



# Farmland Markets and Farm Business Finances

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# Motivation

- U.S. cropland values have more than doubled since 2004
  - High farm income, low interest rates
- Baseline farm income projections and expectations for increasing interest rates suggest stabilization or downward adjustment of farmland values
- What are the implications for farm businesses?
  - Farmland affordability
  - Farm leverage
  - Concentration of debt

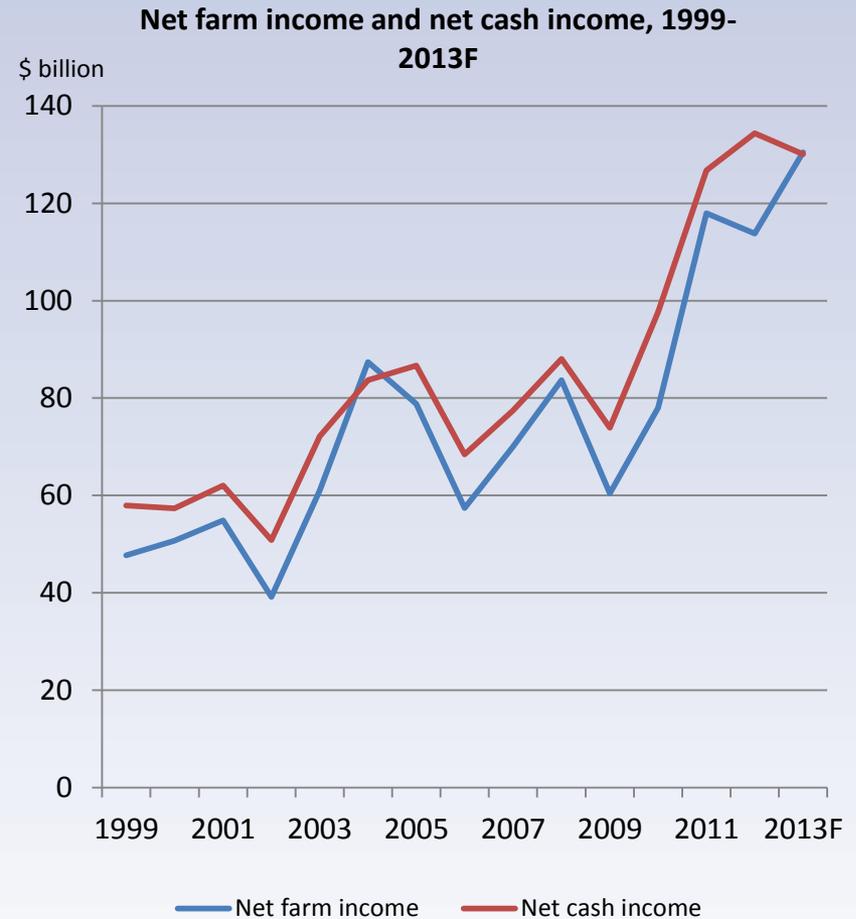
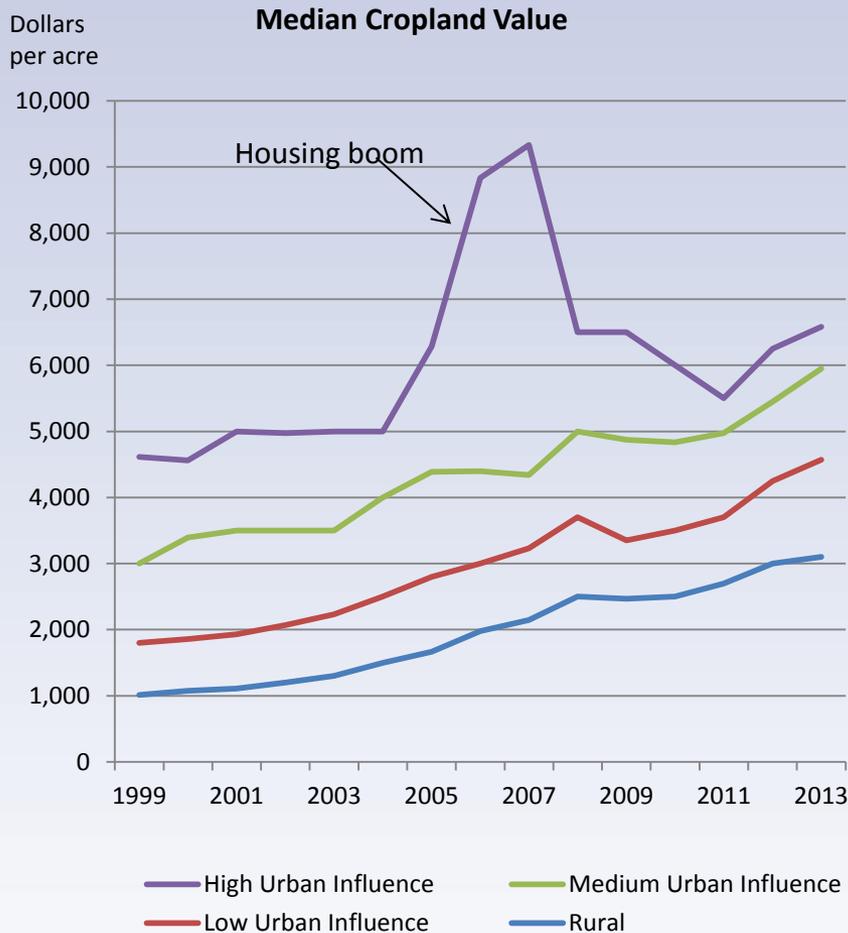


# Outline

- Farmland value trends
- Farmland affordability
- Impact of a potential decline of farmland values on farm business leverage



# Farm income is a key driver of recent increases in cropland values



Note: Urban influence levels based on ERS PIZA codes;  
 Source: USDA/NASS June Area Survey, 1999-2013

Source: USDA-ERS Farm Sector Accounts,

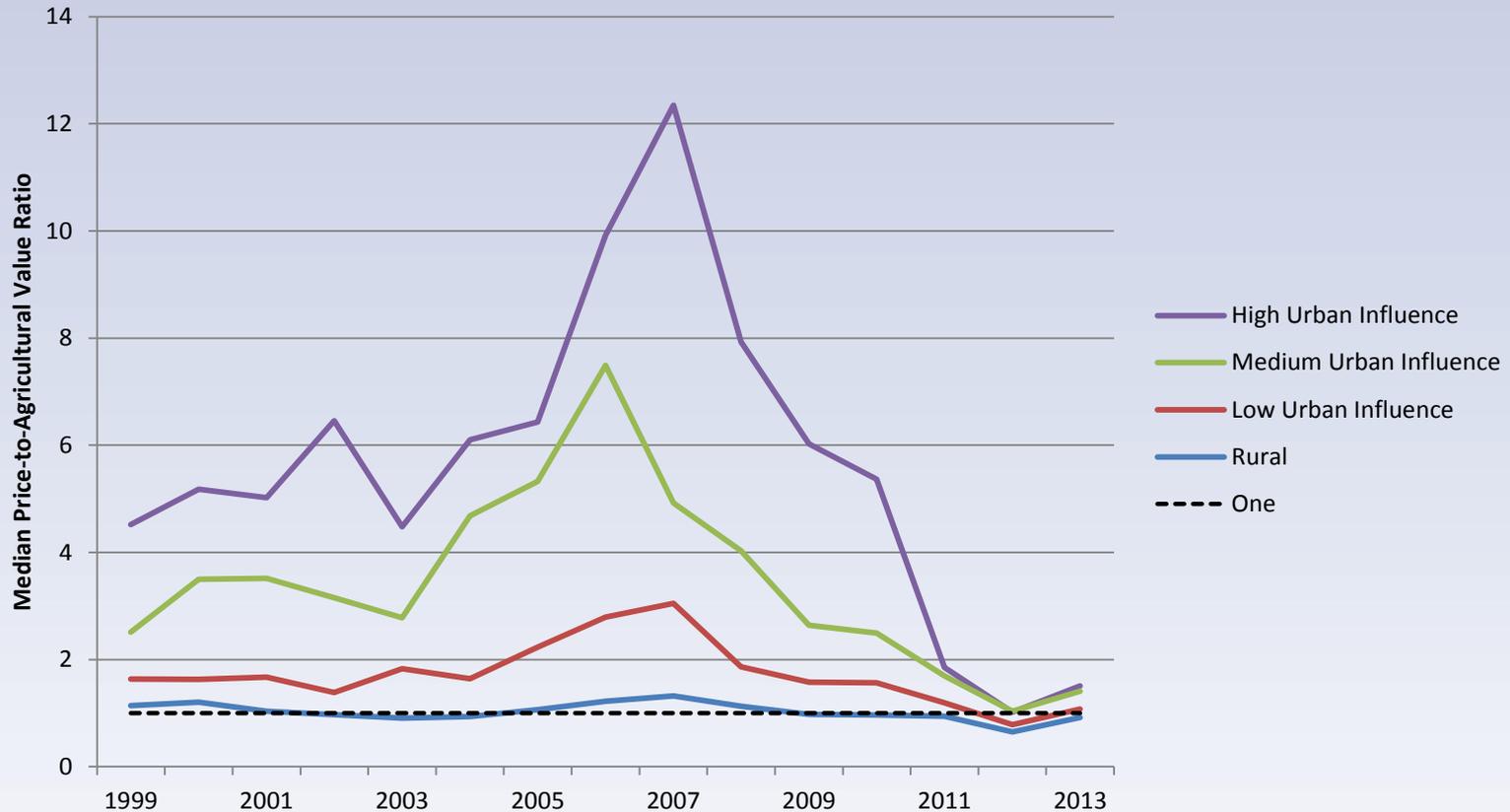


# Identifying the component of farmland values supported by agricultural returns

- Urban vs. rural farmland values may be confounded by different agricultural production values
  - Farmland can also be purchased as a productive asset or for investment purposes
- Ratio of cropland values to capitalized rents (NPV)
  - “Price-to-Agricultural Value Ratio”
  - Capitalized rents proxy for agricultural use value
    - Rents/discount factor (10 year U.S. Treasury note)
- 1 implies market value = agricultural land use value
  - Higher ratio implies larger non-agricultural influence or an imbalance between agricultural returns and farmland prices
  - Lower ratio implies farmland values are more closely aligned with agricultural returns



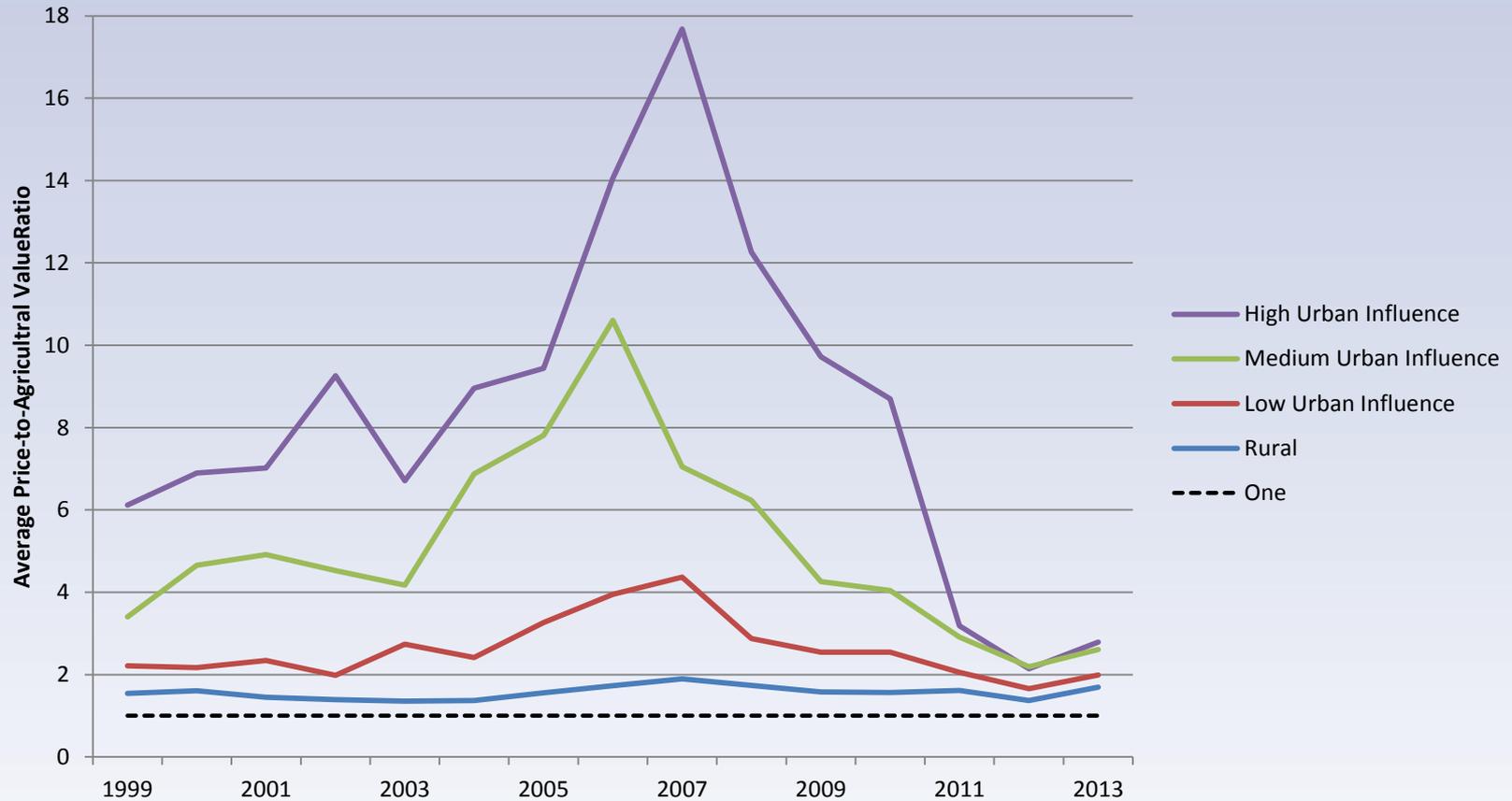
# High Farm Incomes and Low Interest Rates Have Supported Cropland Values in Recent Years



Source: USDA/NASS June Area Survey, 1999-2013



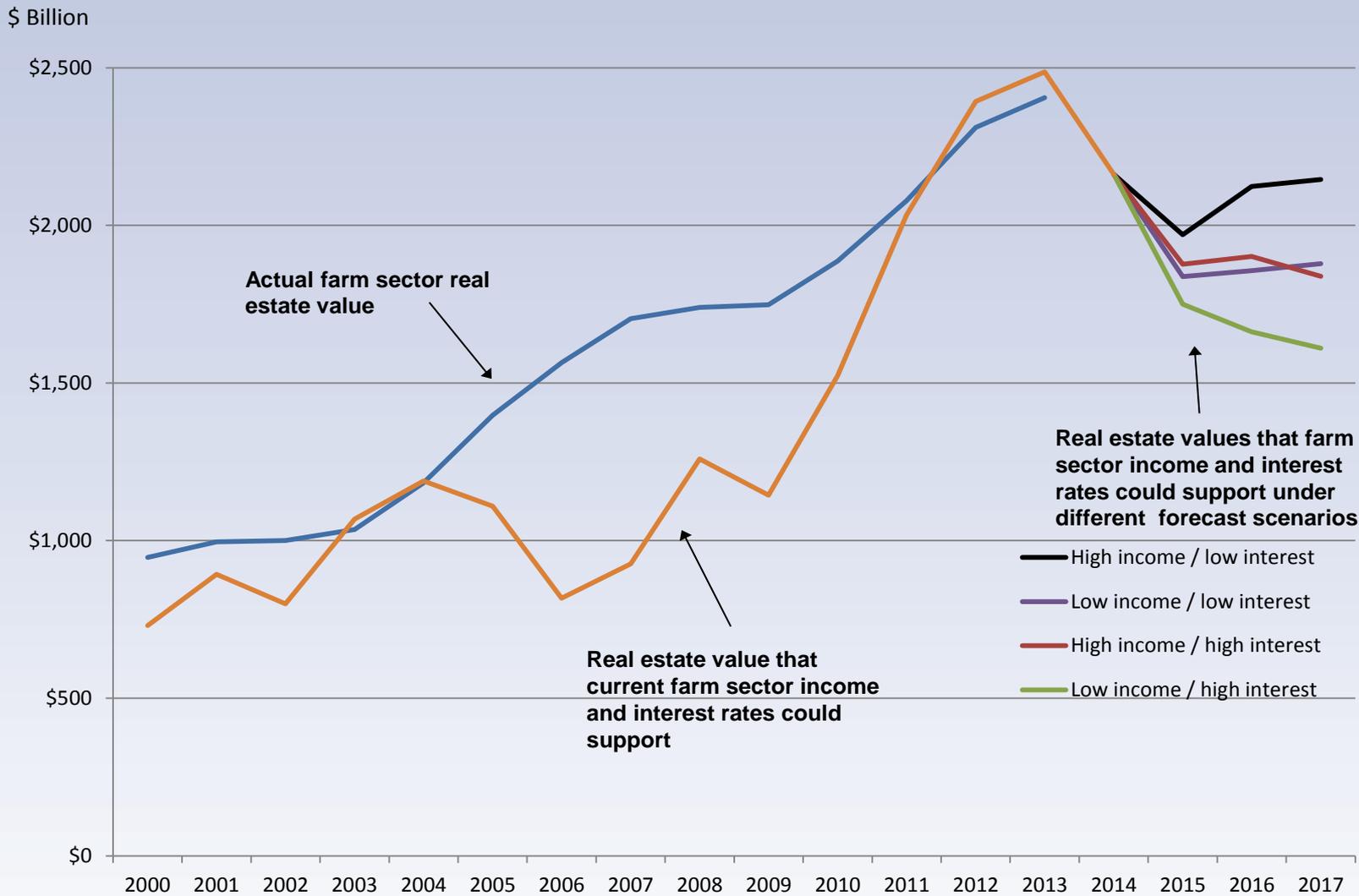
# Extreme values of the price to value ratio drive up the average relative to the median



Source: USDA/NASS June Area Survey, 1999-2013



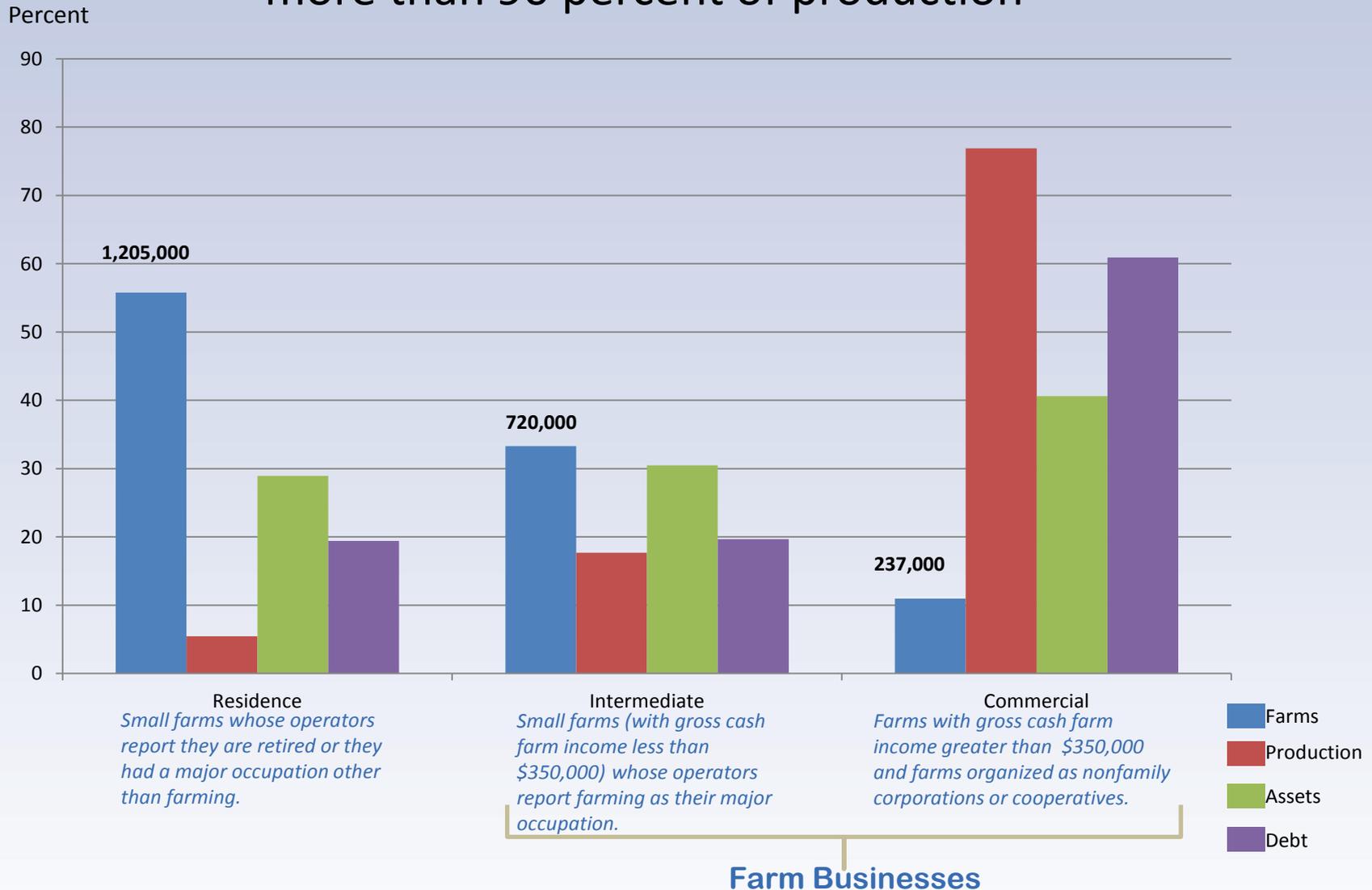
# Farm Sector Real Estate Affordability



Source: USDA-ERS Farm Sector Accounts, baseline forecast



# Farm businesses represent over 950,000 farms and account for more than 90 percent of production



Source: 2012 Agricultural Resource Management Survey (ARMS), preliminary

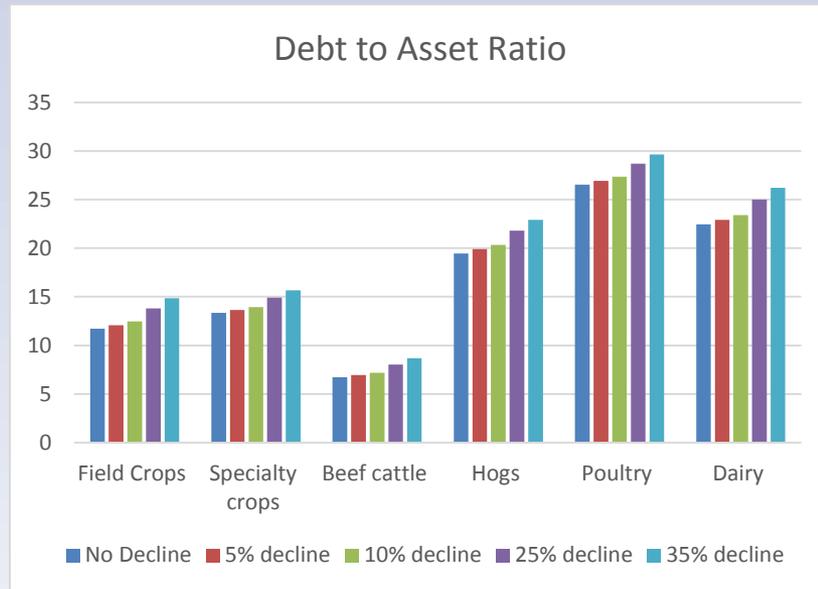
United States Department of Agriculture, Economic Research Service

# Farm Business Finances

- Impact on farm business leverage of decreasing farmland values
  - 5%, 10%, 25%, 35% declines in farmland values
  - Average leverage
  - Share of farms with leverage > 40%
  - Share of debt held by farms with leverage >40%
- Historic perspective
  - Farm businesses currently at a historically low leverage position



# Farm business leverage with a decline in farmland values

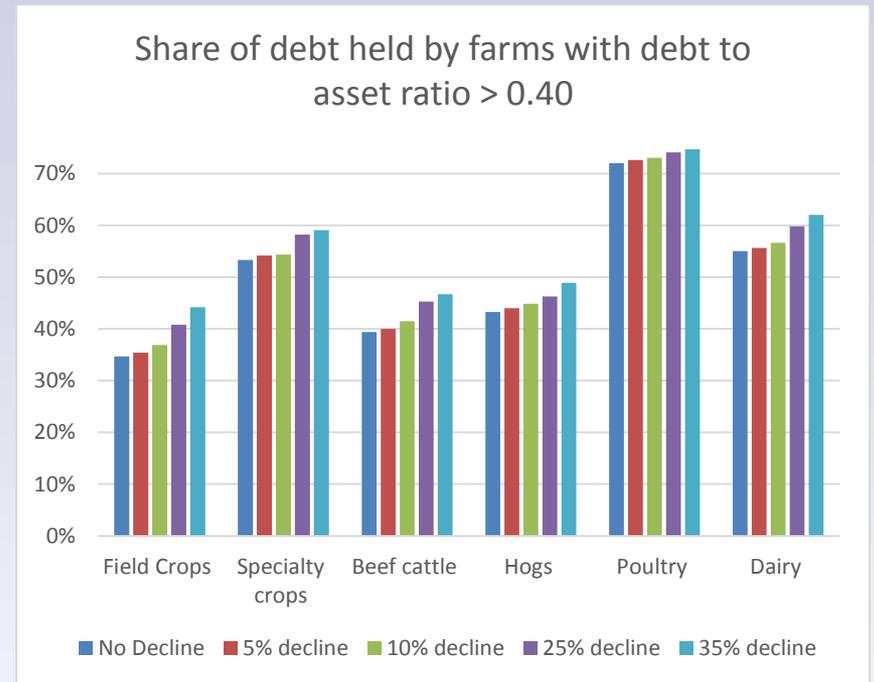
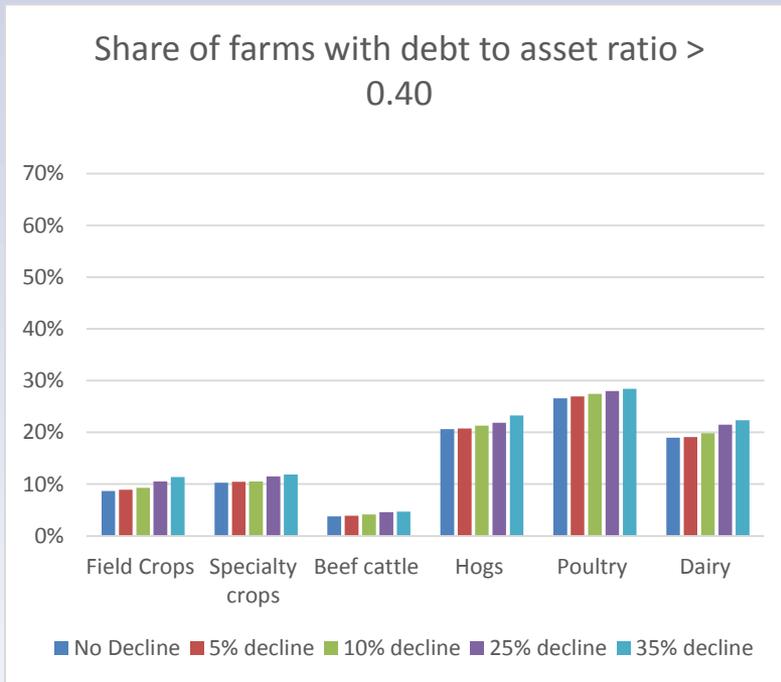


- This indicates that on average lenders have left a substantial “cushion” for farmland values to decline
- A key assumption is that debt increases would not accompany a future decline in farmland values

Note: Field crops include wheat, corn, soybeans, sorghum, rice, tobacco, cotton, peanuts, other cash grains, and oilseeds. Source: 2012 Agricultural Resource Management Survey, preliminary



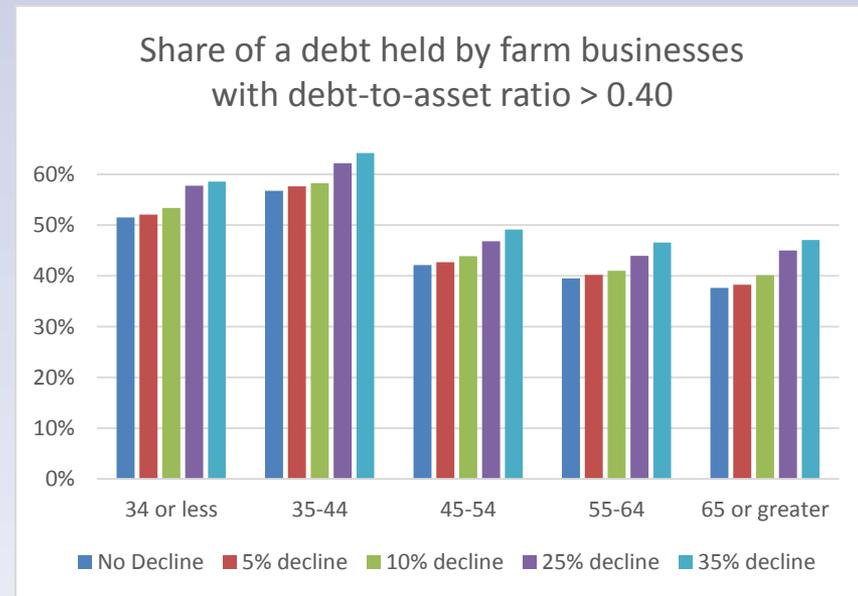
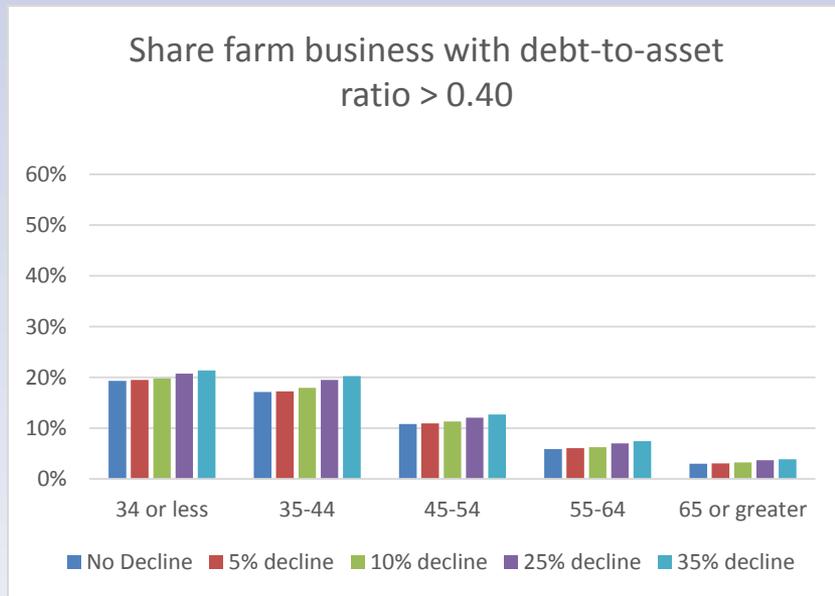
# Concentration of farm business debt with a decline in farmland values



Note: Field crops include wheat, corn, soybeans, sorghum, rice, tobacco, cotton, peanuts, other cash grains, and oilseeds. Source: 2012 Agricultural Resource Management Survey, preliminary



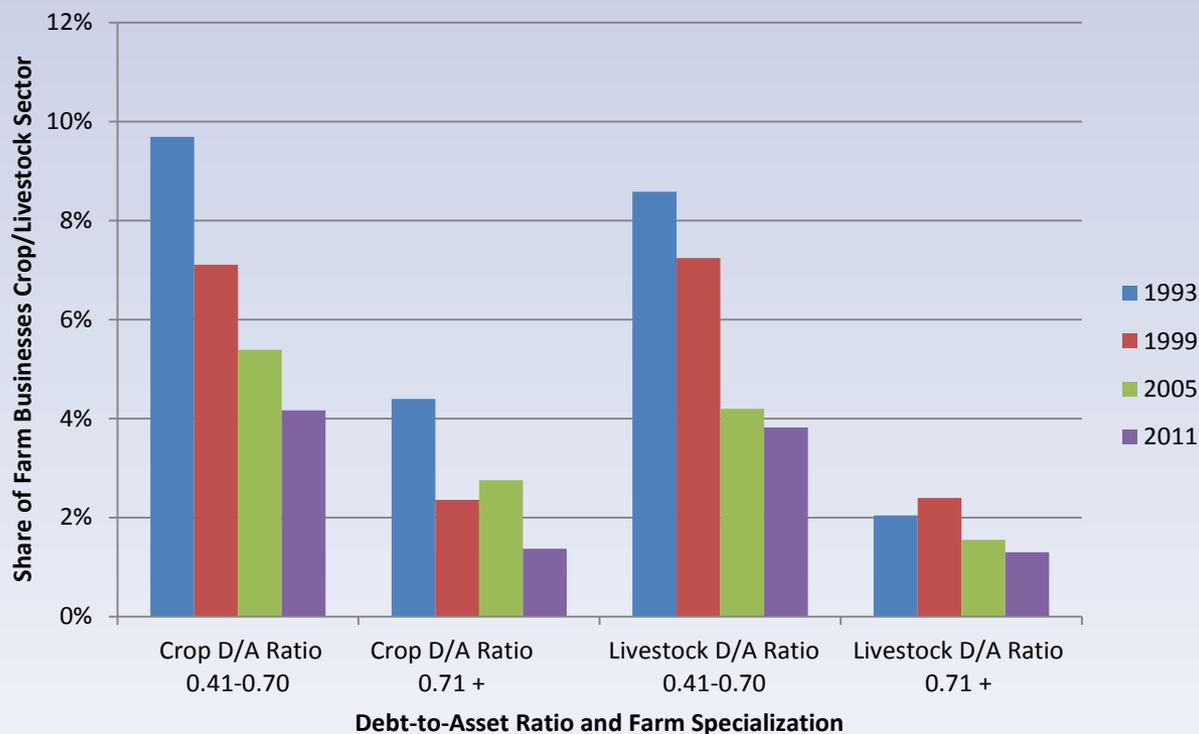
# Impact of potential declines in farmland values by operator age



Note: Field crops include wheat, corn, soybeans, sorghum, rice, tobacco, cotton, peanuts, other cash grains, and oilseeds. Source: 2012 Agricultural Resource Management Survey, preliminary



# Crop and livestock farm businesses with high leverage, 1993-2011



Note: These two farm business specializations, crop and livestock, are determined by the specialization which constitutes the majority of each farm's total value of production. Farm businesses definition accounts for inflation; Source: USDA, Economic Research Service and National Agricultural Statistics Service; 1993 Farm Costs and Returns Survey and 1999, 2005, and 2011 Agricultural Resource Management Surveys.



# Conclusion

- Median cropland values are consistent with current cash rental rates and interest rates
  - Forecasts suggest future downward adjustment of cropland values
- A substantial increase in farm business leverage is unlikely unless there is a large drop in land values
  - Debt is concentrated, especially among certain groups, which may be a concern for lenders
  - Current income may be insufficient for debt repayment for highly indebted farms if incomes decline below levels forecast for 2014

