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Index Insurance in Developed Countries

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Motivation

- When designing index insurance products for developing country farmers, what can we learn from similar programs in developed countries?
- How can we compare and contrast index insurance as a part of risk management programming across developed and developing countries?





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U.S. Index Insurance

- **Common Group Risk Plan (GRP) – first area-yield insurance offered by the Federal government (1993)**
 - Based on county-level yields (data from USDA/NASS)
 - Group Risk Income Protection (GRIP) introduced in 1999, incorporating within-year national price movements to insure against expected county revenue
 - GRIP outpaced GRP in 2006 (greater total liability and premium volume)
- **Catastrophic Risk Protection Endorsement (CAT) Insurance (1994)**
 - 55% of price of commodity on crop losses in excess of 50% (low-level coverage)
 - Premium fully subsidized, some farmers pay \$300 administrative fee for each crop and county insured
 - Not available in conjunction with individual or area revenue insurance plans
- **2014 Farm Bill**
 - Area Risk Plan (ARP and ARPHP) replaces GRP/GRIP; not many changes
 - STAX for cotton farmers (80 percent subsidized)
 - Supplemental Coverage Option (SCO) – area-yield add-on to individual policies





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U.S. Index Insurance

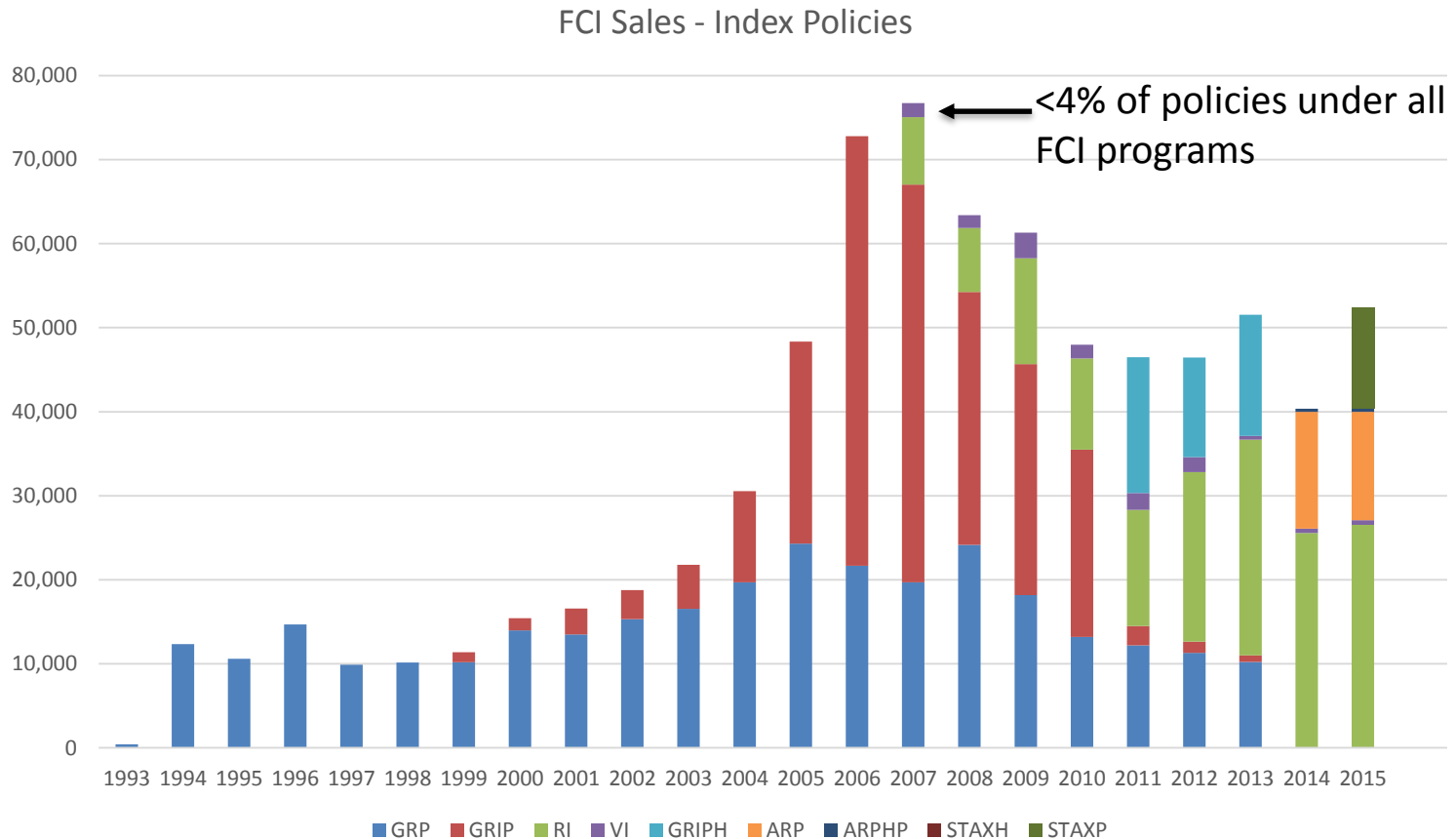
- Vegetation Index-Based Policies (VI)
 - Piloted in 2007 for pasture, rangeland farmers
 - Based on AVHRR-NDVI
 - Contracts at the sub-county level performed well but didn't sell (farmer understanding cited as an issue)
- Rainfall Index-Based Policies (RI)
 - Piloted in conjunction with VI policies in 2007
 - Also based on sub-county data
 - RI replaced VI for rangeland after poor VI sales performance





Historical Coverage – FCI Index Policies

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Source: USDA Risk Management Agency





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U.S. Index Insurance – Challenges

- Data Limitations
 - GRP policies removed in 2010 (changes to NASS reporting)
 - RMA data supplements, but not collected through sampling (only through insured farmers)
- Low Demand
 - Better options available under FCI?
 - Subsidies higher for actual production history (APH) policies
- No measures of basis risk for index-based policies
 - County-level yields

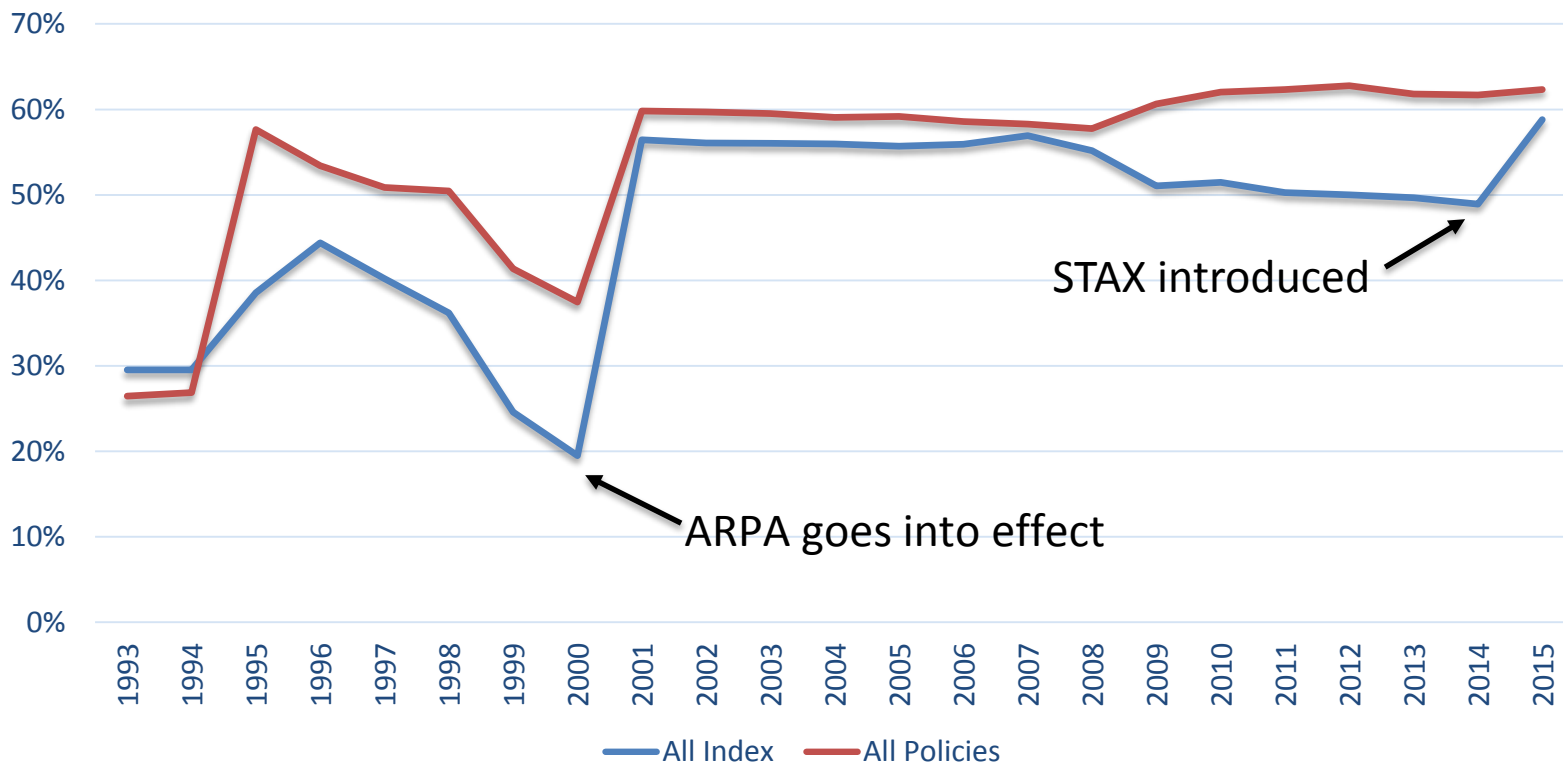




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Average Historical Subsidies

Historical Average Subsidy Rates, Index and All FCIC Policies





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Private Risk Markets

- Weather derivatives and CAT bonds – very low trading volume in agriculture sector (most activity is from energy firms)
- Decision support tools and private parametric insurance (e.g., Climate Corporation – [Climate FieldView](#))
- Indemnity-based FCI policies may also crowd out private options for farm-level risk management (Kirwan 2014)
- Area-yield options contracts would ameliorate systemic risk problems that have undermined the development of an independent private crop insurance market (Miranda and Glauber 1997) – but Federal government unlikely to pull out of crop insurance





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U.S. Case: Lessons Learned

- FCIP has a variety of index-based products available, but a small offering in comparison to its individual-level policies
- Area yield- and revenue-based policies are supported by the U.S. statistical system, but sampling is often targeted for wider geographical aggregations – coverage/basis risk issues?
- Higher subsidies for individual-level policies may dampen demand for indexed policies
- Private options exist but it's difficult to compete with Federally subsidized products (although FCIA prohibits approval of new index-based offerings where private market products exist)





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Other Developed Countries

- **Sweden** – 1st Area-Yield Crop Insurance program, 1952
- **Canada** – AgrilInsurance, managed at the province level with reinsurance provided by federal government; includes NDVI, heat-unit and rainfall index policies; subsidized (about 60%)
- **Spain** – NDVI-based insurance for pasture and beekeeping
- **UK** – 1998 area-revenue insurance pilot failed (low uptake)
- **Australia** – 2012 review of parametric insurance found substantial government support would be needed to sell policies; government offers non-insurance disaster aid





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Questions/Comments?
Thank You!

