

# **Up, Down or Sideways: Where Are Indiana Farmland Values Headed?**

**Craig Dobbins, Professor & Extension Economist**

**Michael Langemeier, Assoc. Director, Center for Commercial Agriculture**

**James Mintert, Director, Center for Commercial Agriculture**

**PURDUE**  
UNIVERSITY

Center for  
Commercial Agriculture

Indiana Farmland Values Webinar  
August 7, 2015

# Purdue Farmland Value Survey Process

- Survey conducted annually since 1970
  - Rural Appraisers, Ag Lenders, Farm Managers, Farmers
- Ask for land values in
  - December '14, June '15, & December '15
  - Responses for top, average, and poor quality land
- Ask for current cash rent
- Ask for long-term corn yield to gain productivity info.

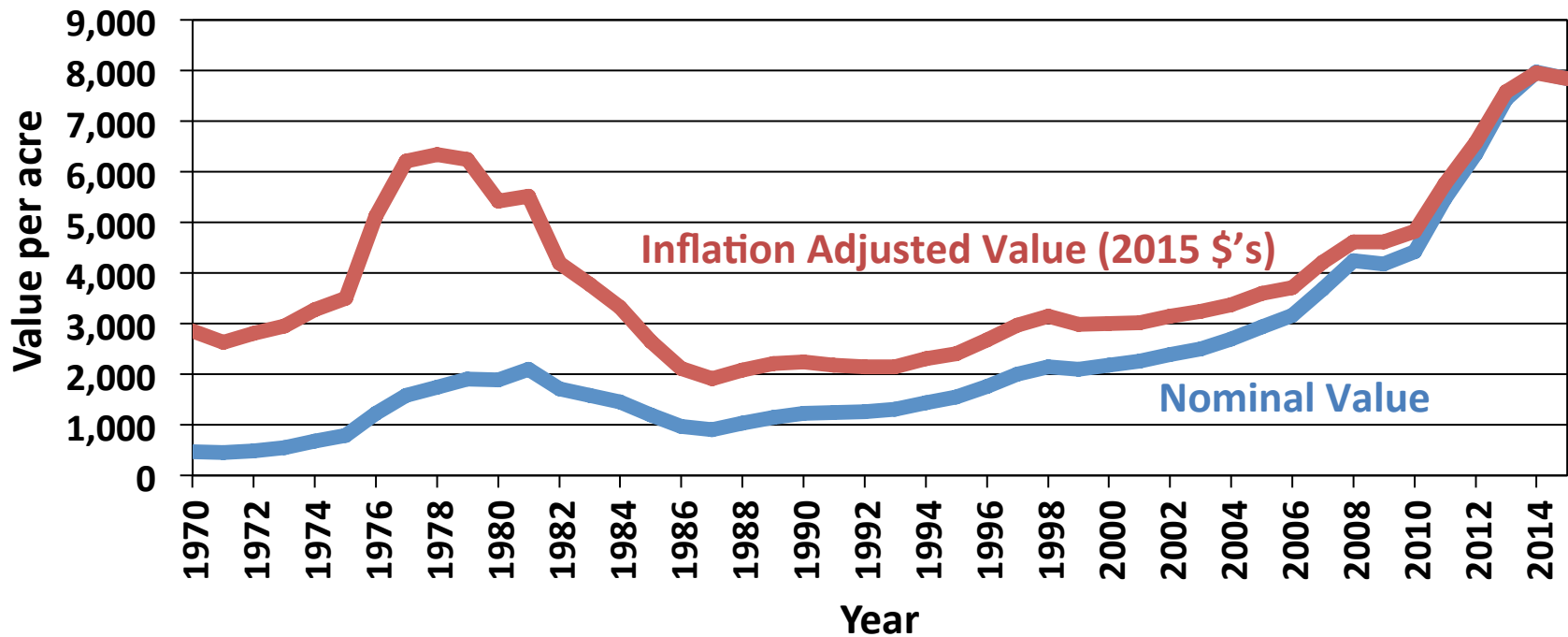
# Indiana Farmland Values

## 2015 Survey Results

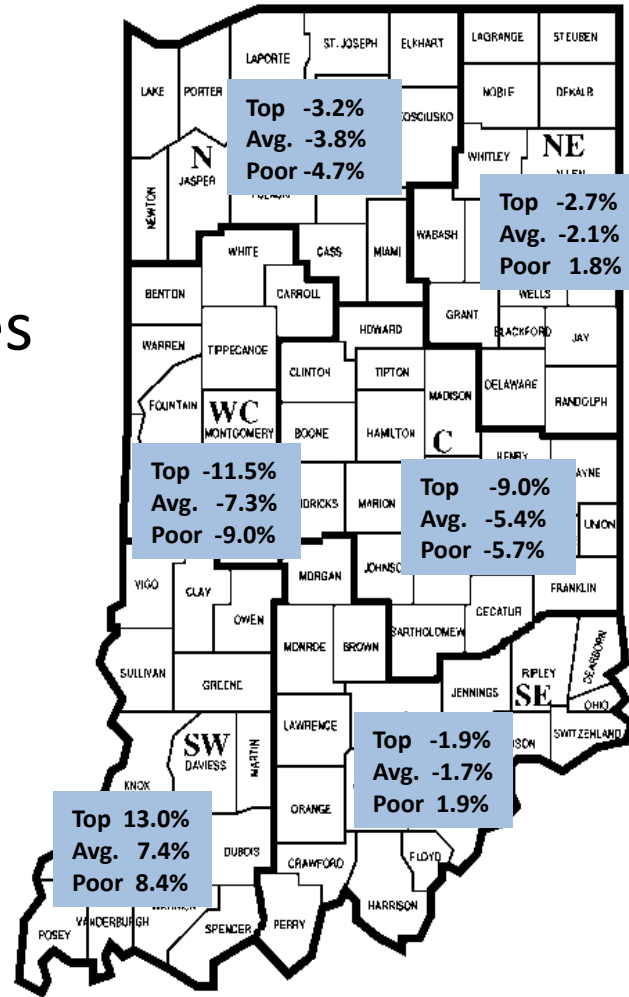
Land Quality	Yield (Bu./A)	Value (\$/A)		Percent Change
		2014	2015	
Top	200	\$9,765	\$9,266	-5.1%
Average	169	\$7,976	\$7,672	-3.8%
Poor	138	\$6,160	\$5,863	-4.8%

# Indiana Farmland Values

## 1970 – 2015, Average Quality Land



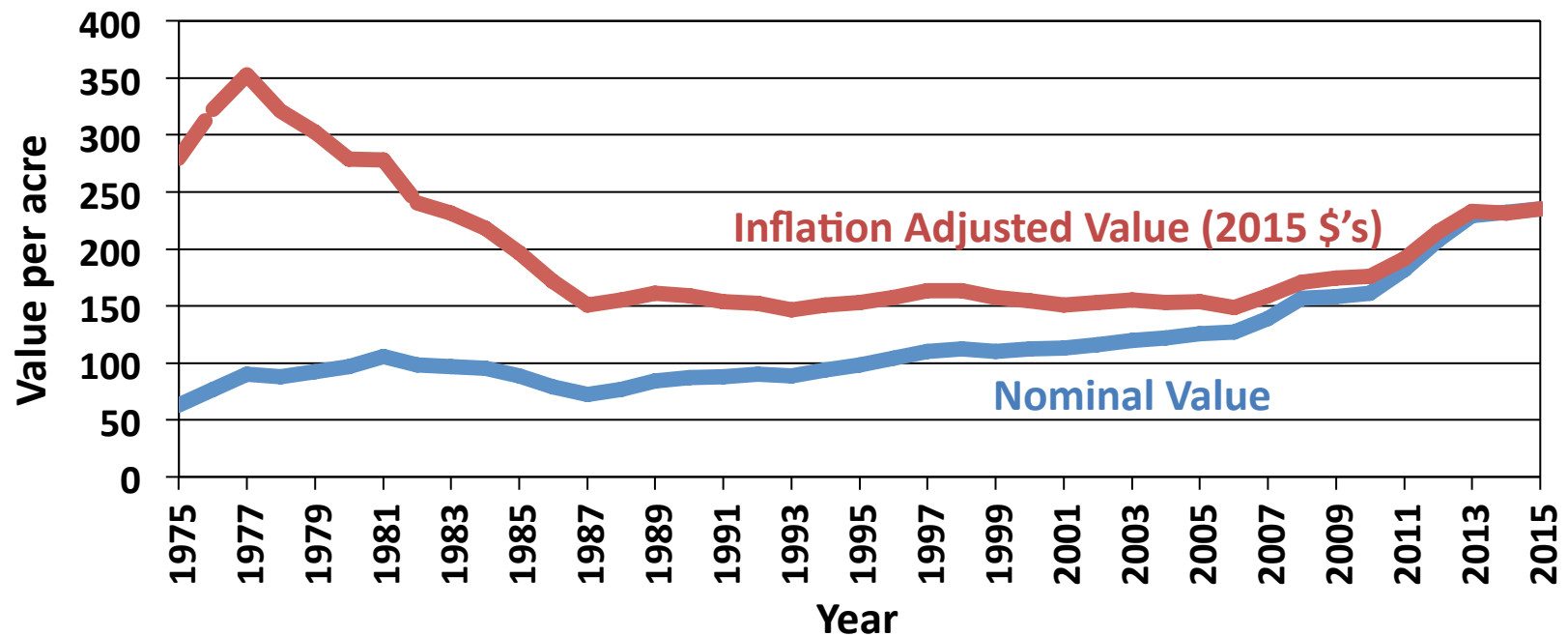
# Regional Farmland Value Changes



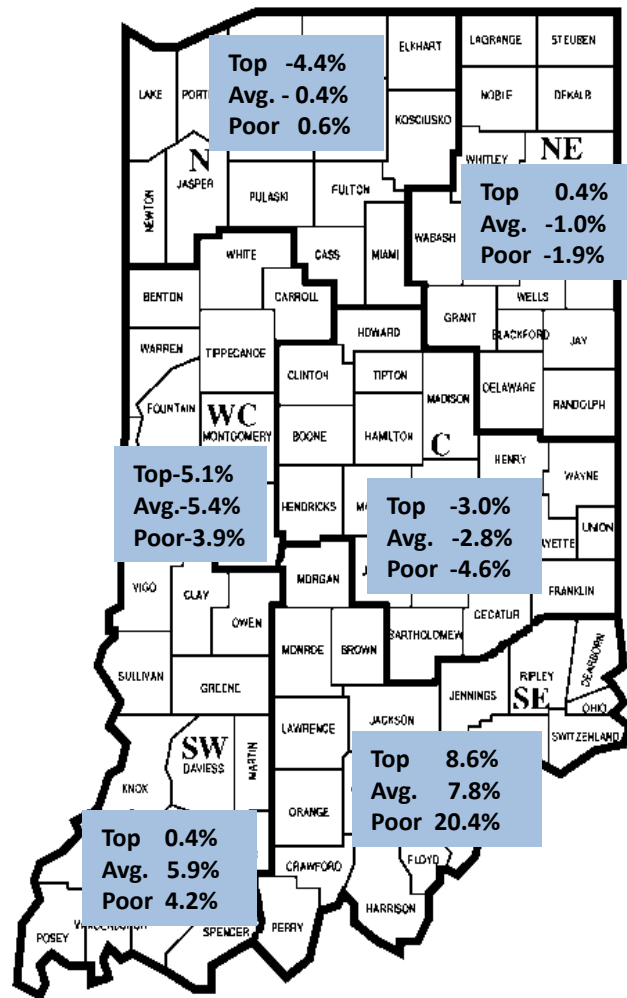
# Indiana Cash Rent 2015 Survey Results

Land Quality	Yield (Bu./A)	Value (\$/A)		Percent Change
		2014	2015	
Top	200	\$292	\$285	-2.4%
Average	169	\$232	\$229	-1.3%
Poor	138	\$179	\$175	-2.2%

# Indiana Farmland Cash Rent 1975 – 2015, Average Quality Land

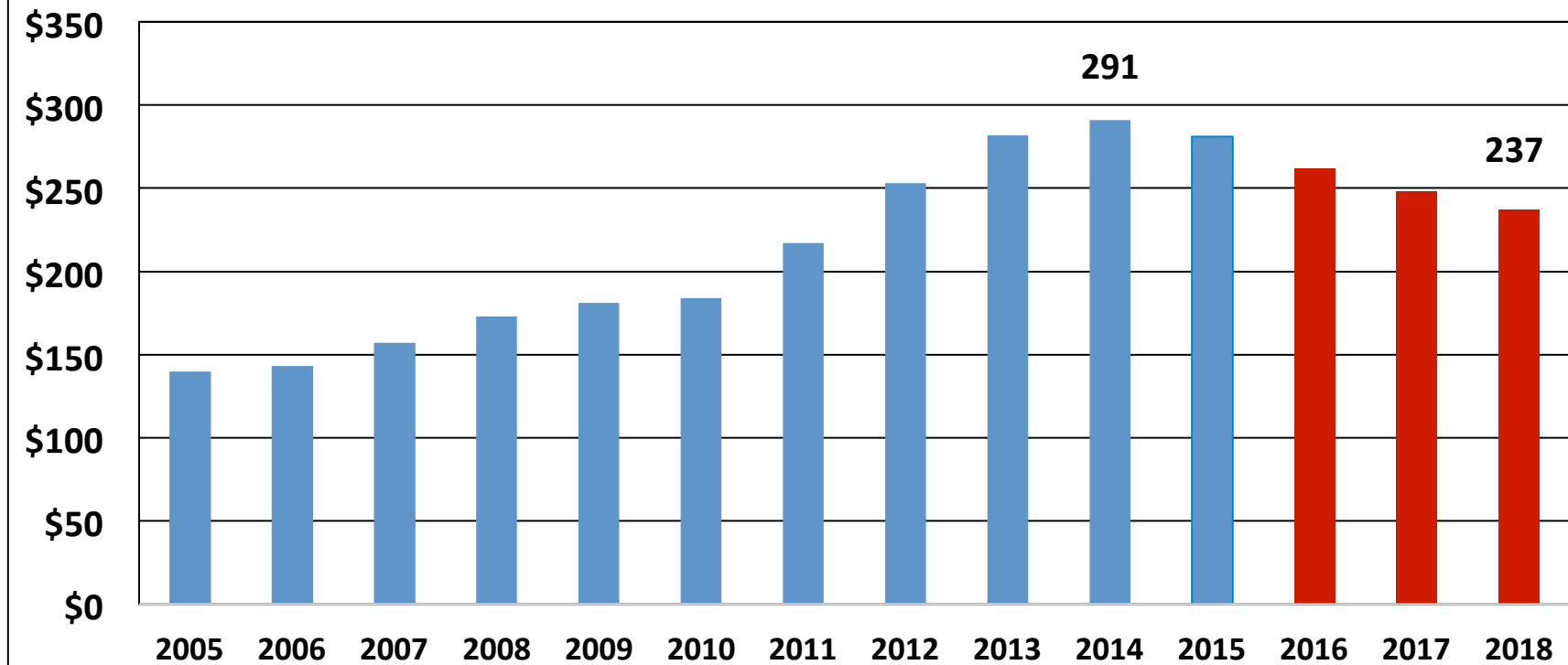


# Regional Farmland Cash Rent Changes





## Cash Rent for West Central Indiana



# 2015 Land Value Change

## Actual and Forecast

Land Quality	12/2014 – 6/2015 (Actual)	6/2015 – 12/2015 (Forecast)
Top	-4.4%	-4.2%
Average	-4.2%	-4.1%
Poor	-7.0%	-2.4%

# Income – Value Link

$$\textit{Farmland Value} = \frac{\textit{Farmland Income}}{\textit{Discount Rate (\%)} - \textit{Income Growth Rate (\%)}}$$

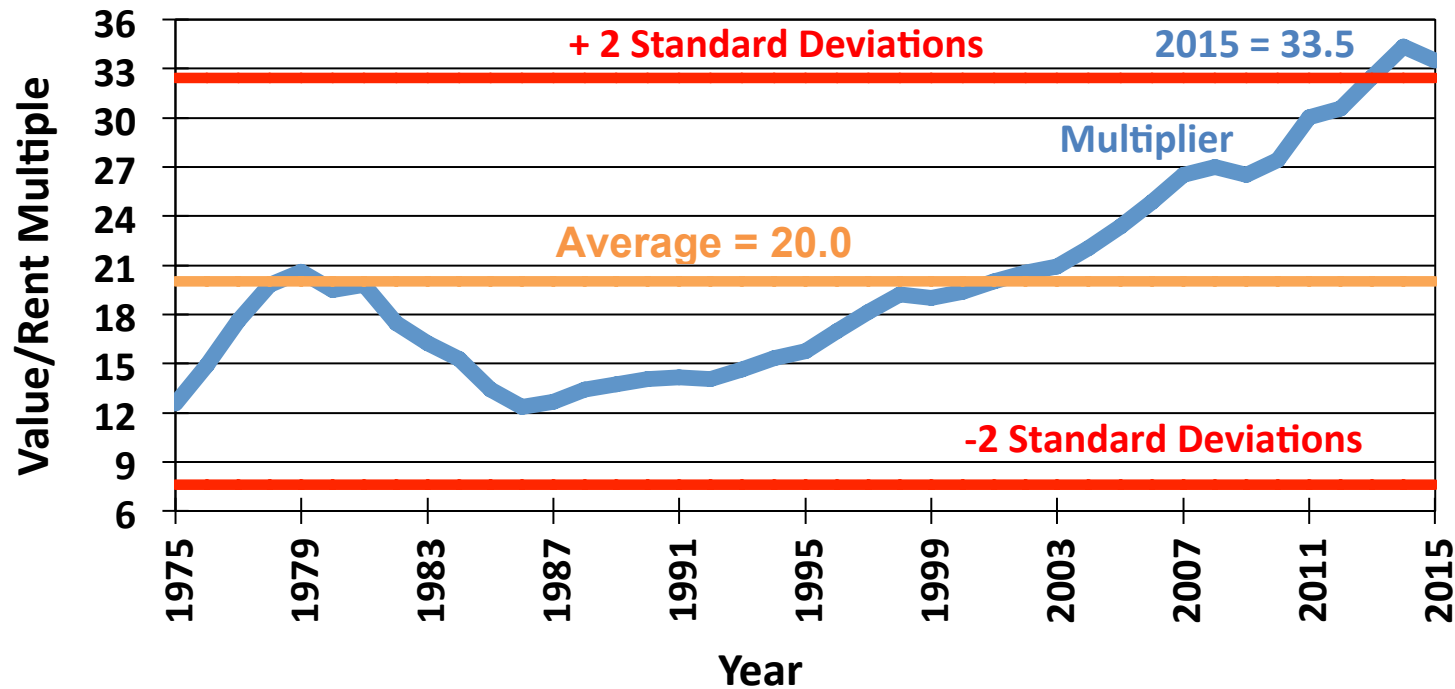
Income = net return to farmland ownership

Discount rate = interest rate & risk premium

Growth rate = growth rate in farmland value

# Land Value to Income Multiplier

## 1975-2015, Average Quality Land

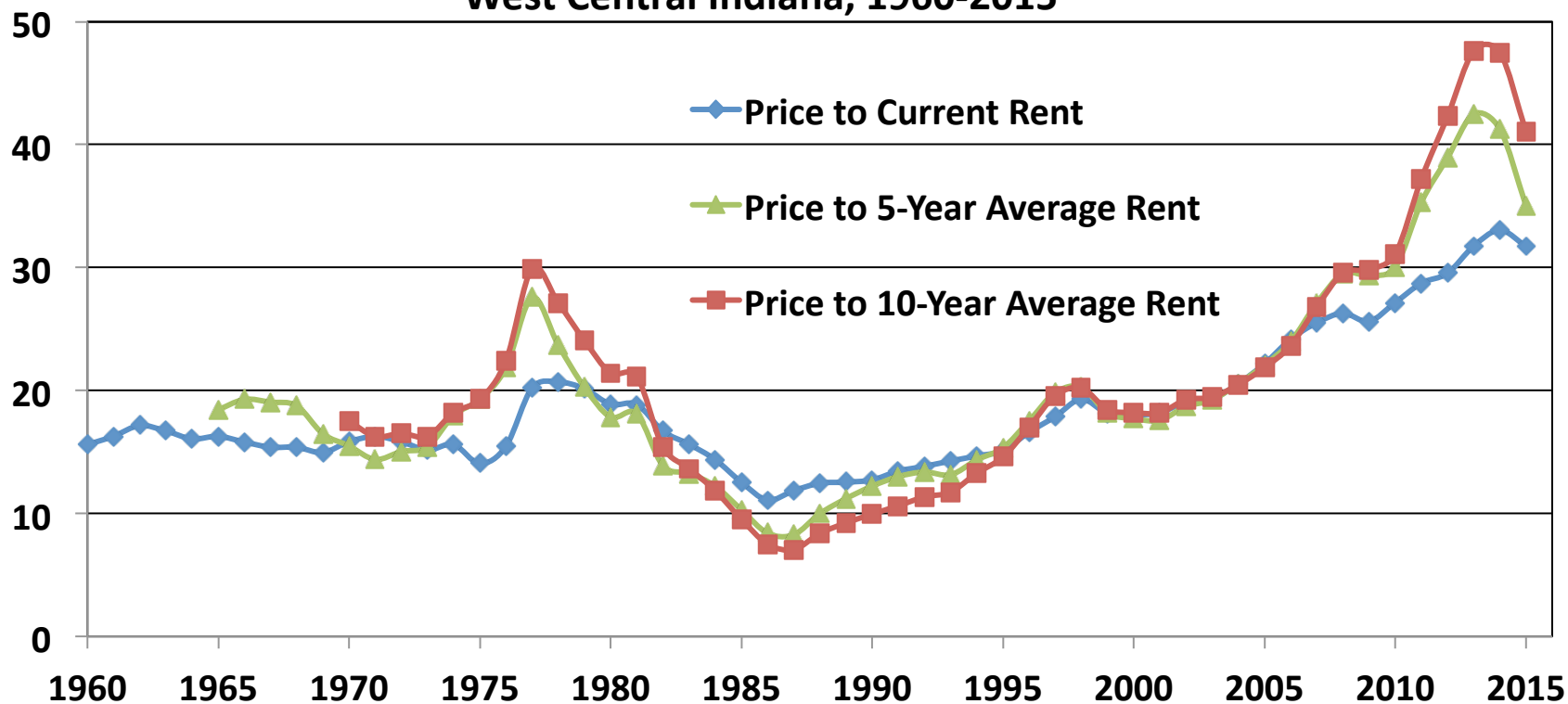


# Cyclically Adjusted Price/Earnings and Price/Rent Ratios

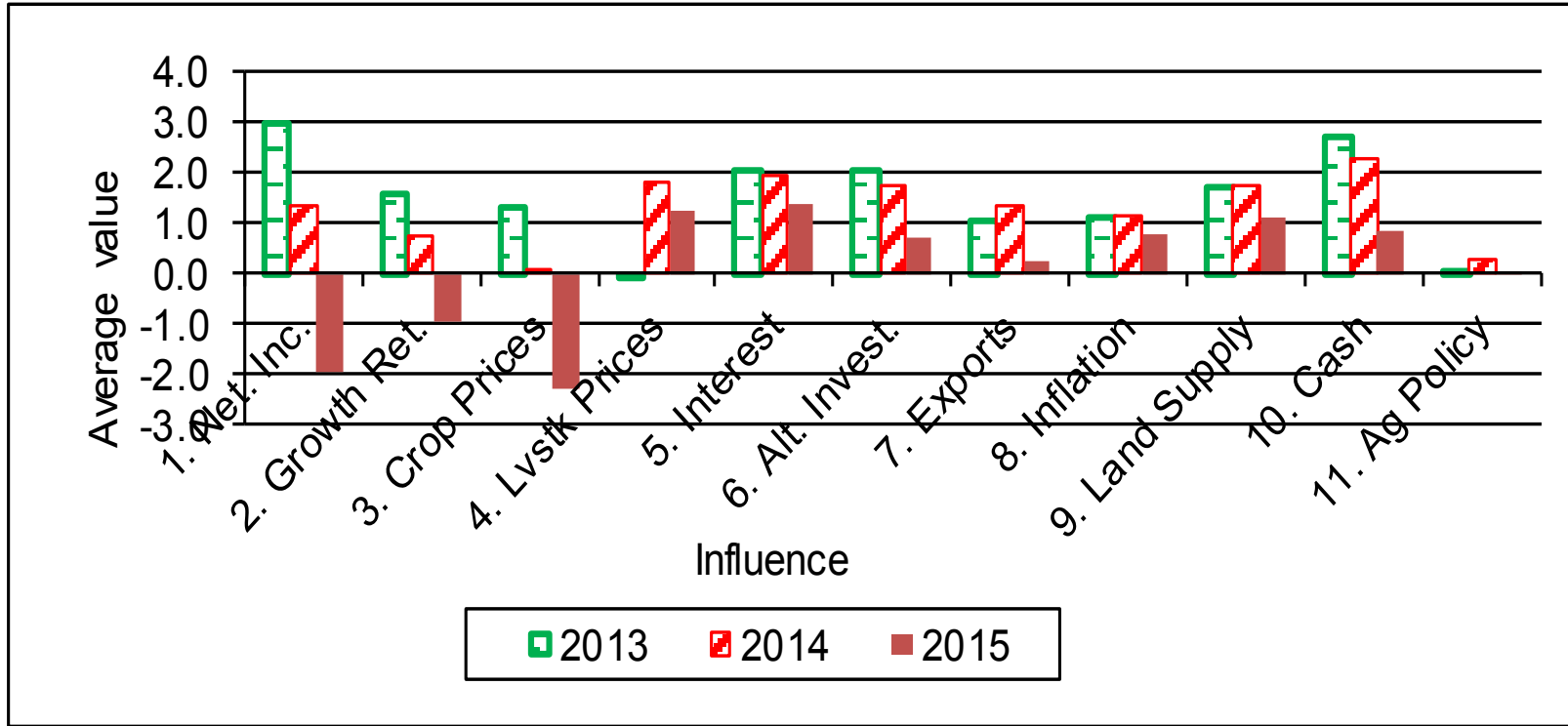
- **Price/Earnings Ratios in the Stock Market**
  - Shiller uses a ten-year moving average for earnings (Price/Earnings<sub>10</sub>) to remove the effect of the economic cycle
  - Price and Earnings are expressed in inflation adjusted \$'s
- **Price/Rent Ratios in the Farmland Market**
  - Use inflation adjusted farmland price in numerator
  - Use five-year or ten-year moving average of inflation adjusted rent in denominator

# Farmland Price to Rent Ratios

West Central Indiana, 1960-2015



# Survey Respondents View of Land Value Drivers 2013-2015



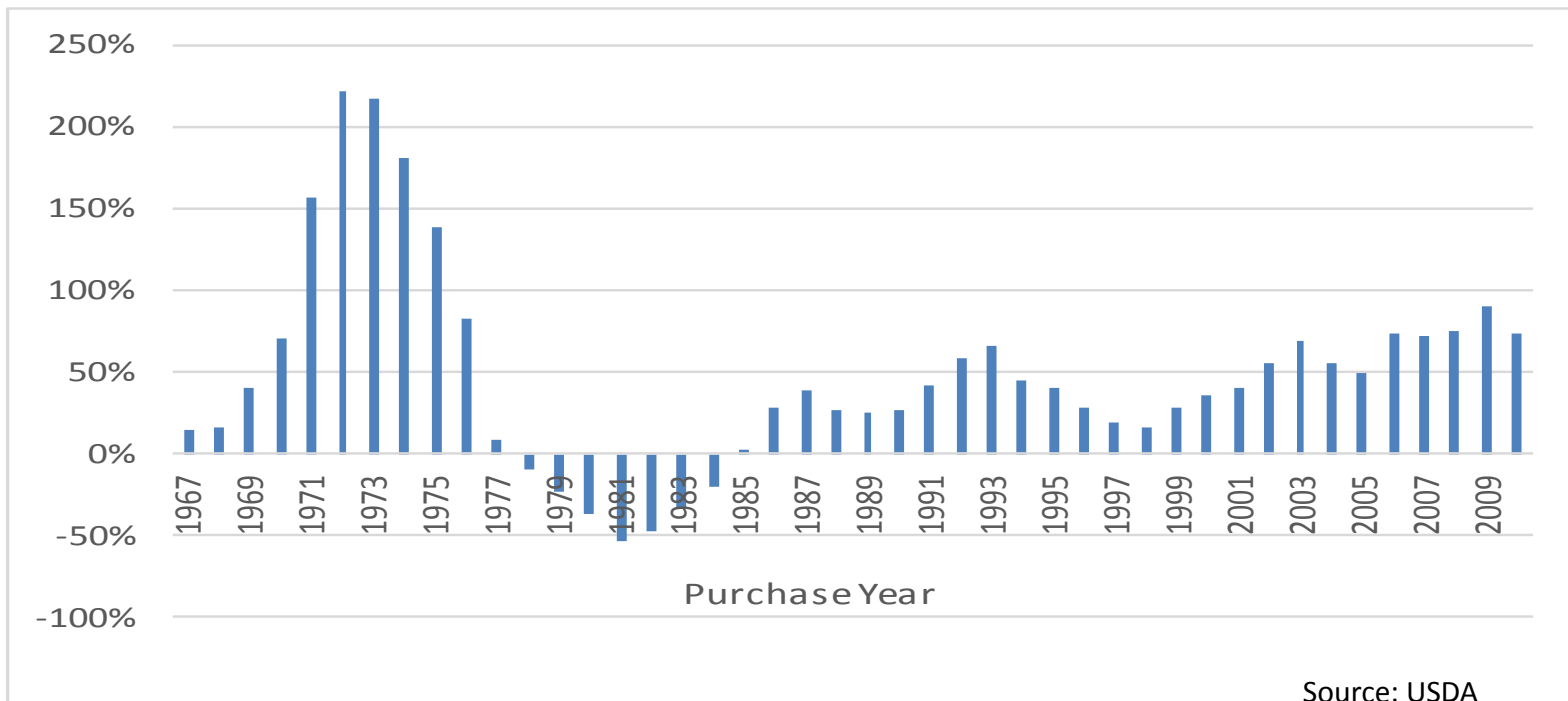
# 5-Year Forecast By Survey Respondents

Where do you expect farmland prices to be in 5 years?

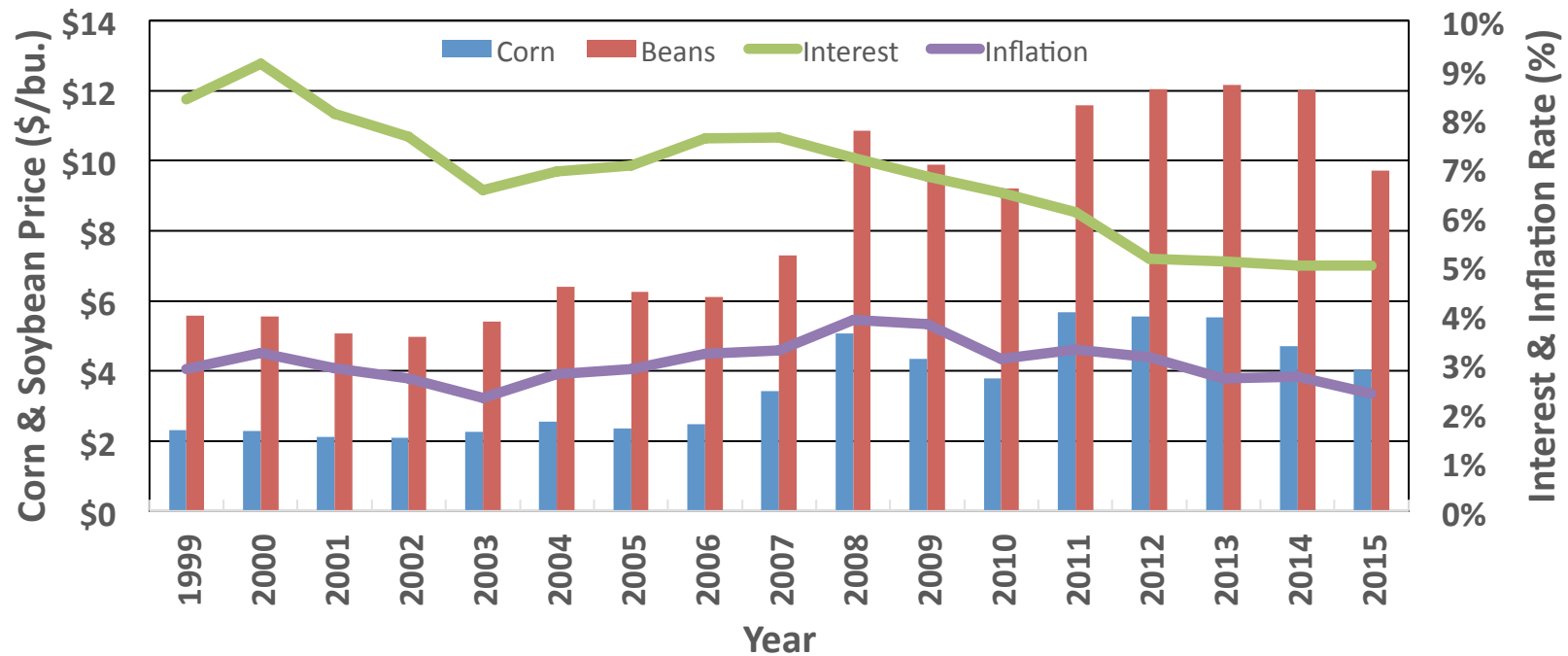
Direction	% Respondents	Change
Increase	26%	9%
No change	26%	0%
Decrease	48%	-14%
Overall	100%	-5%



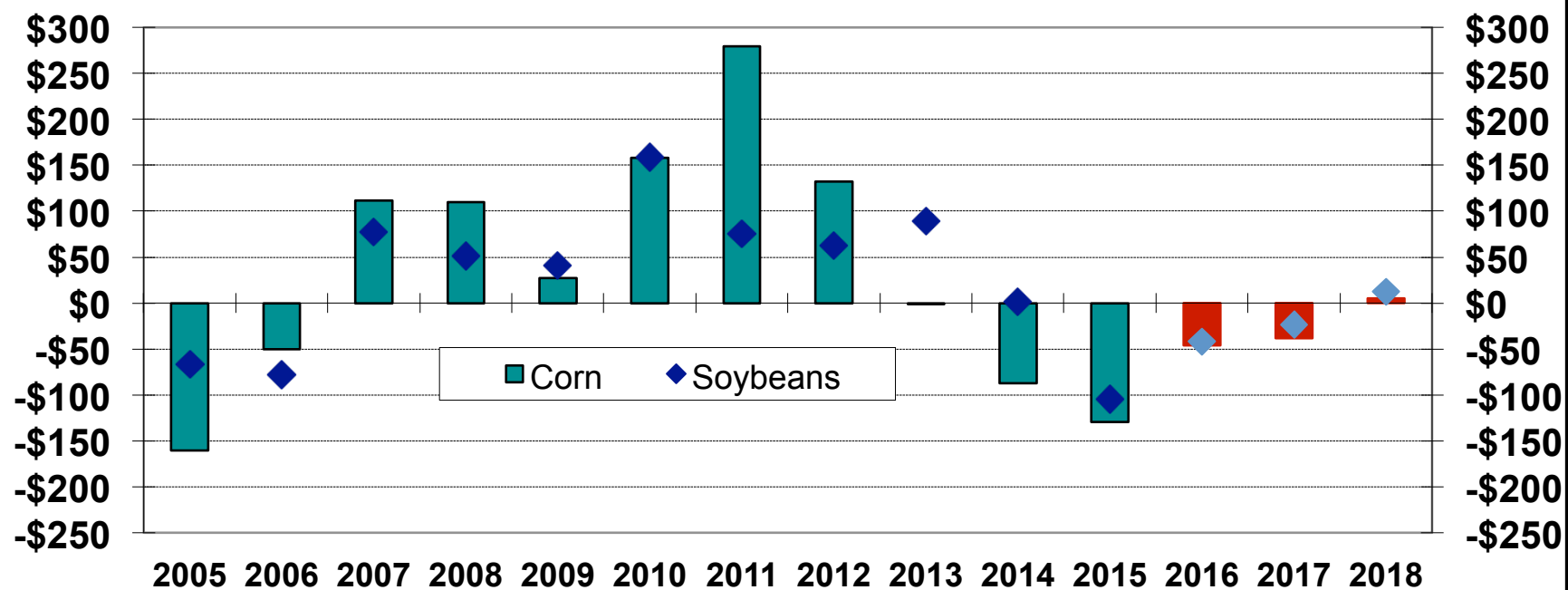
# Five Year Change in Value



## 5-Year Expected Average Values for Corn, Soybeans, Interest Rates & Inflation, By Survey Year



## Historical and Projected Earnings per Acre for Corn and Soybeans in Indiana



# Pressure on Cash Rents and Land Values

- **Cash Rents**
  - Decline in net return for corn and soybeans
- **Land Values**
  - Decline in cash rent
  - Increase in long-term interest rates
  - Increase in inflation
  - Increase in risk premium for the farming sector
  - Relatively high P/rent ratio

# Summary

- Indiana farmland values declined 3.8% to 5.1% from June '14 to June '15
- Declines of 2.4% to 4.2% are expected in last half of 2015
- Over the next 5-years, respondents expect Indiana farmland values to decline 5%
- The Value-to-Income Multiple declined in 2015, the third time since 1992, but the Multiple still remains historically high at 33.5

## Summary

- Livestock prices and interest rates were primary supporters of farmland values in 2015
- Negative influences were net income, the expected change in growth rate of returns and grain prices
- For the state, there were small declines in cash rent, ranging from a decline of 1.3% to 2.4%
- W. Central & Central regions of Indiana reported cash rent declines ranging from 2.8% to 5.1%

**To read the full report  
Visit Our Web Site by typing  
Purdue Center for Commercial Ag  
in your search engine**

**PURDUE**  
UNIVERSITY

Center for  
Commercial Agriculture

Indiana Farmland Values Webinar  
August 7, 2015

**Join Us for our next Webinar on  
September 14, 2015  
Crop Outlook  
following release of USDA's September Crop  
Production & Supply/Demand Estimates**

**PURDUE**  
UNIVERSITY

Center for  
Commercial Agriculture

Indiana Farmland Values Webinar  
August 7, 2015