Trends in Agricultural Lending Conditions

- Lower farm income and liquidity
- Higher demand for loans and lower repayment rates
- Modest increase in interest expenses
- Stable farmland values

Source: Tenth District Survey of Agricultural Credit Conditions, Federal Reserve Bank of Kansas City.
Stress in agricultural lending has persisted for five years.

Tenth District Credit Conditions

- Farm Loan Demand
- Loan Repayment Rates
- Loan Renewals or Extensions

Source: Federal Reserve Bank of Kansas City Ag Credit Survey.
Modeling stress in agricultural lending at a regional level

• The probability that more bankers will report lower repayment rates is significantly correlated with
  – Lower crop revenues
  – Lower income from off-farm sources
  – A lower concentration of farm earnings in the regional economy
  – Higher concentrations of earnings from mining
  – Declining farmland values
  – Higher interest rates

Source: Cowley 2018
Based on the model, we can show where farm financial stress is more probable over time and space.

Probability Bankers will Report Lower Repayment Rates

Source: Cowley 2018
For example, in 2016, lending stress was more likely in areas more concentrated in cattle production.

Probability Bankers will Report Lower Repayment Rates, 2016

Top Commodity by Sales

Source: Cowley 2018 and USDA.
Linking farm household and business conditions with agricultural lending conditions.

- Working capital on farms is the most important determinant of repayment rates at agricultural banks.

Source: Cowley 2019, forthcoming
As working capital has declined, agricultural lenders have been more likely to report lower repayment rates on farm loans.

Sources: USDA and Federal Reserve Bank of Kansas City.
Linking farm household and business conditions with agricultural lending conditions.

- Working capital on farms is the most important determinant of repayment rates at agricultural banks.
- Farm household and operational expenses are very important, but only those expenses that have increased substantially year-over-year tend to significantly affect repayment rates.
  - e.g. health insurance

Source: Cowley 2019, forthcoming
Health care expenses have increased significantly for farm households in recent years.

According to data from Kansas Farm households:

- Higher health insurance expenses as a share of total family living expenses are significantly correlated with a greater likelihood of bankers reporting lower repayment rates.

Source: Kansas Farm Management Association
Linking farm household and business conditions with agricultural lending conditions.

- Working capital on farms is the most important determinant of repayment rates at agricultural banks.
- Farm household and operational expenses are very important, but only those expenses that have increased substantially year-over-year tend to significantly affect repayment rates.
  - e.g. health insurance
- Higher off-farm incomes contribute to higher loan repayment rates.
- Farm type, management, and operator age also affect farm loan repayment rates.

Source: Cowley 2019, forthcoming
Concluding Thoughts

- Lower commodity prices and farm income have contributed to higher loan demand and lower repayment rates.
- However, farmland values have remained stable and have supported agricultural credit conditions.
- At a regional level, stress in agricultural lending has been more likely in areas with a greater share of wheat and cattle production and may be compounded in areas with high concentrations of oil and gas activity due to oil price volatility.
- Models utilizing farm- and bank-level data suggest that reductions in farm working capital or sharp changes in farm and/or family living expenses can significantly affect a farm borrowers ability to repay loans.
Thank you

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