

# Aggregate Market Impacts in Food and Agricultural Markets

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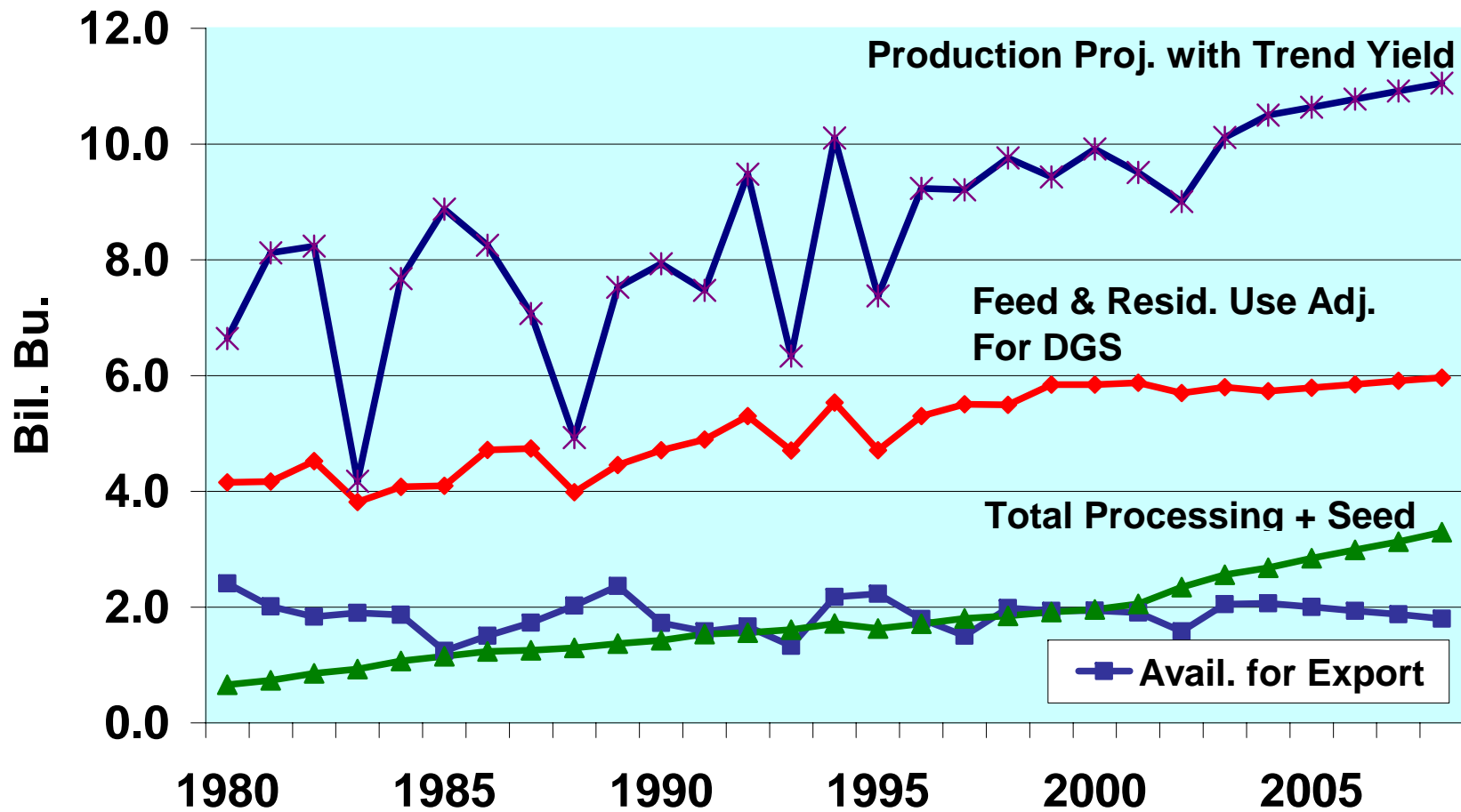
Presented at Energy from Agriculture: New Technologies, Innovative Programs  
and Success Stories." St. Louis, Missouri Dec 14. 2005.

# Points to Be Covered

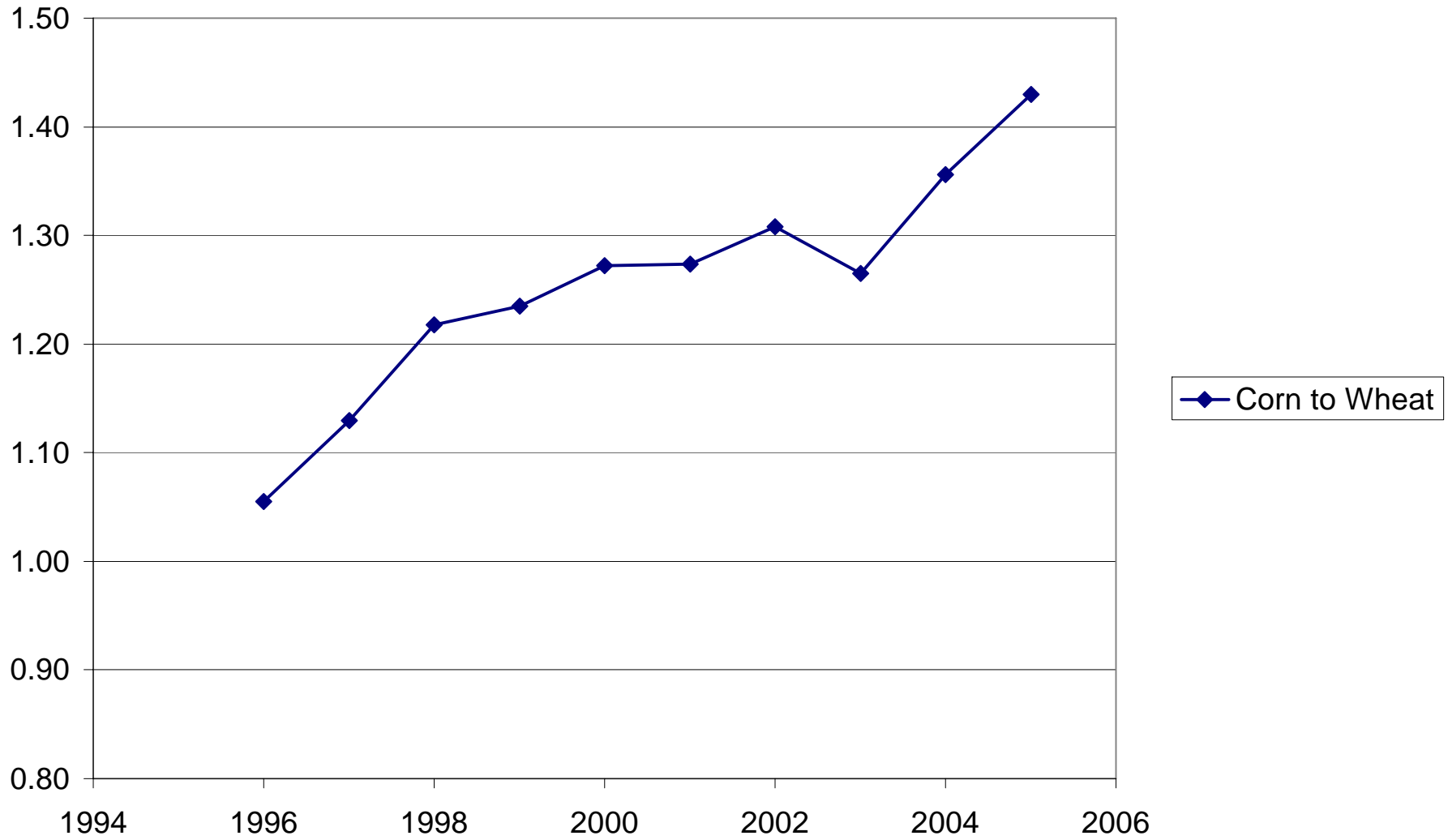
- Will we “run out” of corn?
- Review the market impacts from the biofuels provision of the 2005 energy bill
- What will happen in “corn-short” years?

Source: Bob Wisner and  
Phil Baumel

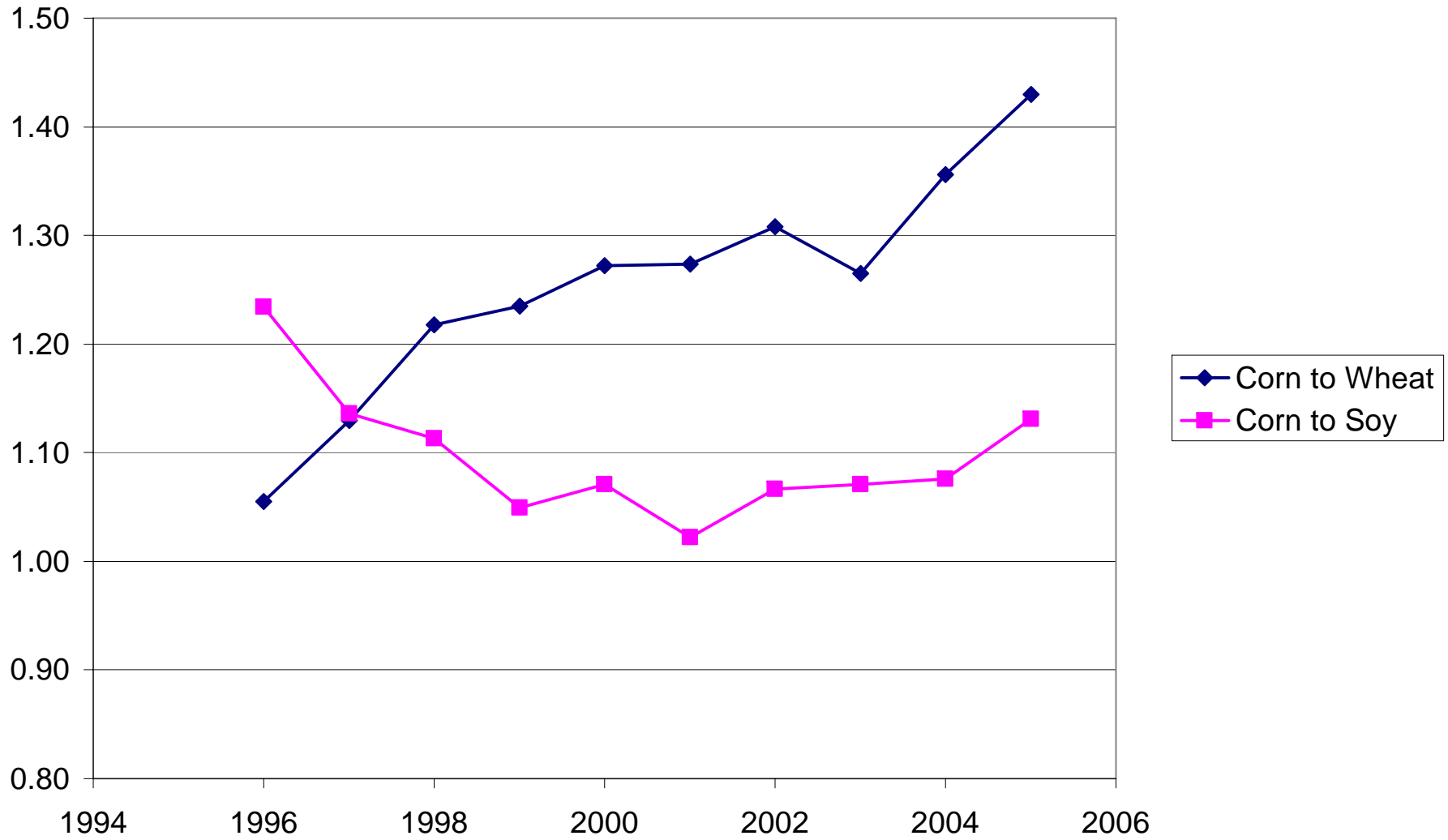
**Figure 1. U.S. Corn Production, Domestic Use, & Availability for Exports--Projections to 2008**



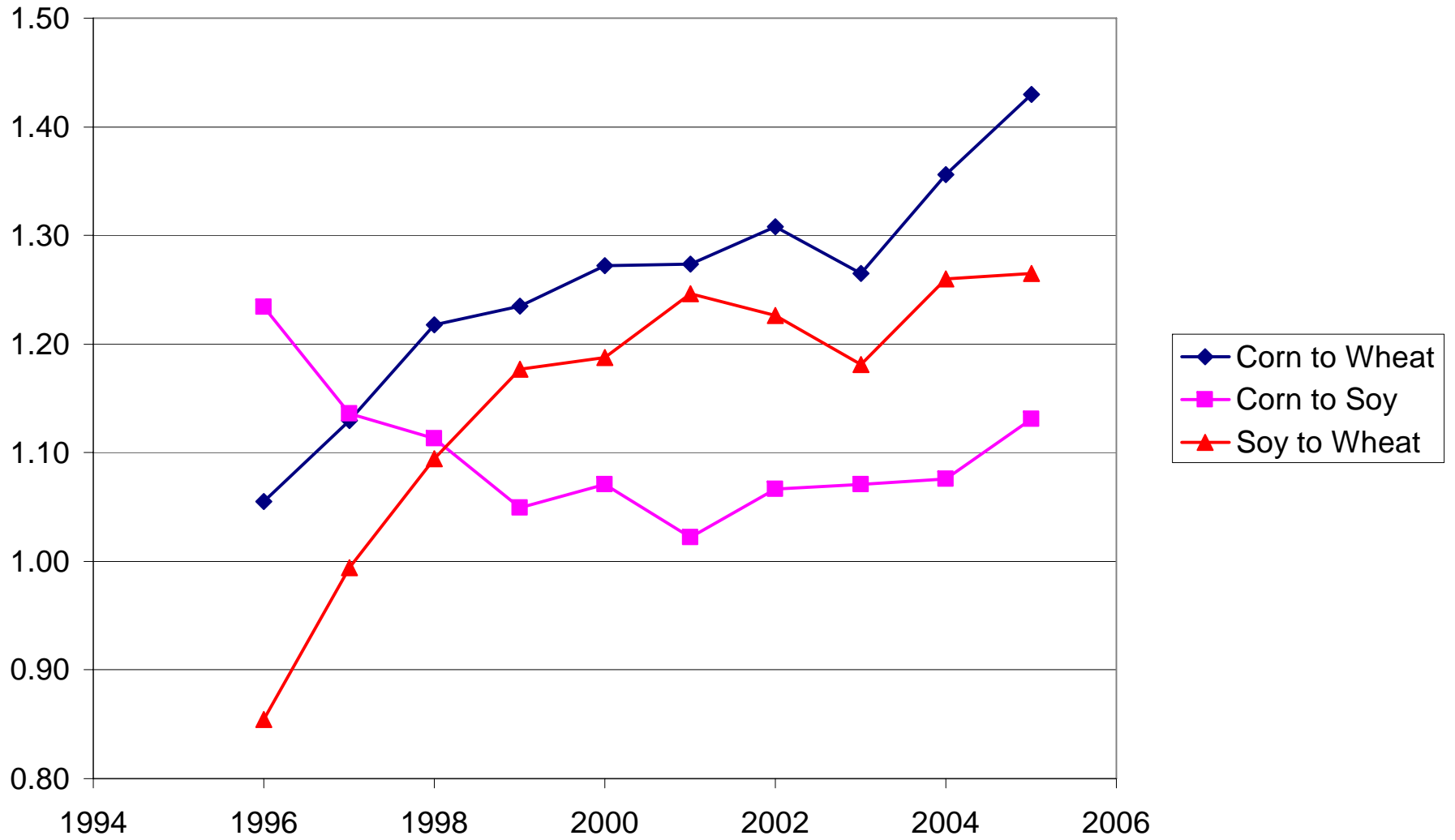
## Acresage Ratios Since Passage of Freedom to Farm



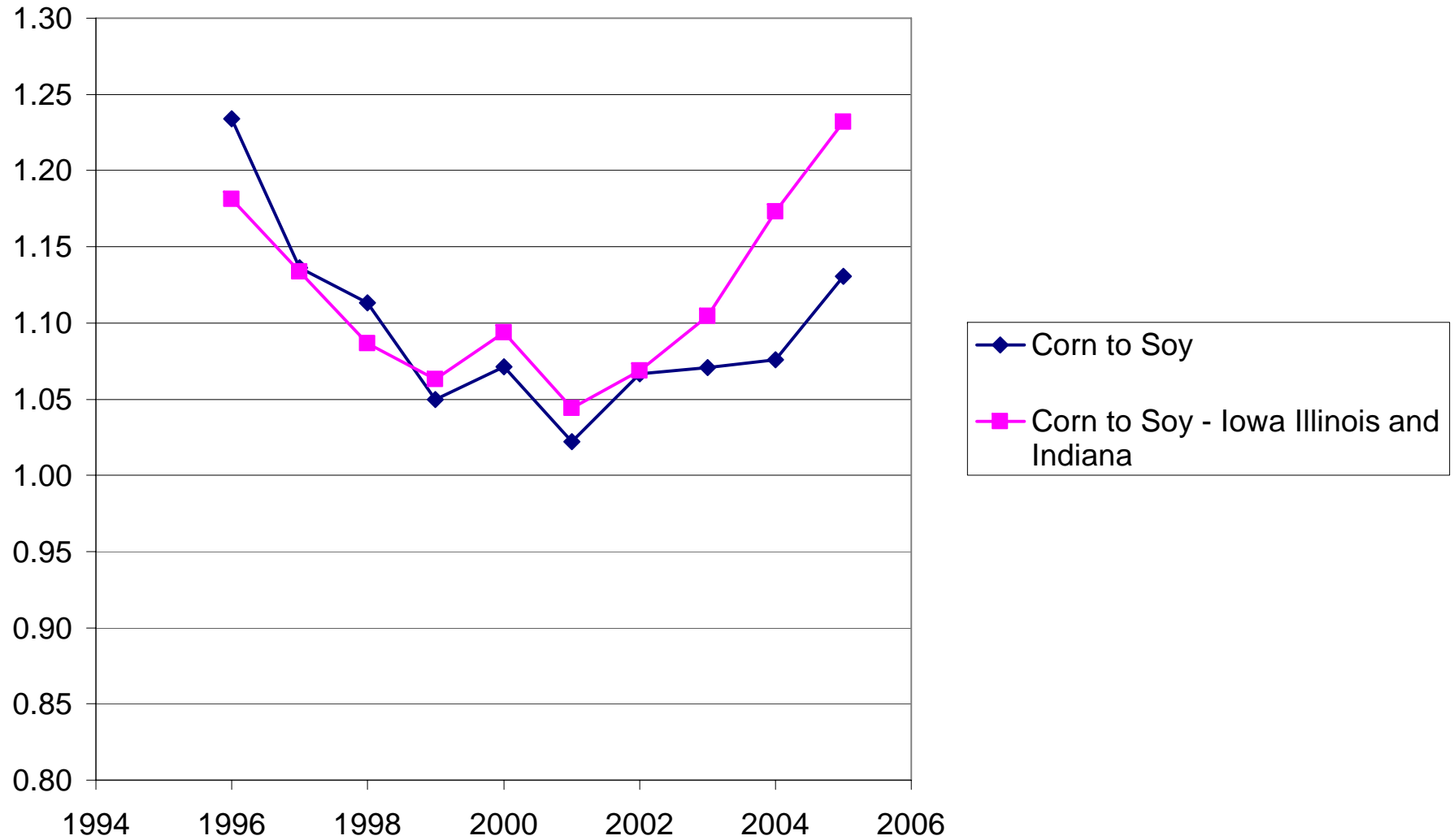
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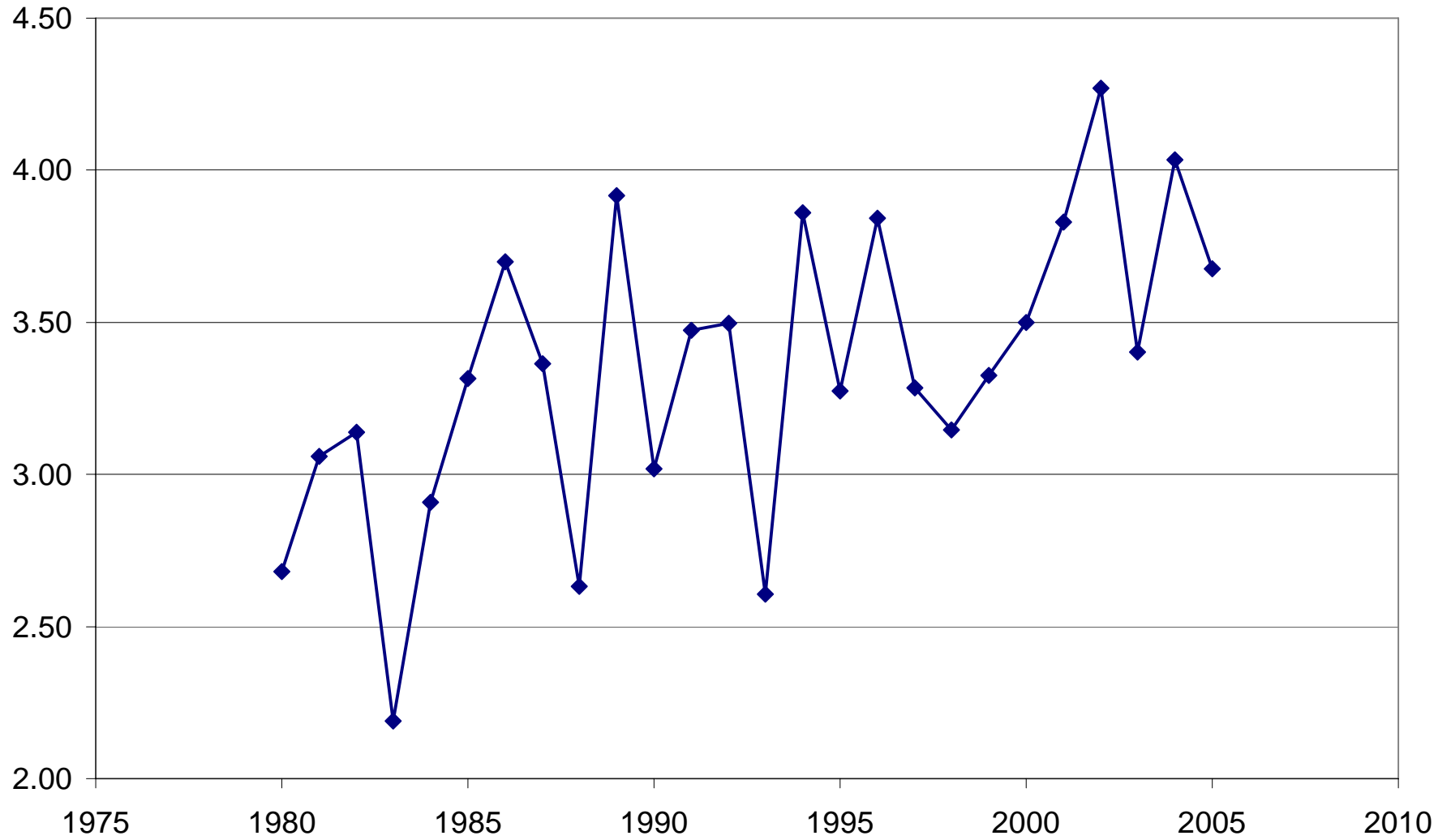
## Acresage Ratios Since Passage of Freedom to Farm



## Acresage Flexibility is Actually Higher in the Corn Belt

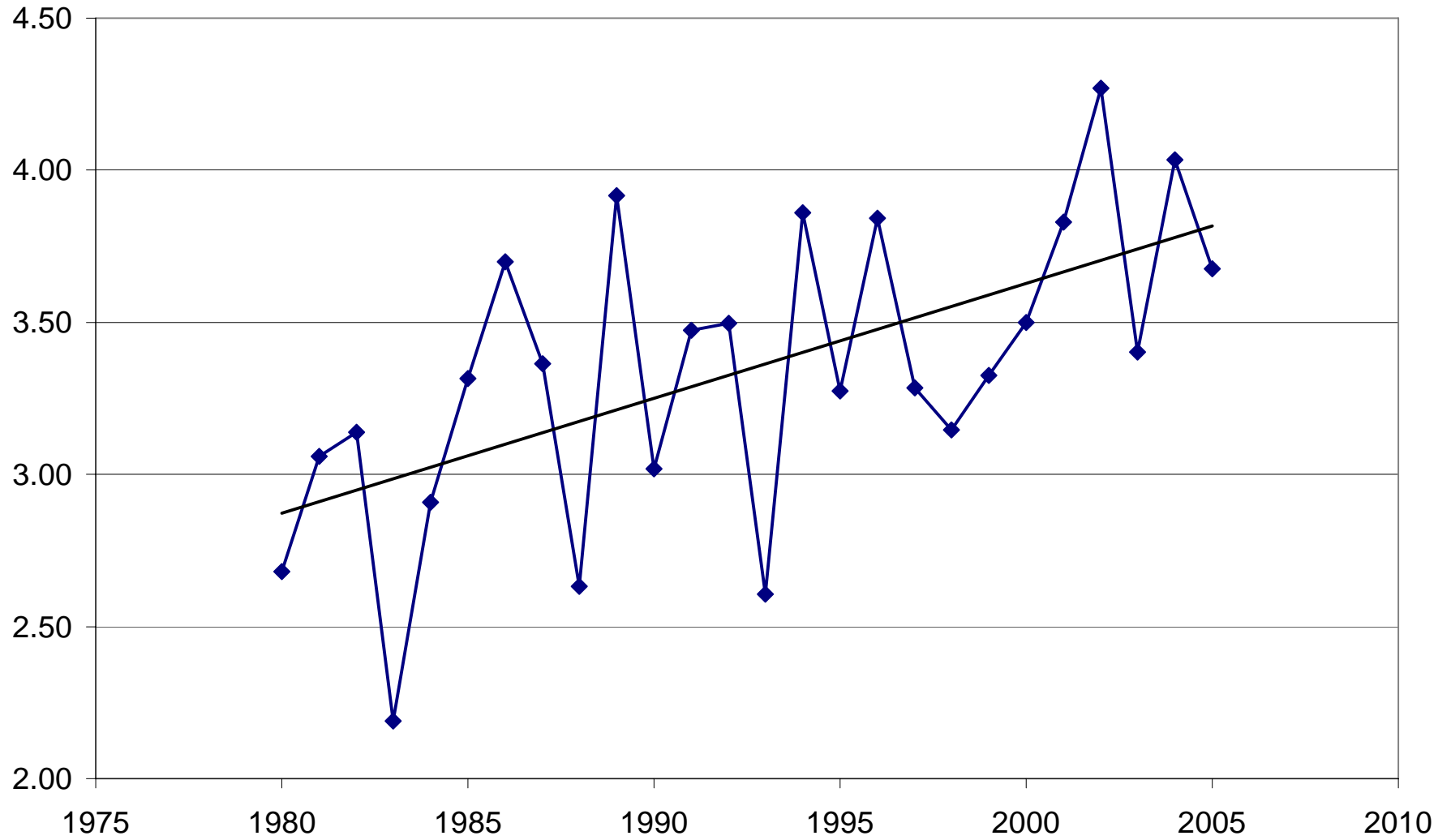


## Ratio of U.S. Corn Yield to Wheat Yield

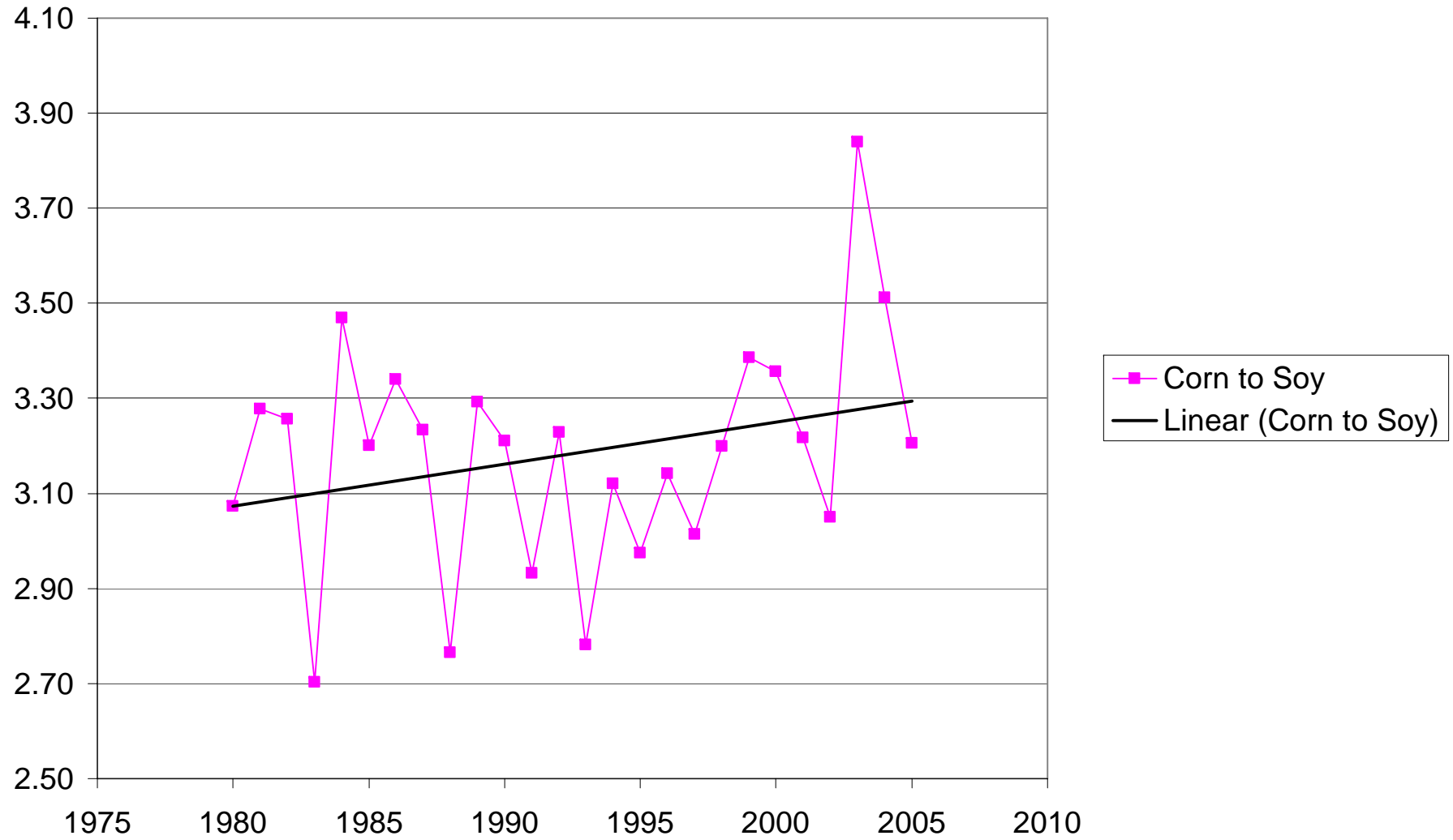




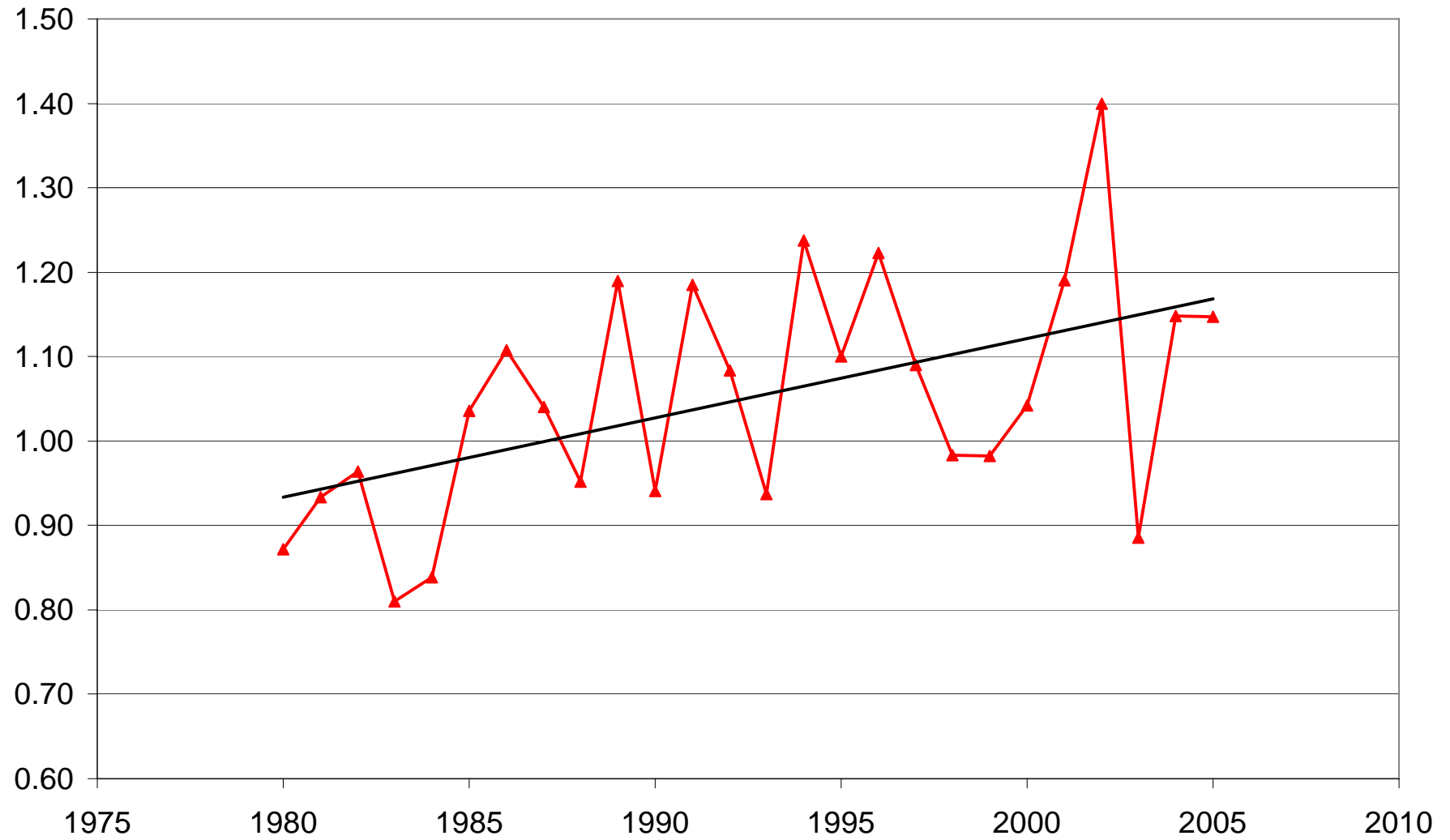
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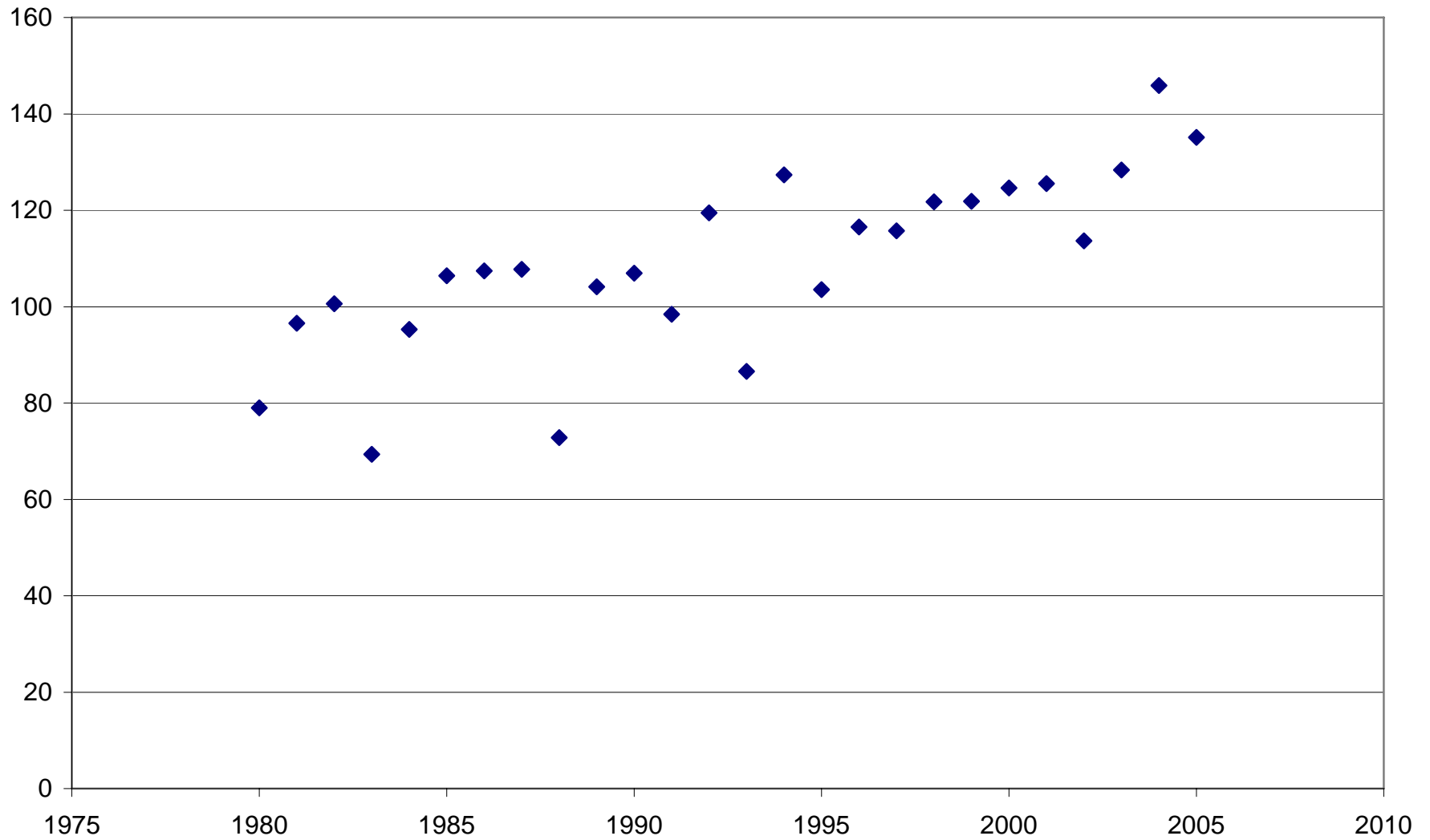
## Ratio of U.S. Corn Yield to Soybean Yield



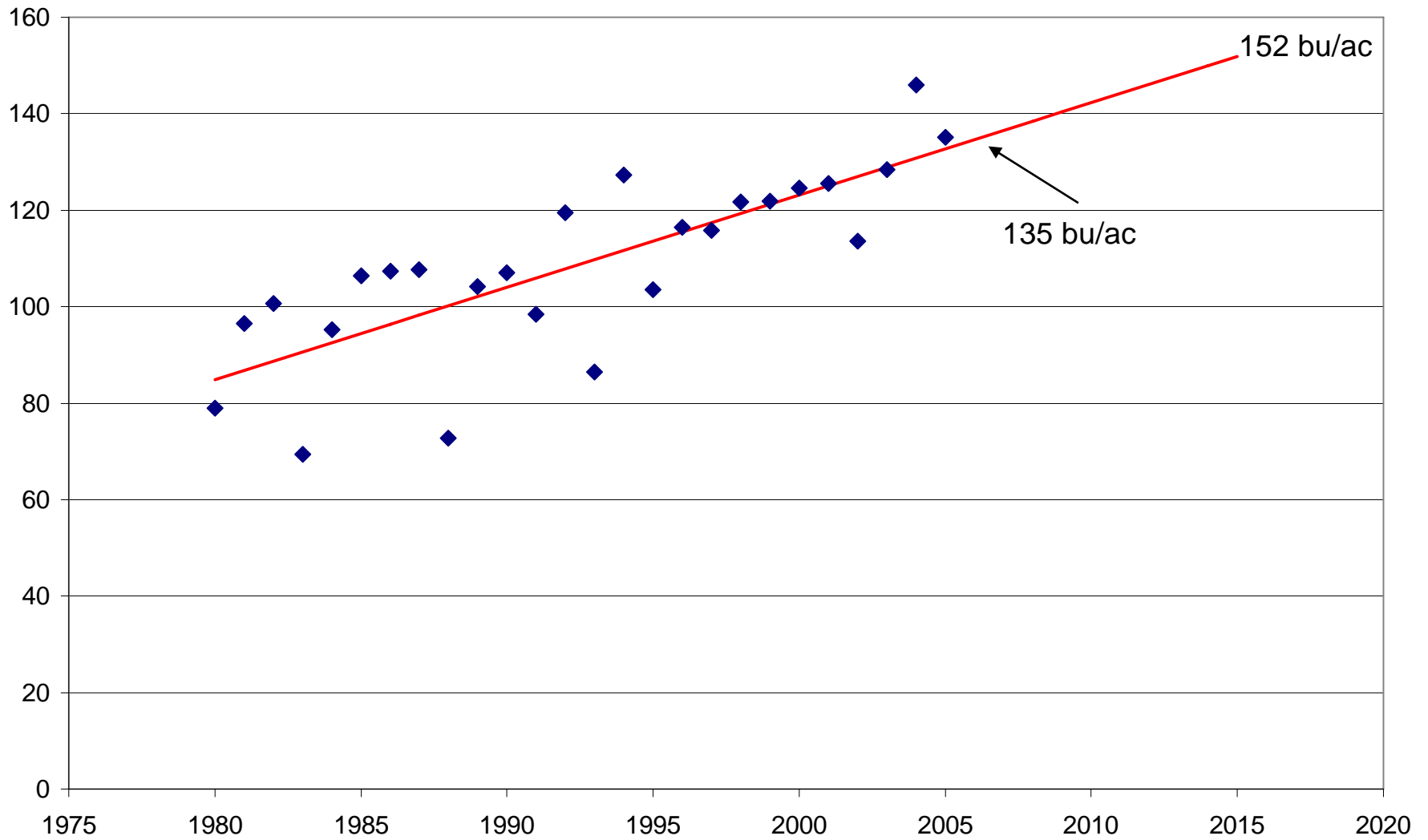
## Ratio of U.S. Soybean Yield to Wheat Yield



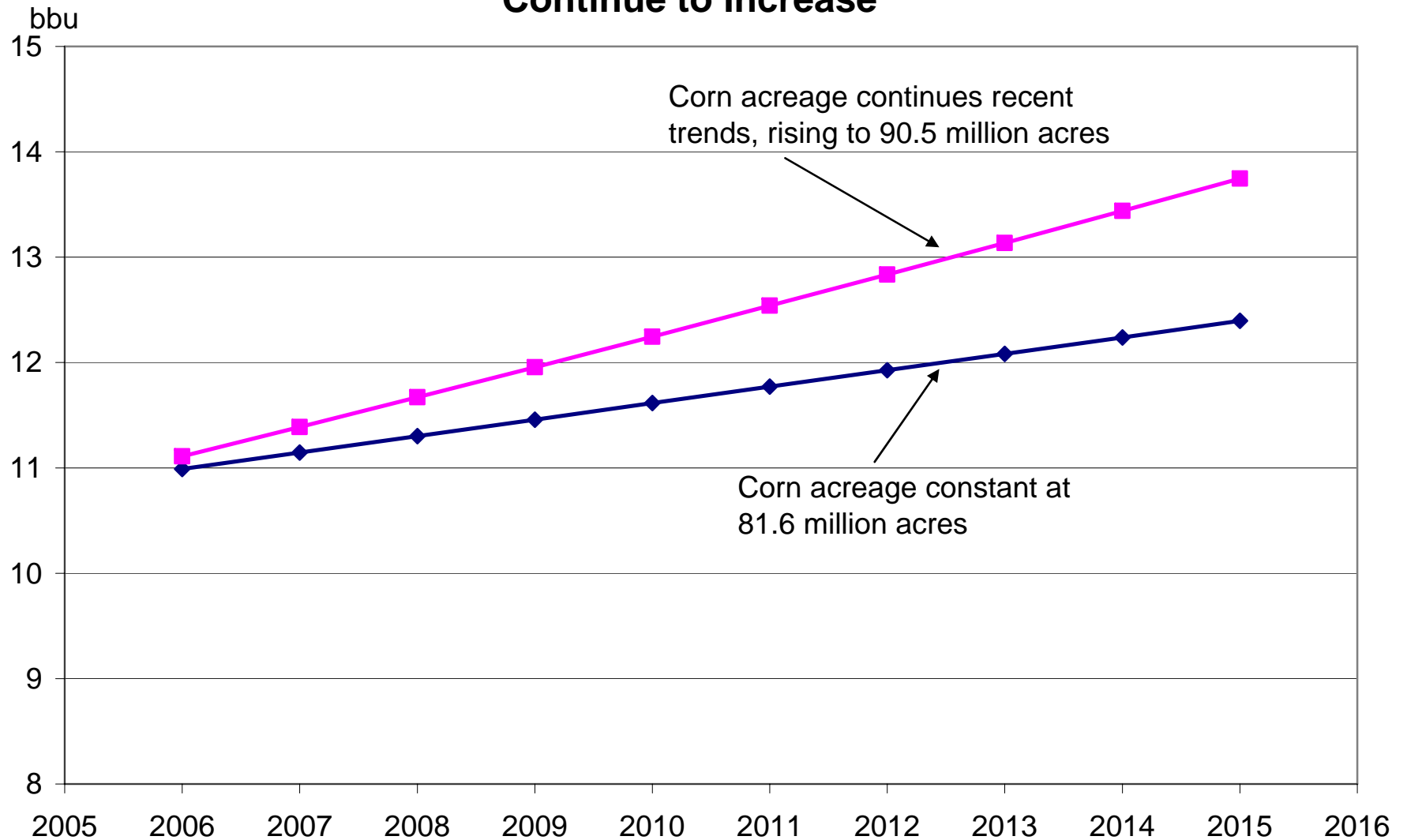
## U.S. Corn Yield per Planted Acre: 1980 to 2005



# Projected U.S. Corn Yield per Planted Acre through 2015



## Projected Corn Production to 2015 Assuming Expected Yields Continue to Increase



# Who will use the increased corn?

- Current utilization is about 11 bbu per year due to the large recent crops
- Production will grow to between 12.4 and 13.7 bbu per year
- What can we do with between two billion bushels?

# Two Billion Bushels

- Could produce another 5.8 billion gallons of ethanol (energy bill mandate = 7.5 billion gals)
  - Current production is forecast at about 4 billion gallons
  - Would create an additional 17 million tons of distillers grains to allow increased livestock production
  - Exports could be held constant
- Could feed another 75 million hogs and 20 million cattle
  - Current slaughter about 27 million beef cattle and 100 million hogs
- Could double our corn exports



# Review of Market Impacts

- What will be the market impacts from the Energy Bill relative to no Energy Bill?
- Source: Pat Westhoff, FAPRI-Missouri, Implications of Increased Ethanol Production for U.S. Agriculture.

FAPRI-UMC Report #10-05, August 22, 2005.

# Impacts on Corn Markets (relative to no energy bill baseline)

- 625 million more bushels to ethanol  
(total use = 2.63 billion bushels)
- Exports decline by 300 million bushels
- Corn prices rise by an average of 12.5 cents per bushel between 2010 and 2014
- Corn acres increase by 1%

# Impacts on Other Prices, Acreage and Producer Returns

- Increased demand for energy component of feed increases prices for sorghum, barley, oats, and wheat.
  - But acreage remains largely unchanged
- Increased supply for protein from corn reduces demand for soybean meal.
  - Soybean prices are little changed due to lower acreage

# Producer Returns

- 4% increase in average corn producer returns
- Balance between years in which we have LDPs and years in which we do not.
- When corn prices are low, increased demand from ethanol can actually reduce producer returns
- Average impact not larger because of substitution of market price for government payments.
  - Average reductions in payments = \$1 billion

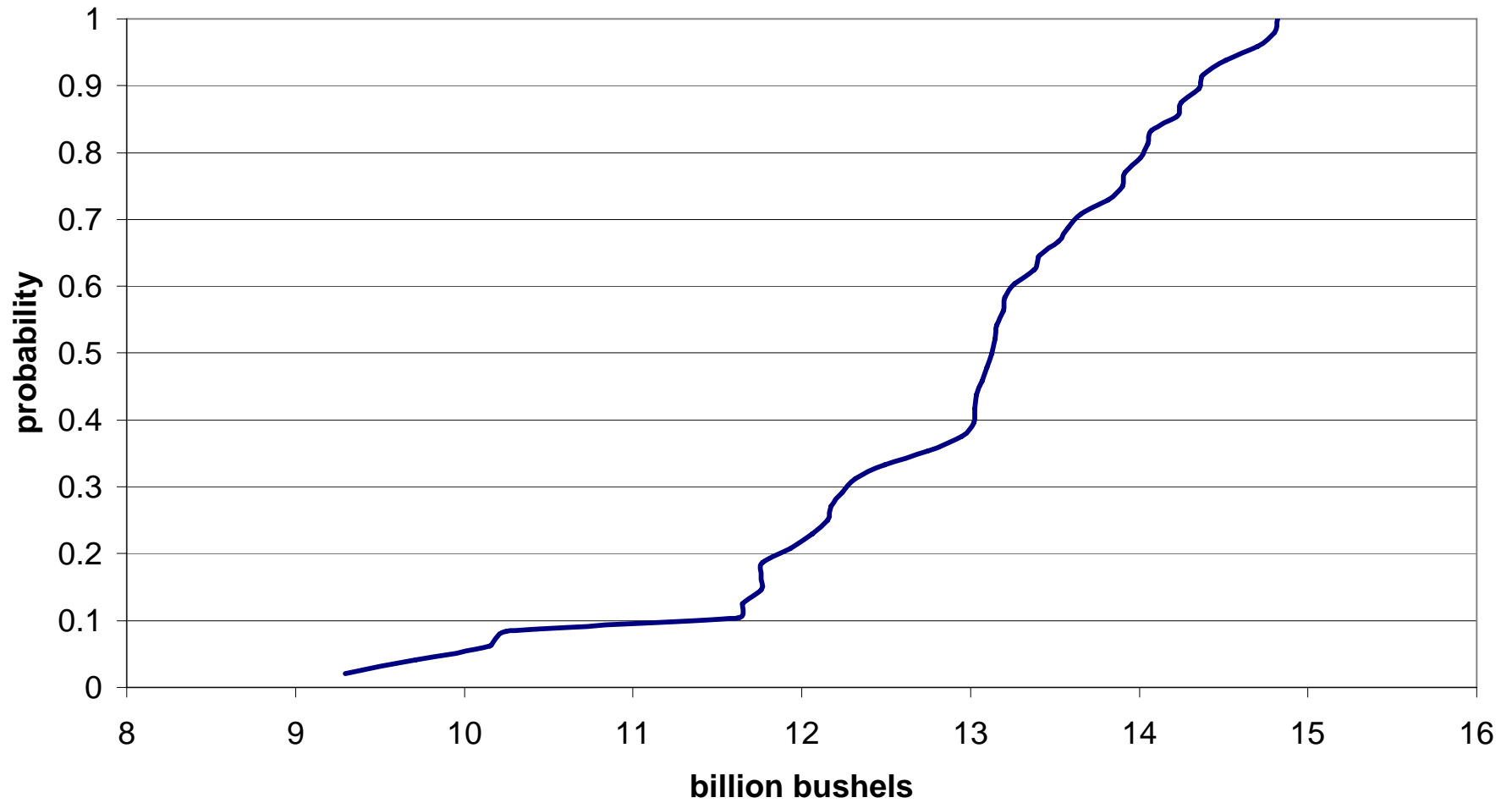
# Impact on Livestock

- Price of corn increases, price of corn by-products and protein meal decrease
- Poultry producers are small net gainers
- Pork producers are small net losers
- Cattle producers may win or lose
  
- But all effects are small

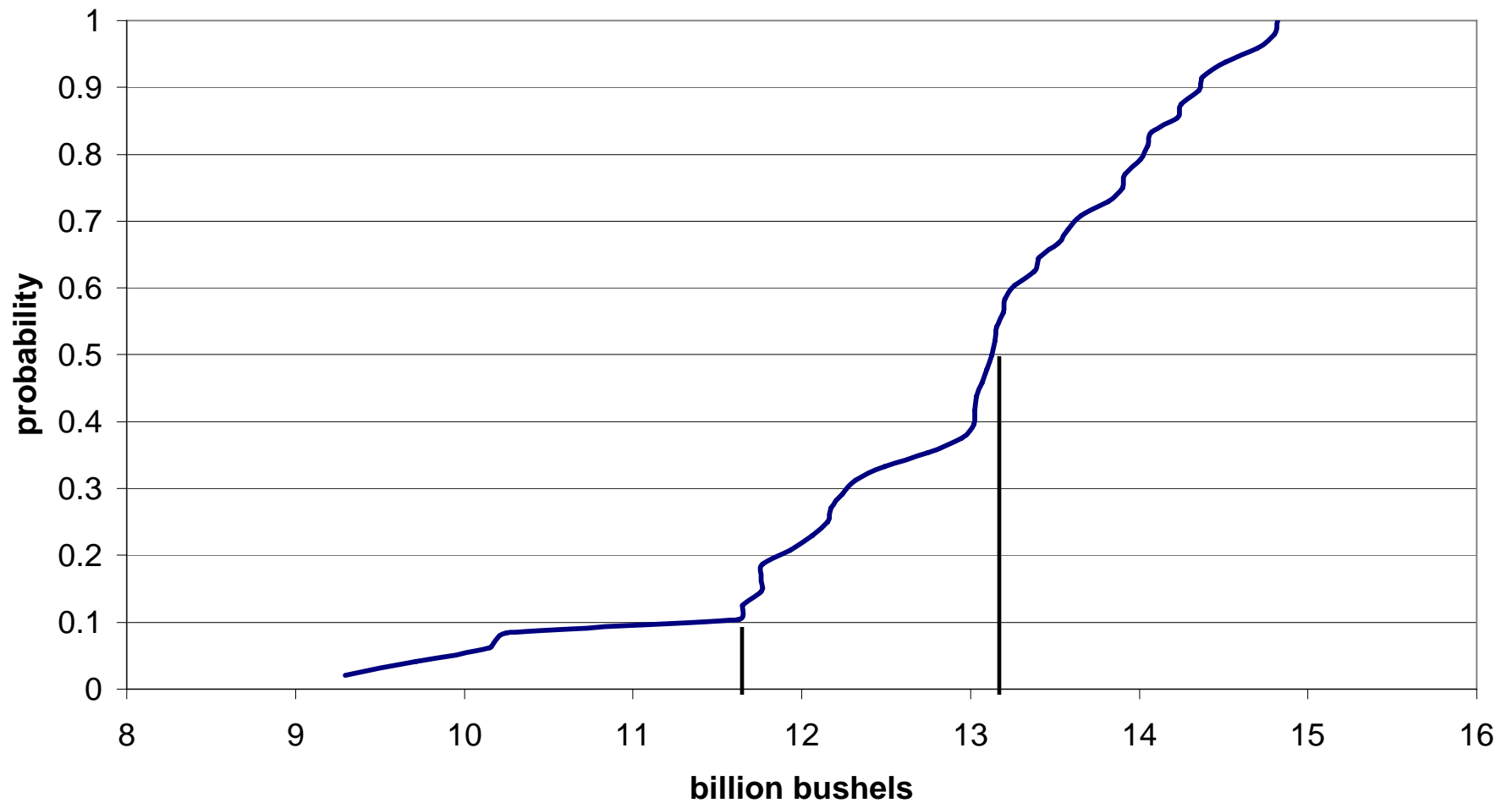
# What About Short Crop Years?

- Large concern is if we build up demand for corn, and then we have a short crop.
- How will corn be allocated?
  - It depends on availability of substitutes
  - Exports will go away first.
  - Ethanol will go away next if the price of gasoline is relatively low

# Cumulative Distribution of U.S. Corn Production in 2015 with 85 Million Planted Acres



# Cumulative Distribution of U.S. Corn Production in 2015 with 85 Million Planted Acres





# Conclusions

- Fears of running out of corn are unfounded
  - Price will signal farmers to plant more corn
  - Impact on livestock producers reduced because availability of corn by-products
  - In short crop years, livestock feeders will have to compete for corn with ethanol producers, and will turn to corn by-products and other sources of feed.