



Focus on Farm Finances

#5: Decision-making in an Uncertain World



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Definition of Risk

- RISK is the effect of uncertainty on objectives.¹
 - Risk is objective focused.
 - What are you trying to accomplish?
 - Risk management explicitly addresses uncertainty
 - If you ignore the risks you don't understand, you are probably in trouble or soon going to be.
 - Risk has both positive and negative effects.

¹ANSI/ASSE/ISO 31000 Risk Management Principles and Guidelines



Sources of Risk in Agriculture

1. Marketing/Price Risk
2. Production Risk
3. Institutional/Legal Risk
4. Human Risk
5. Financial Risk



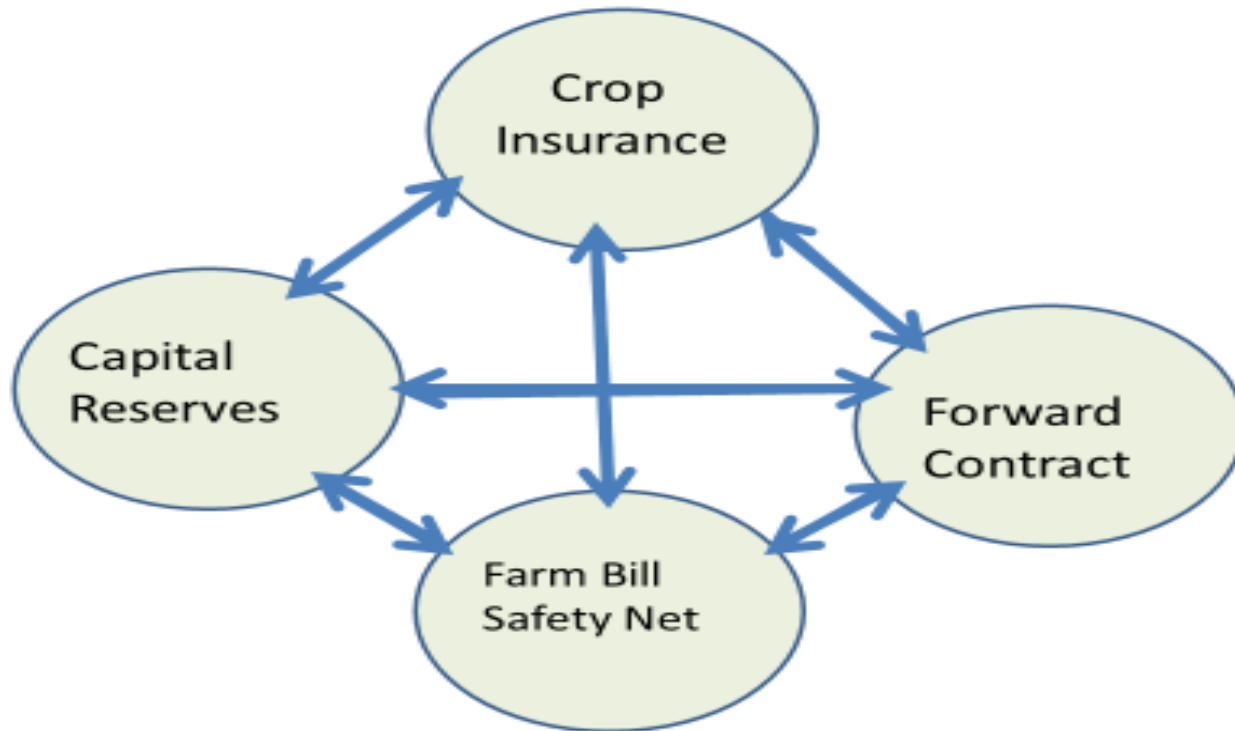
Financial Risk Management Technologies

- Crop Insurance
 - Complex, over 250 contract combinations
 - Livestock/forage insurance
 - Insures farm level losses
 - Evolving, Yield Exclusion, Enterprise unit by practice
 - Subsidized
- Farm Bill
 - Insures losses at an aggregate level
 - Disaster assistance
 - Payments are capped
 - Subsidized
- Commodity futures market



Financial Technologies and the Farm

- Technologies work together:



- Synergies exist!



Farm Risk is Unique

- Yield risk is yours
 - **Resulting Actual Production History (APH) is yours, this impacts usefulness of crop insurance**
 - Low APH relative to expected yield = not a very good crop insurance policy.
- Prices are specific due to basis and your transportation cost to the elevator
- Production costs are unique to you
- Financial position is yours
- Re-evaluate each year
- Consequence = general statements about what you should do may be flawed.



Risk

- From the dictionary:
 - Risk = Possibility of suffering harm or loss
 - Uncertainty = Condition of being in doubt
- Risk is going out of business due to experiencing financially bad low probability outcomes. Uncertainty is the nature of the business.
 - Example, Losing a penny (dime, nickel, or quarter) in corn price, while unfortunate, is the nature of the business. Losing your business, is what business owners strive not to do.



Objective

- Identify net income risk reducing impacts of crop insurance, Farm Bill, and hedging for 2016 crop year
- We first identify crop risk exposure
 - Farm yield, commodity price, production costs
- Focus on two simple objectives:
 - Highest expected net income at the beginning of the year, when the investment is being made. We use March 1st – insurance base price is set
 - Minimize probability of bankruptcy.
 - Assumes we only focus only on financially bad outcomes

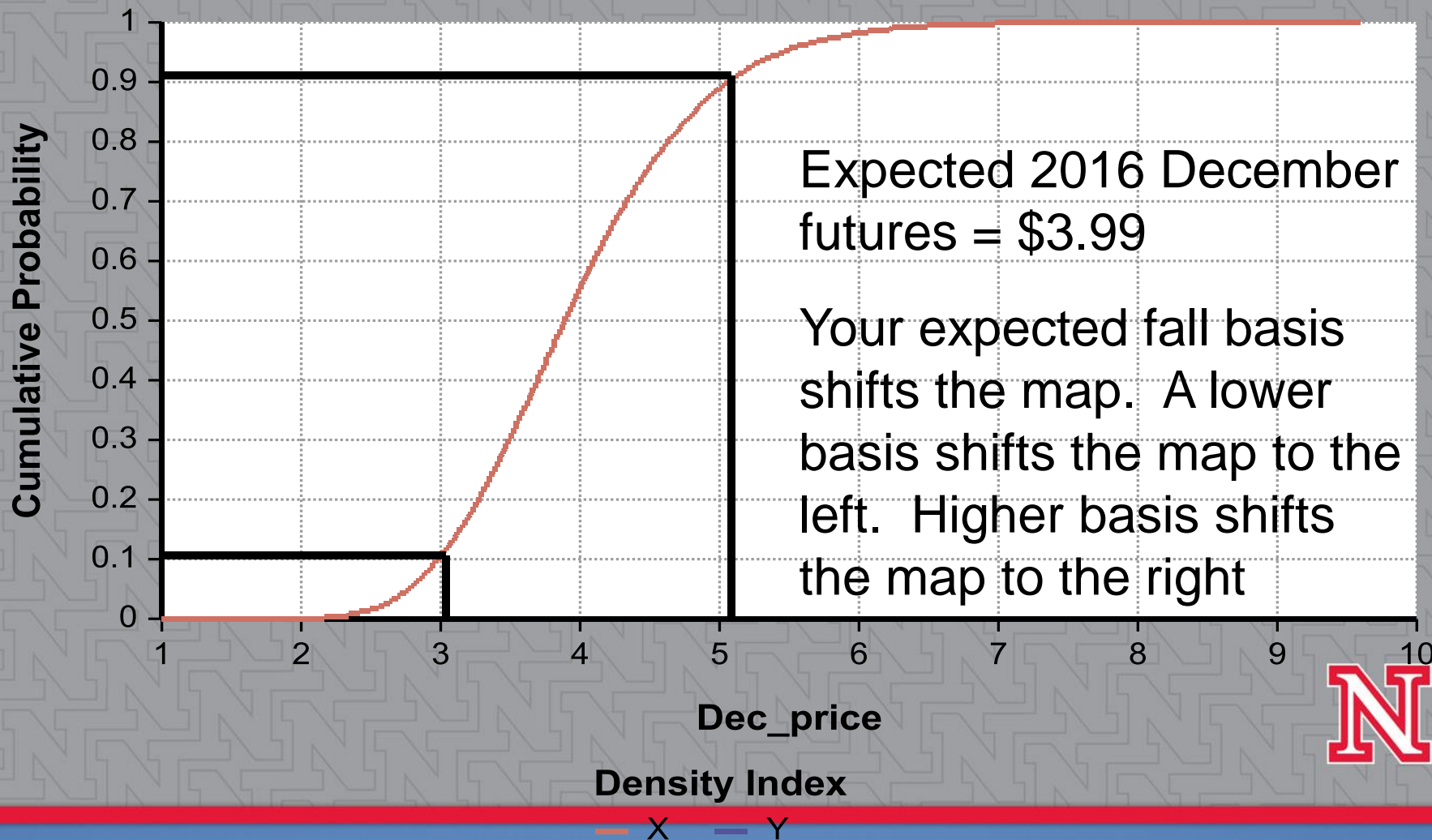


An Example

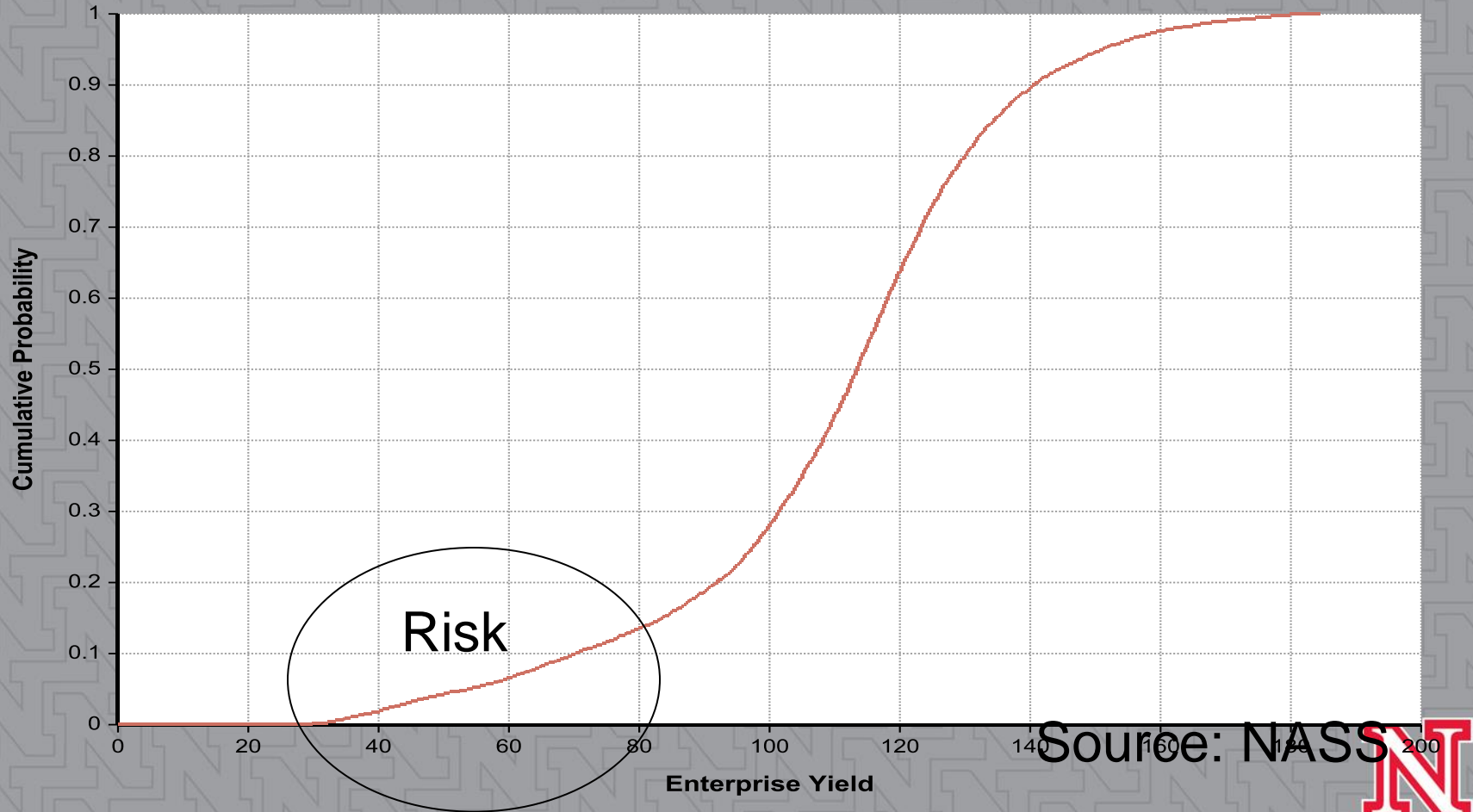
- First, identify price and yield distributions
- Second, motivate the relations between crop insurance and financial standing
- Third, motivate relation between insurance, hedging, Farm Bill and financial standing



December 2016 Corn Futures Price Distribution



Non-Irrigated Corn Yield Distribution for Thayer Co. NE

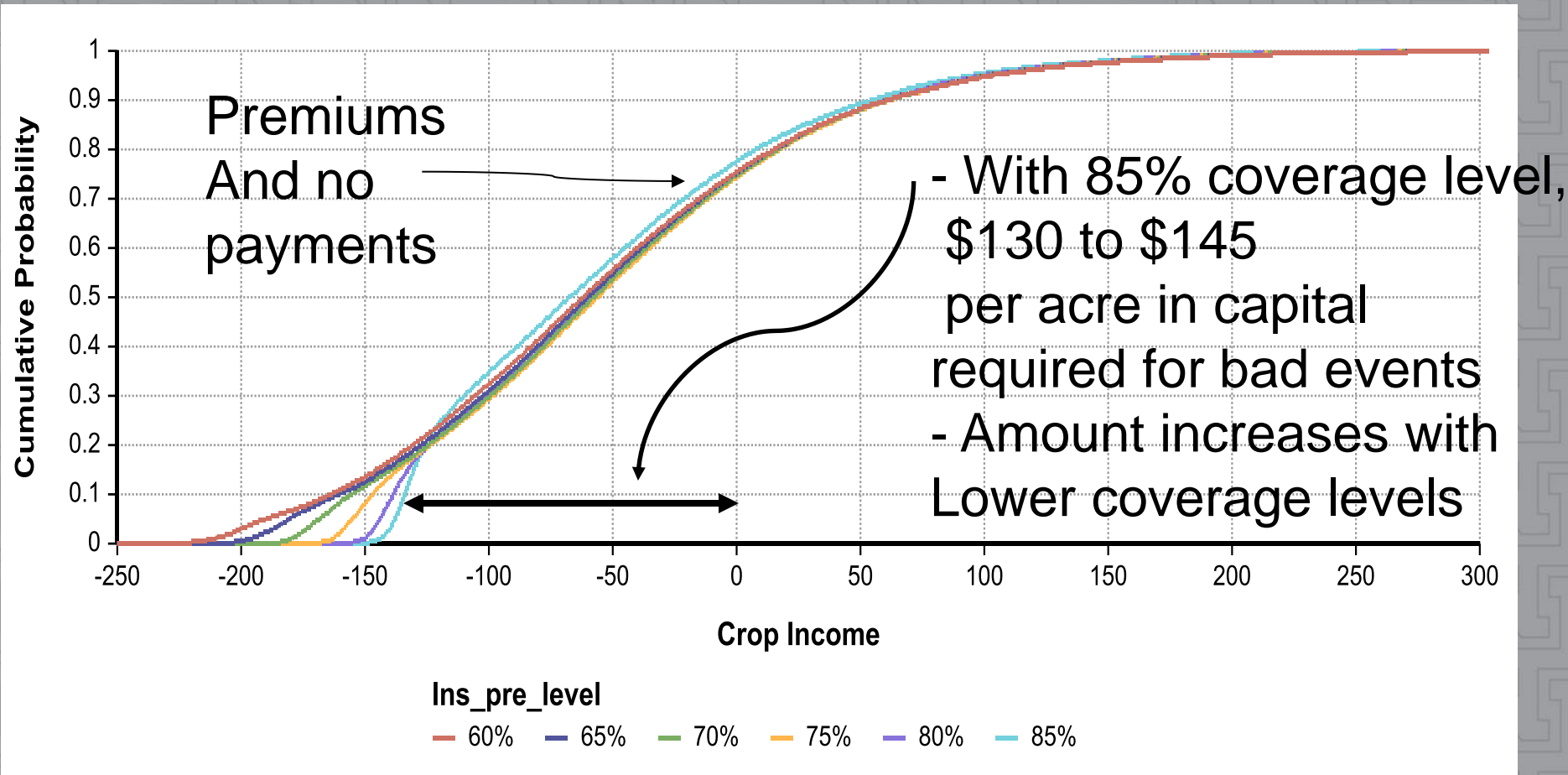


Source: NASS 

Irrigated Corn Yield Distribution, Thayer, Co. NE



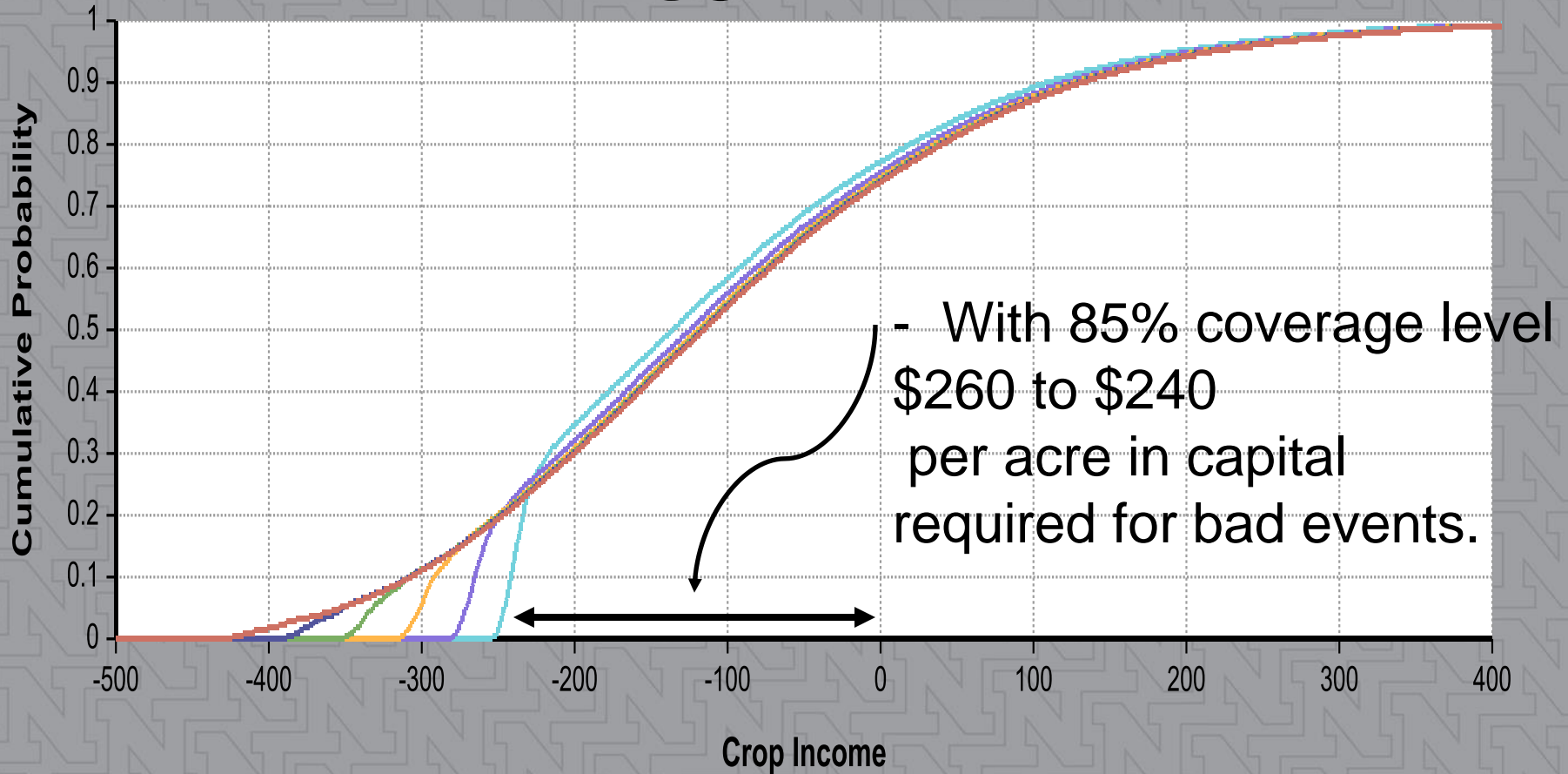
Non-Irrigated Net Income, Thayer Co. NE



Production costs = \$500/Acre + Harvest cost



Irrigated Net Income, Thayer Co. NE



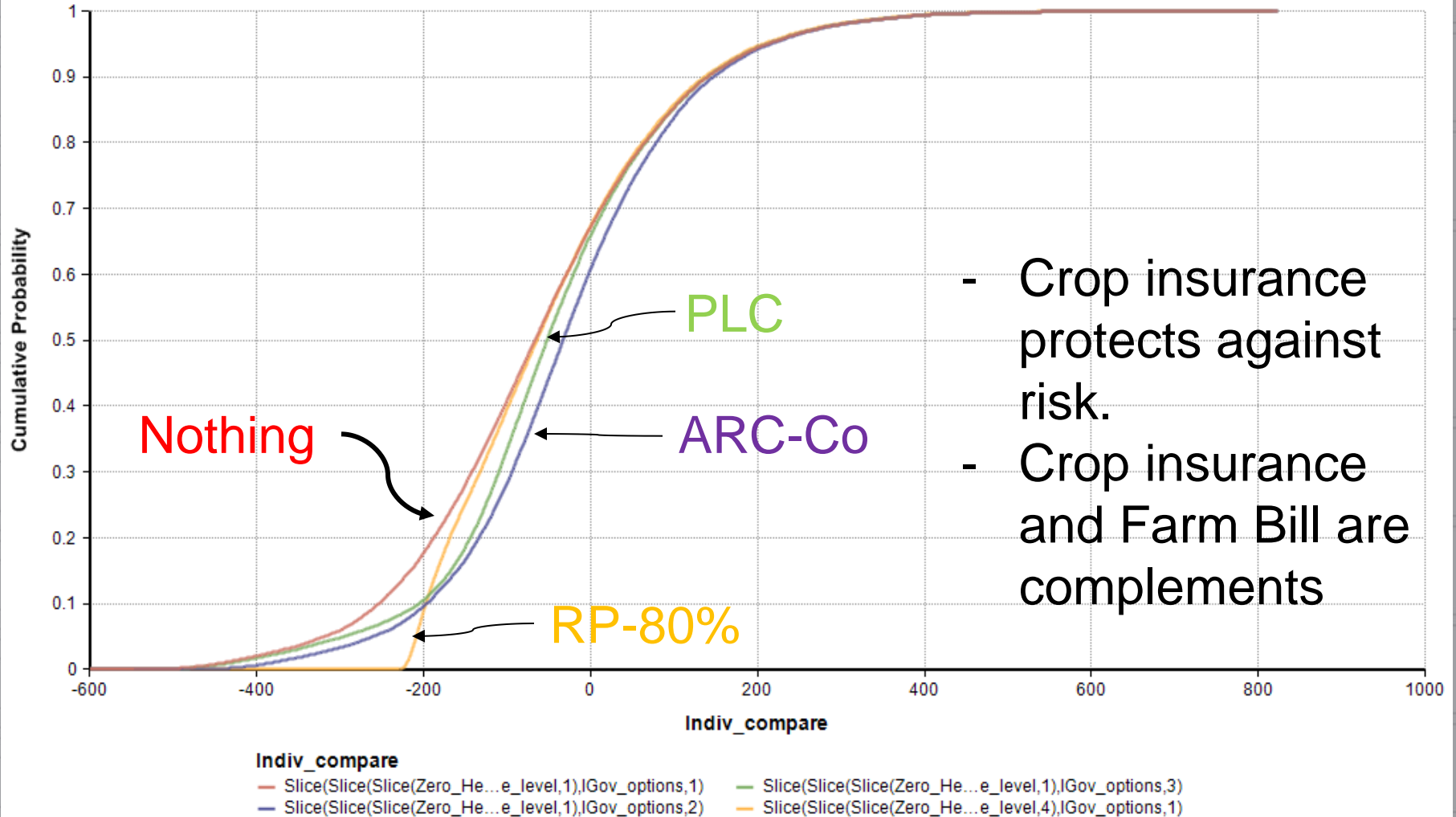
Ins_pre_level

60% 65% 70% 75% 80% 85%

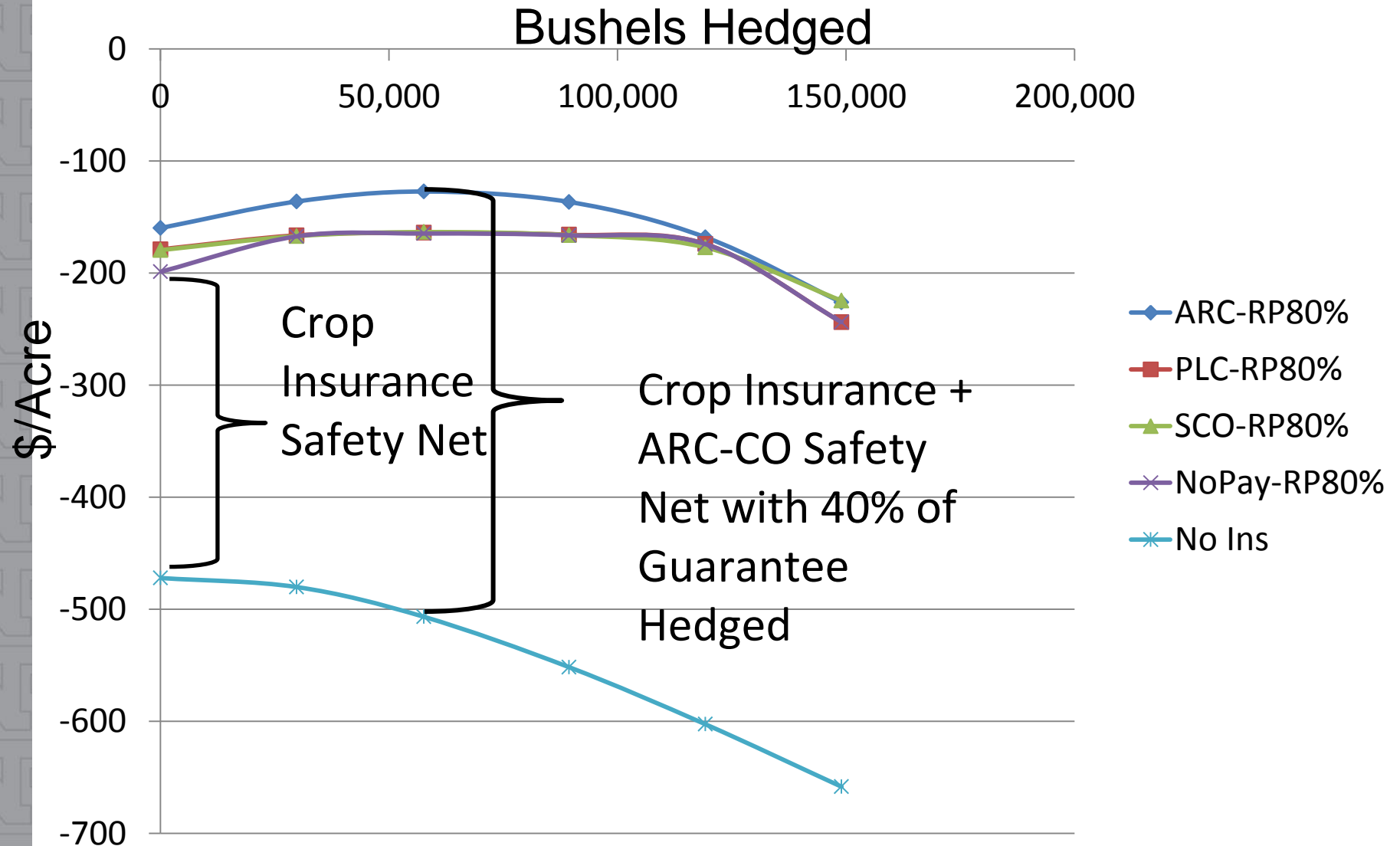
Production costs = 950/Acre + Harvest cost



Net Income without and with Crop Insurance or Farm Bill

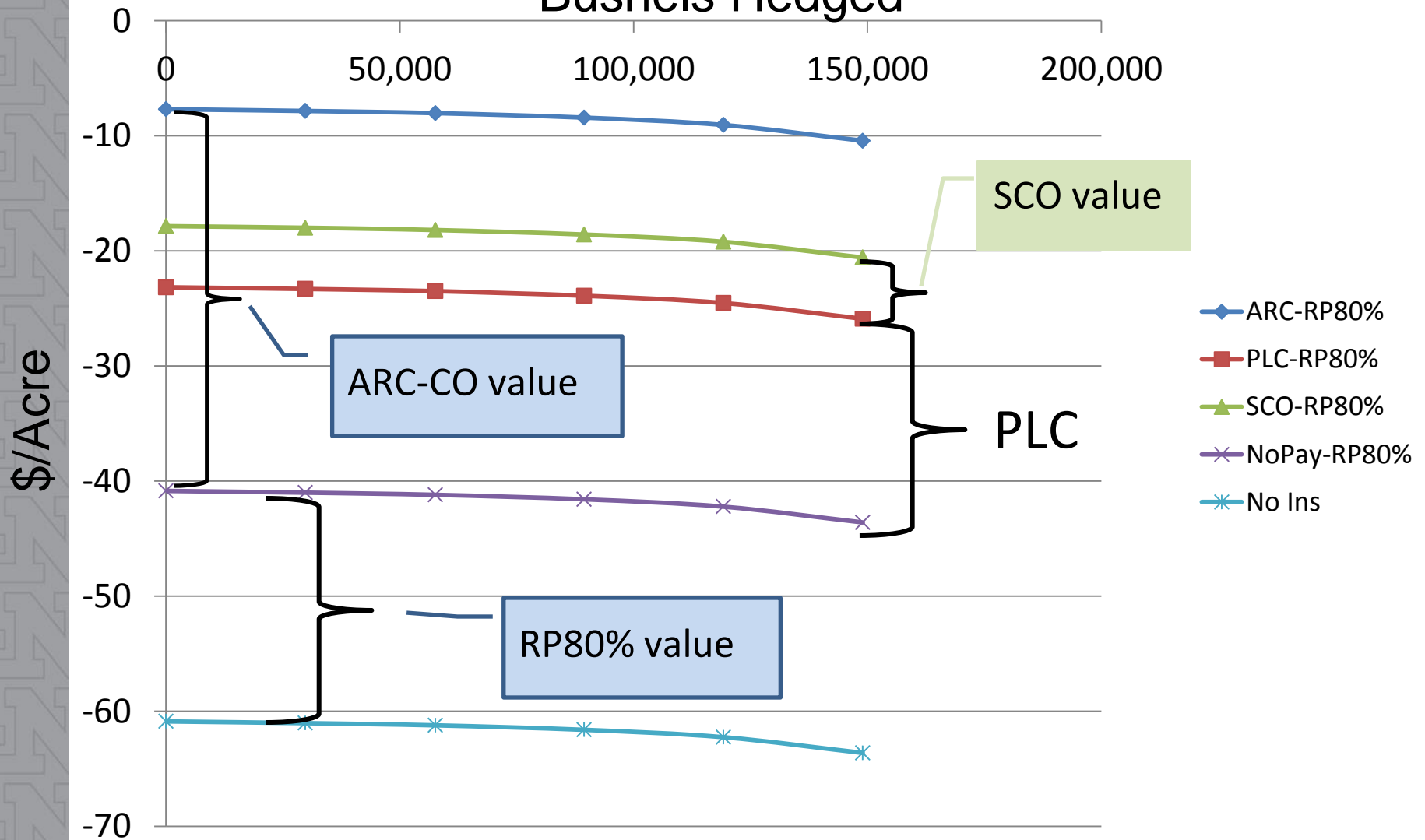


Risk, 1% Expected Shortfall



Expected Income

Bushels Hedged



Remarks

- Crop insurance is the cornerstone managing risk
 - Rigorously evaluate new options (i.e., YE, TA-APH)
 - Build your APH so it becomes as close as possible to your expected yield
 - Compare your APH to your expected yield to get an idea of how well crop insurance will protect you. This is also called the ‘hidden deductible’
 - Appears to complement both ARC-Co and Hedging
 - Higher coverage levels = less working capital on hand for bad even and higher premiums.
- What helps you survive? Lower premiums or additional working capital incase of a bad event?

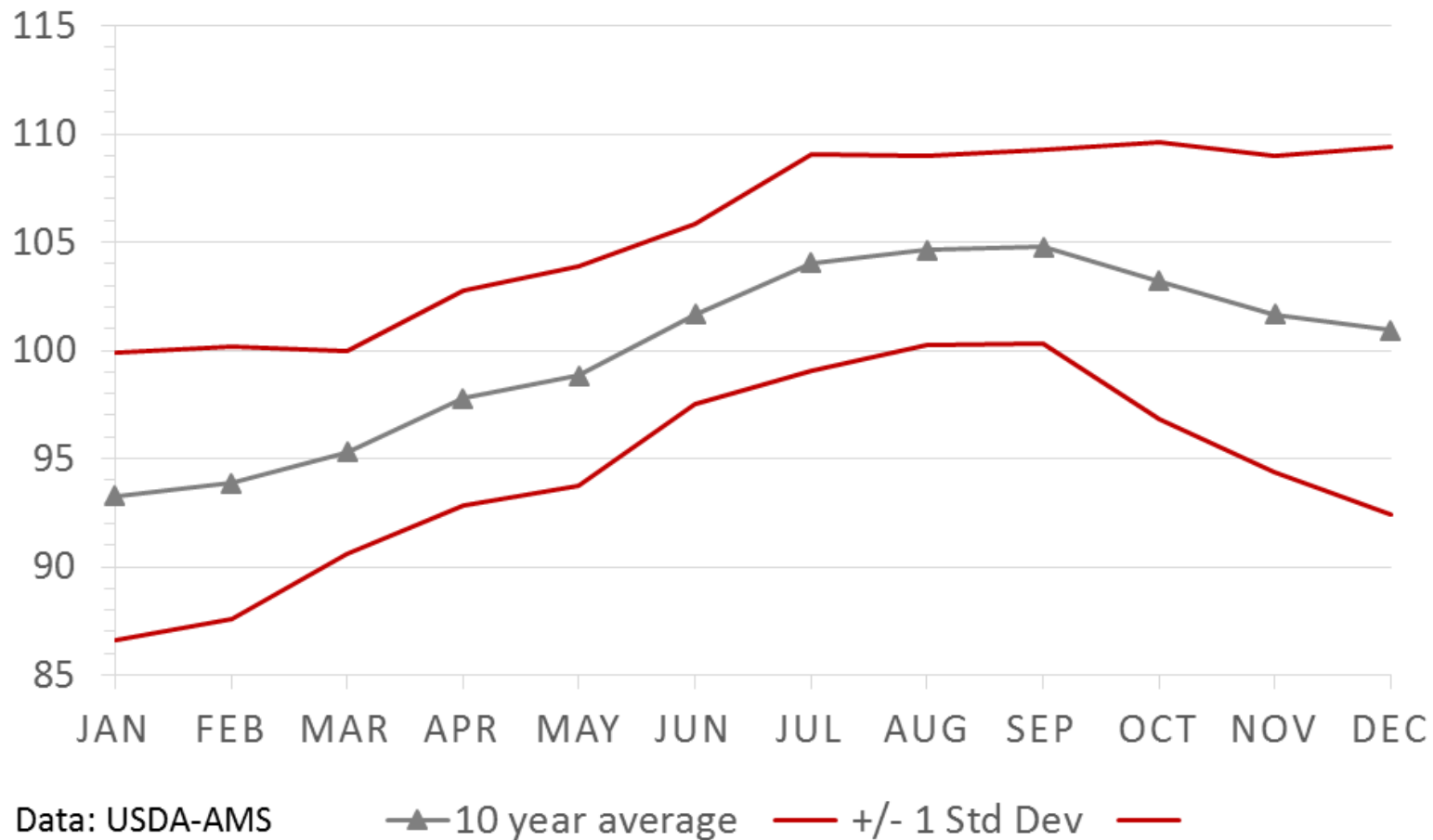


Livestock Industry Risk is Unique

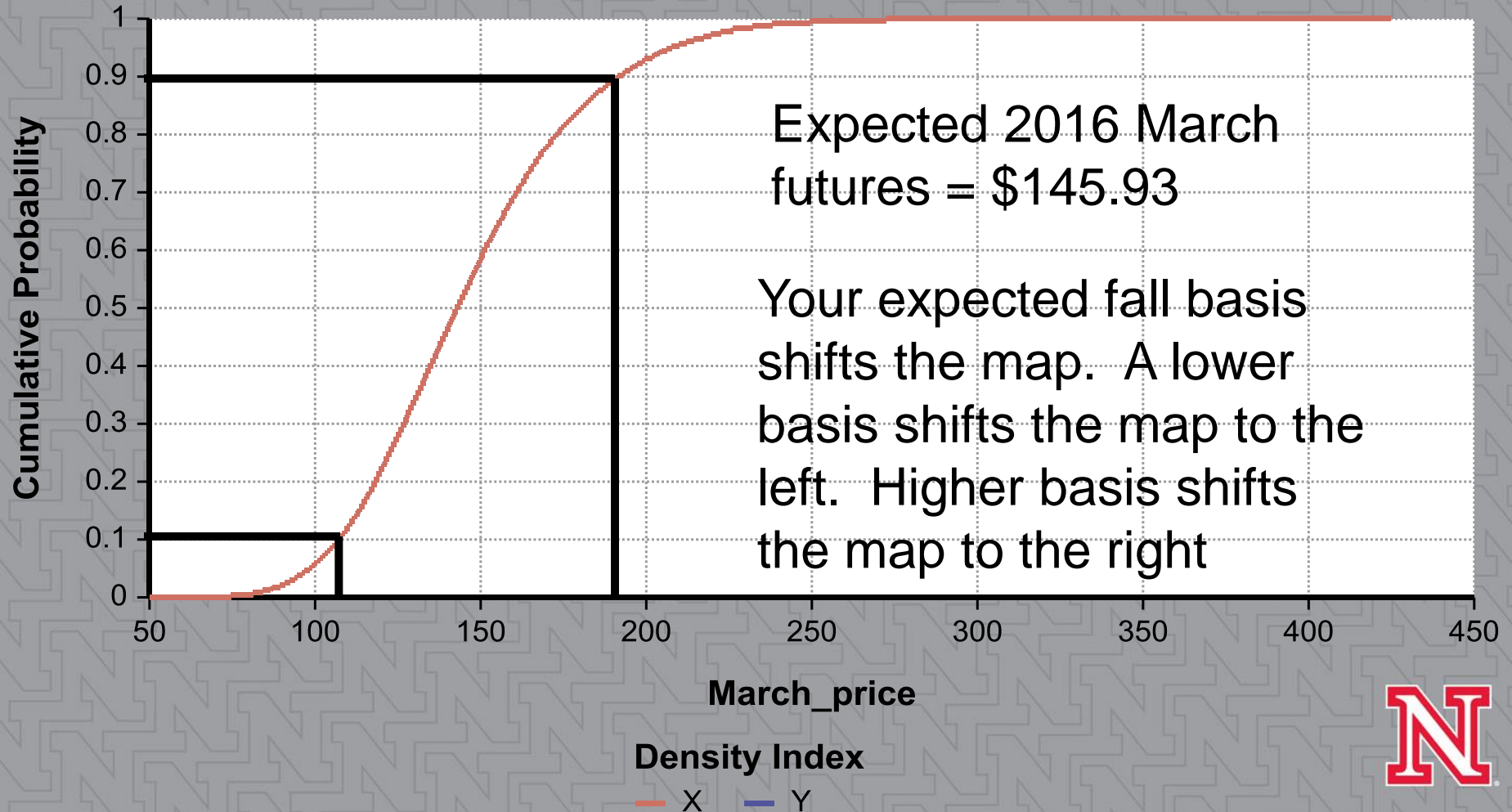
- Type & Species of Livestock Operation
 - Contracting vs. non contracting
- Prices are specific due to operation timing and local basis and transportation costs
- Production costs are unique to you
- Financial position is yours
- Re-evaluate each year
- Consequence = general statements about what you should do may be flawed.



**FIGURE 3: SEASONAL PRICE INDEX --
700-800 LBS FEEDER STEERS
NEBRASKA DIRECT, 2005-2014**



March 2016 Feeder Cattle Futures Price Distribution



Livestock Risk Protection

- Price Risk Protection
 - Livestock Risk Protection
 - Livestock Gross Margin
- Other Risk Protection
 - Pasture Range & Forage Insurance
 - Disaster Assistance
 - Livestock Forage Disaster Program (grazing losses)
 - Livestock Indemnity Program (livestock deaths)



Focus on Farm Finances

Putting it all together

- Outlook
 - Crop, Livestock, Policy & Financial Outlook
- Know your costs
 - Inputs, operating system, family living
- Negotiating a lease
 - Trends, communications & writing
- Communicating with your banker
 - Banker perspective: documentation and loan requests
- Decision-making in an uncertain world
 - risk



What is a Marketing Plan?



Marketing Questions

- Every operation should develop and **MAINTAIN** a marketing plan
 - What to produce/sell?
 - Where to sell?
 - When to price/sell?
 - Goals/objectives current market conditions
 - How accomplish marketing goals & objectives



Marketing Plan

- Planning is Essential!!!!
- KNOW YOUR COSTS OF PRODUCTION!
- Understand interactions between all aspects of operation and marketing
- Set Triggers!
- EVALUATE!



Resource

- Farm.unl.edu
- Post-harvest grain marketing workshops
 - <http://go.unl.edu/marketingworkshops>
- Protecting Profits workshops
 - Helping Nebraska cattle producers manage risk



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