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

Median Cropland Value

Net farm income and net cash income, 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

Actual farm sector real estate value
Real estate value that current farm sector income and interest rates could support
Real estate values that farm sector income and interest rates could support under different forecast scenarios

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
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.

Concentration of farm business debt with a decline in farmland values

Share of farms with debt to asset ratio > 0.40

Share of debt held by farms with debt to asset ratio > 0.40

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

United States Department of Agriculture, Economic Research Service
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