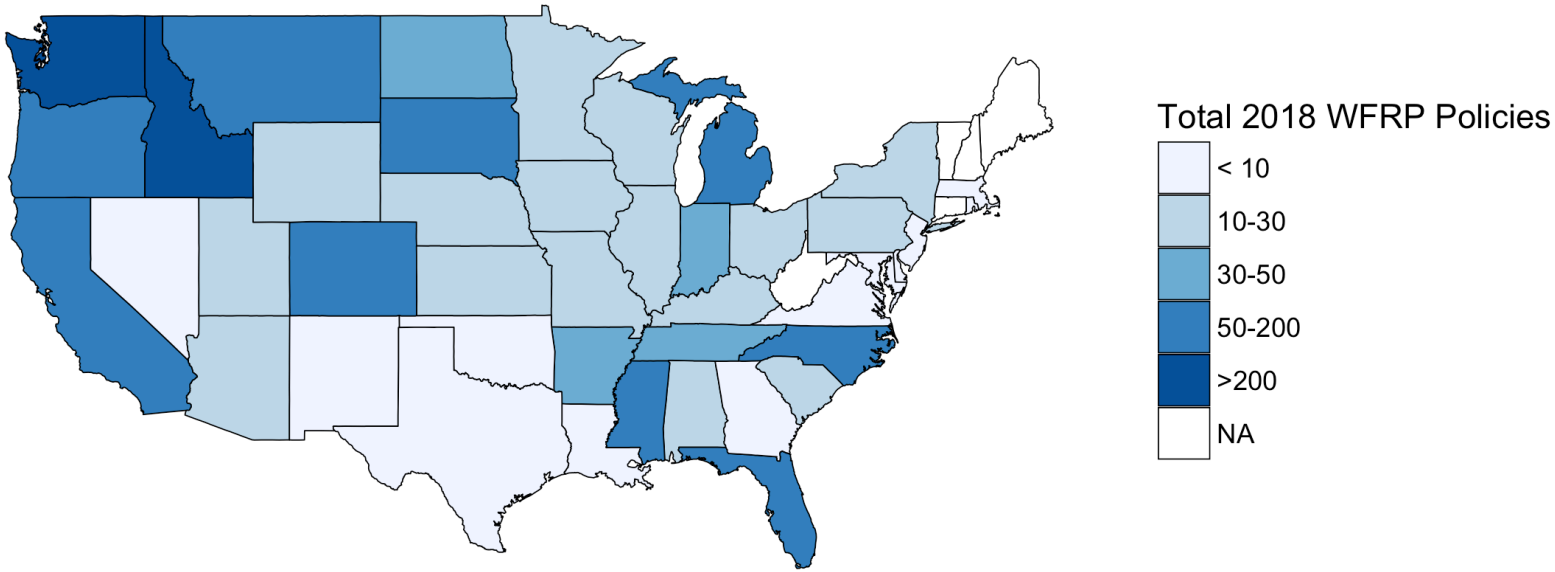
Motivation

- Traditionally specialty crop and livestock producers underserved wrt crop insurance products
- Two products currently available meet this need
  - Whole Farm Revenue Protection (WFRP)
  - Pasture, Rangeland and Forage Insurance (PRF) for livestock producers
- WFRP and PRF have low rates of enrollment despite large subsidies
  - Especially in parts of eastern U.S.
- Objective: Can we use tools/knowledge from behavioral economics to influence insurance decisions?

What is Whole Farm Revenue Protection?

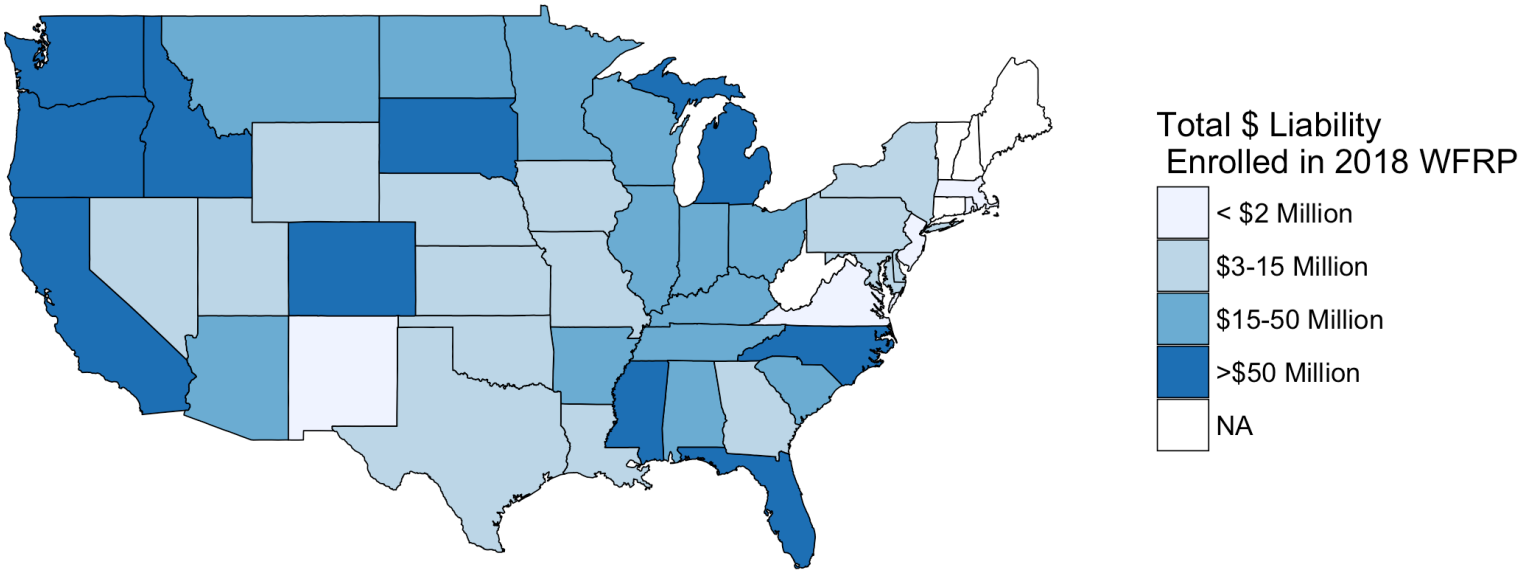
- WFRP: Crop insurance policy to cover all commodities on one farm
  - Stand alone or in addition to standard crop insurance
- Helps specialty and diversified farms receive coverage
  - Allows coverage of traditionally uninsured items
  - Includes specialty and organic commodities
  - Allows coverage under one insurance policy
- Available in all counties
- Up to $8.5 million insured revenue

WFRP Participation



Source: USDA RMA Summary of Business Reports, 2019

WFRP Participation



Source: USDA RMA Summary of Business Reports, 2019

Barriers to WFRP-Farmer Perspective

- Not aware
- Difficulty in understanding WFRP
  - How can WFRP be used with existing crop insurance?
- Too costly
  - Thinks farm not large enough to be advantageous
- Does not fit their operation
  - Other crop insurance products better serve needs
- Reluctance to share tax info
- Worried about WFRP covering growing operation

Source: Johnson et al. (2017) "*New Option for Farm Risk Management: Whole Farm Revenue Protection Usage in Nebraska*" Report Center for Rural Affairs

Barriers to WFRP-Crop Insurance Agent Perspective

- Agents unfamiliar
  - WFRP policies difficult to write so there is a disincentive for selling
- Crop year vs tax year differences
- Potentially a temporary program
  - Another disincentive for selling/becoming more familiar with policy writing

Source: Johnson et al. (2017) *"New Option for Farm Risk Management: Whole Farm Revenue Protection Usage in Nebraska"* Report Center for Rural Affairs

Benefits to WFRP-Farmer Perspective

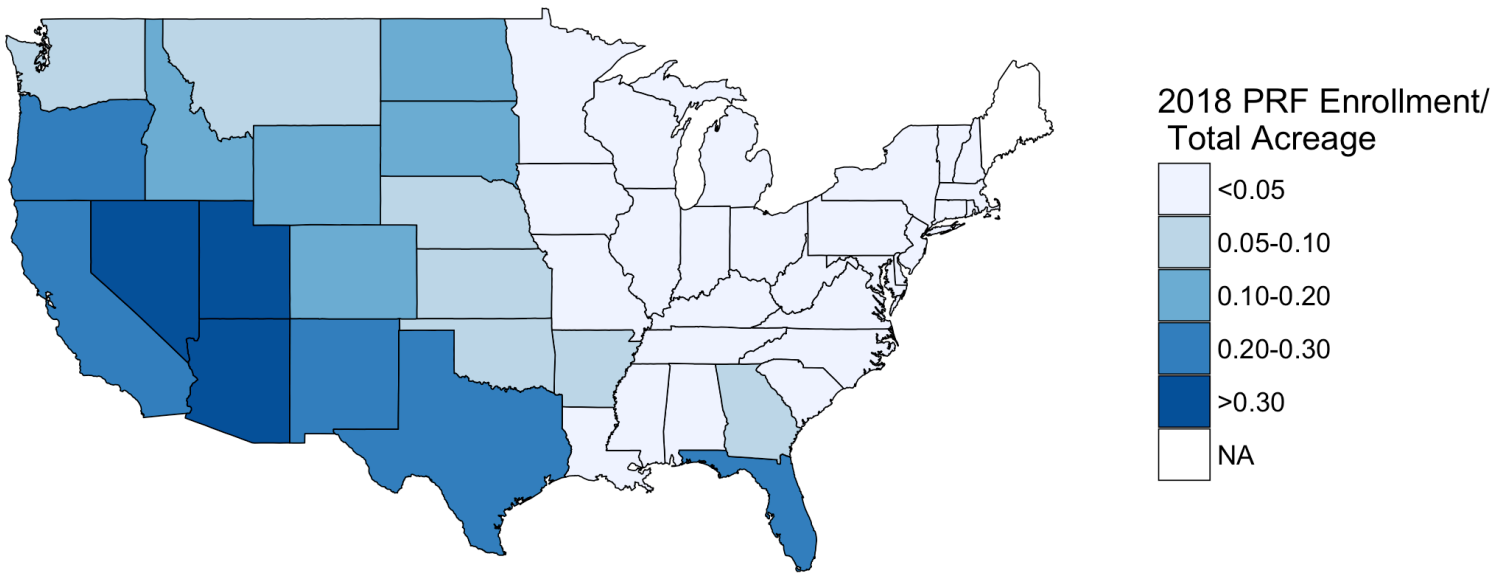
- Increased access to credit
  - Crop insurance often prerequisite for receiving loans
- Experimentation
- Flexibility in conservation

Source: Johnson et al. (2017) *"New Option for Farm Risk Management: Whole Farm Revenue Protection Usage in Nebraska"* Report Center for Rural Affairs

What is Pasture, Rangeland and Forage Insurance?

- Index Insurance for livestock producers to insure against drought-like conditions
- Based on ~12x12 mile grids
  - Rainfall index: Weighted average of 4 closest weather stations to grid
- Guarantee from 70% to 90% of average rainfall
- Policy runs January to December
- Farmer picks months to insure

PRF Participation



Source: USDA RMA Summary of Business Reports, 2019; USDA Ag Census 2012
*2018 Enrolled Acreage/ 2012 Ag Land, Pastureland, Hay (Excl Cropland & Woodland)

Suspected Barriers to PRF Participation

- Not aware
- Can you use with other programs?
  - Livestock Indemnity Program
  - Livestock Forage Disaster Program
  - Emergency Assistance for Livestock, Honey bees and Farm-raised Fish
- Too complicated
- Crop insurance agents unfamiliar
- Policy design issues

Behavioral Insights

- Information campaigns are insufficient to increase enrollment if potential participants face behavioral or psychological constraints
  - Choice overload
  - Complexity – lack of understanding about costs and benefits
  - Misperception of risk
  - Present bias
  - Contextual cues or channel factors, "Hassle costs"
  - Reference dependence and framing can lead to status quo bias
  - Social comparisons

Source: Baicker et al. (2012) "*Health Insurance Coverage and Take-Up: Lessons from Behavioral Economics.*" The Milbank Quarterly, Vol. 90, No. 1, 2012 (pg. 107-134).

Potential Solutions

- Designing solutions first depends on understanding the barriers
  - Focus group discussions with stakeholders
- Simplified choice/menu
  - Evaluating the PRF decision support tool
  - Default options
- Behavioral nudge
  - Nudge within the decision support tool
  - Enrollment reminders via text message
  - Social comparison – display average enrollment or payout

Pasture, Rangeland, Forage Support Tool

Grid Locator | Historical Indexes | **Decision Support Tool** | Estimated Indemnities

Location Information

State	County	Grid ID		Search By Grid ID
Alabama	Geneva	13378	OR	Enter Grid ID / Search

Protection Information

Intended Use	Haying
Irrigation Practice	Non-Irrigated
Organic Practice	Not Organic
Coverage Level	85%
Productivity Factor	118%
Insurable Interest	100%
Insured Acres	40
Sample Year	2017

Policy Information

County Base Value	$245.00
Dollar Amount of Protection	$245.74
Total Insured Acres	40
Total Policy Protection	$9,829
Subsidy Level	55.0%
Maximum Percent of Value per Index Interval	50.0%

Protection Table

Export to CSV

Index Interval	Percent of Value (%)	Policy Protection Per Unit	Premium Rate Per $100	Total Premium	Premium Subsidy	Producer Premium	Actual Index Value	Estimated Indemnity
Jan-Feb	N/A	$0	13.07	$0	$0	$0	178.1	$0
Feb-Mar	N/A	$0	9.49	$0	$0	$0	64.0	$0
Mar-Apr	30	$2,949	15.24	$449	$247	$202	45.0	$1,388
Apr-May	N/A	$0	17.10	$0	$0	$0	102.8	$0
May-Jun	40	$3,932	12.22	$480	$264	$216	150.1	$0
Jun-Jul	N/A	$0	8.82	$0	$0	$0	111.1	$0
Jul-Aug	30	$2,949	8.90	$262	$144	$118	91.6	$0
Aug-Sep	N/A	$0	9.27	$0	$0	$0	110.8	$0
Sep-Oct	N/A	$0	17.30	$0	$0	$0	145.4	$0
Oct-Nov	N/A	$0	19.31	$0	$0	$0	80.4	$0
Nov-Dec	N/A	$0	15.14	$0	$0	$0	33.9	$0
Per Acre	N/A	N/A	N/A	$29.81	$16.39	$13.40	N/A	$34.69
Total	40	$9,829	N/A	$1,192	$656	$536	N/A	$1,388

Calculate

This tool is using insurance data from 2018.

This tool is for illustration purposes only. Your actual information may differ.

https://prodwebnlb.rma.usda.gov/apps/prf

utahrainfall-insurance.usu.edu

Main About Help

Policy Options

Location		Basic	show all	Interval	Percent
County:	---------	Coverage:	90	---------	
Grid:	---------	Productivity:	100	---------	
Historical Rainfall		Insured acres:		Add	

Submit

USU Extension
USU Agribusiness
USU Risk Management

RMA PRF
RMA Grid Locator
Find an Agent

Evaluating Potential Solutions

- Current research: designing a lab-in-the-field experiment that simulates farmer decisions
  - Measure difference in farmer interest/engagement around WFRP and PRF insurance when exposed to a behavioral nudge
  - Convenience sample of farmers at the Sunbelt Ag Expo
- Hopeful for future research using administrative data to test a nationwide program roll-out

Thoughts?