U.S. Monetary Policy: What's Happening and Why Ag Lenders Should Care

2013 Kansas Ag Bankers Conference

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Three questions to consider when discussing U.S. monetary policy and agriculture

1. Where are we at today?
2. What has changed in the marketplace?
3. What does the future hold?

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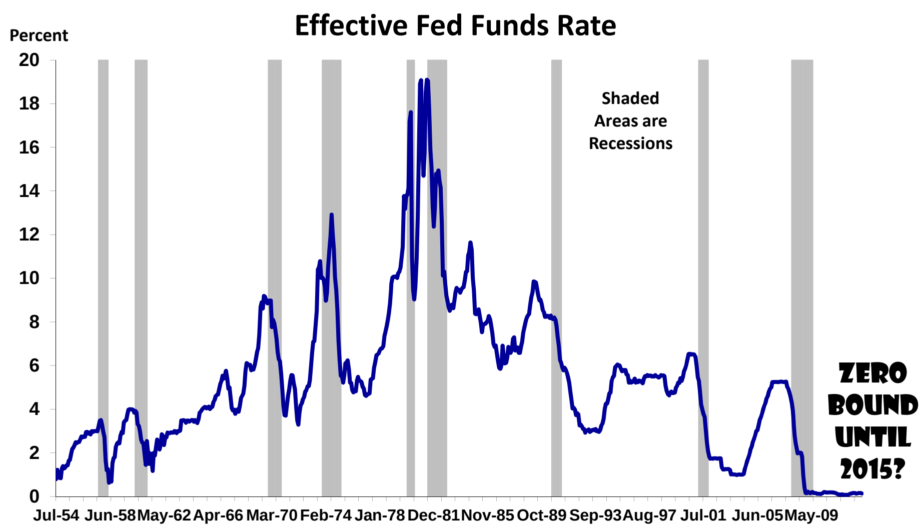
Today's U.S. monetary policy has created quite the dialogue within the Fed.

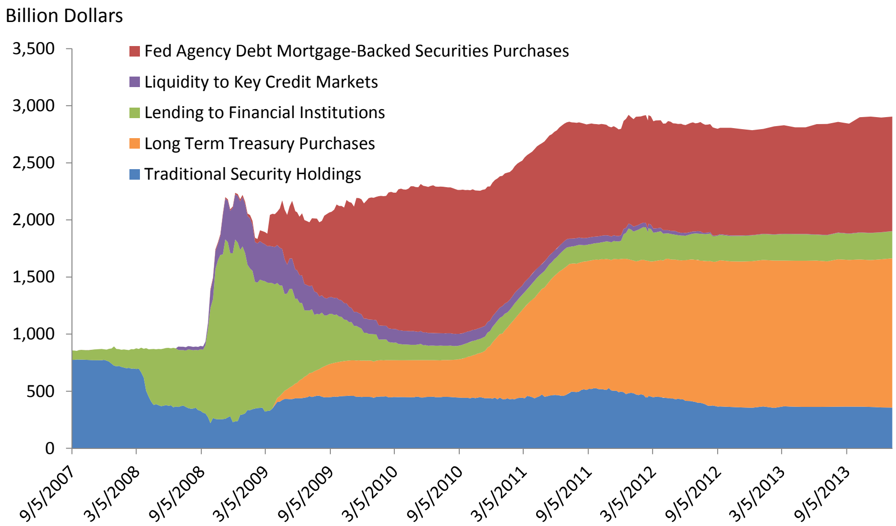
- In the Fed, it is a debate between:
  - Doves: Benefits of continued accommodative monetary policy to the economy outweigh the risk
  - Hawks: The economy continues to improve and extraordinary accommodative policies may be promoting excessive risk taking behavior
- Both sides have valid points
  - So, which one is right?

With the economy still in a sluggish recovery, the Fed has kept interest rates near zero.



Source: Federal Reserve Board of Governors

Through quantitative easing, the Fed has pumped massive amounts of liquidity into the marketplace.



Source: Federal Reserve Bank of Cleveland

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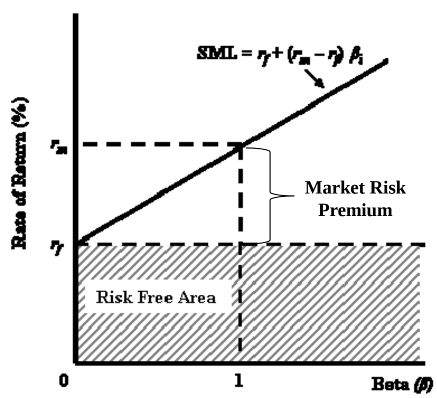
What impact does today's zero bound interest rate environment have on market risk premiums?

- To frame up this discussion, let's take a page from a Corporate Finance textbook.
- The security market line (SML) is a graphical depiction of the capital asset pricing model (CAPM)
  - Risk premium, alpha and beta



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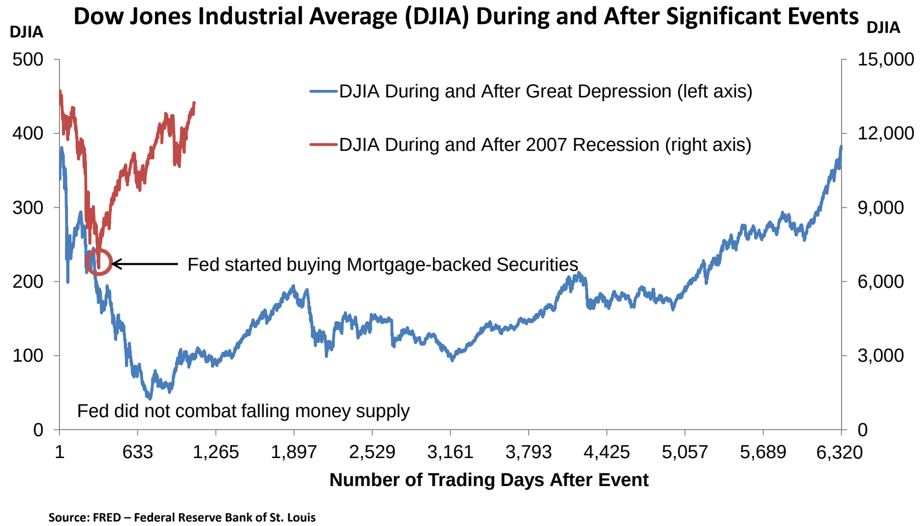
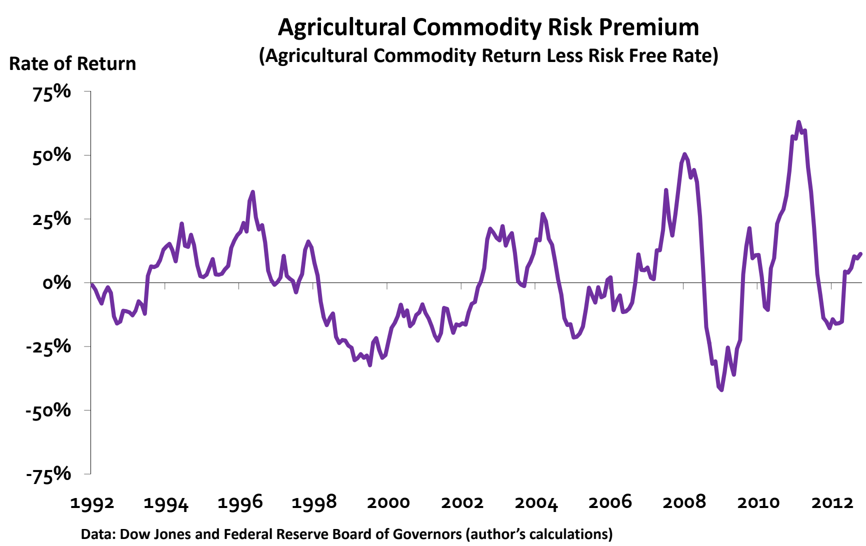
Recent quantitative easing has pulled stock market returns off of a Great Depression path.



While the stock market has benefited from U.S. monetary policy, what has happened to commodity markets?



With higher risk premiums, has the relationship between agricultural commodities and the financial market changed?

1992 to 2006

- Average risk premium equaled -2%
- Estimating a simple CAPM regression:
  - Alpha (α) = -0.02
  - Beta (β) = 0.12
- Not very responsive to market movements with less excess returns

2007 to 2012

- Average risk premium equaled 9%
- Estimating a simple CAPM regression:
  - Alpha (α) = 0.08
  - Beta (β) = 0.64
- More responsive with market movements and more excess returns

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So, what factors are driving these excess returns?

- Monetary policy may have played a role
  - Excess liquidity in the marketplace
- However, fundamentals of the agricultural industry definitely play a significant role
  - Supply: drought and tight stocks set the stage for agricultural commodity prices to surge
  - Demand: relatively strong domestic demand and burgeoning global demand pulled prices up, up and up

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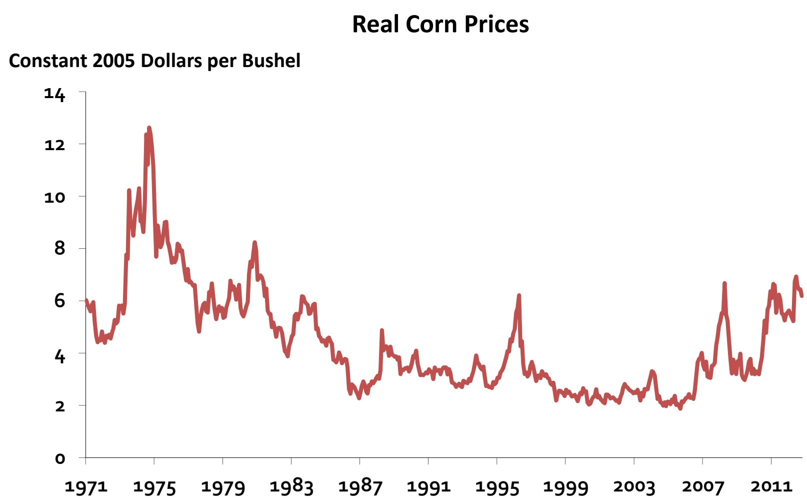
With tight supplies and strong demand, commodity prices surged and have been quite volatile.



Source: Chicago Board of Trade; deflated by PCE

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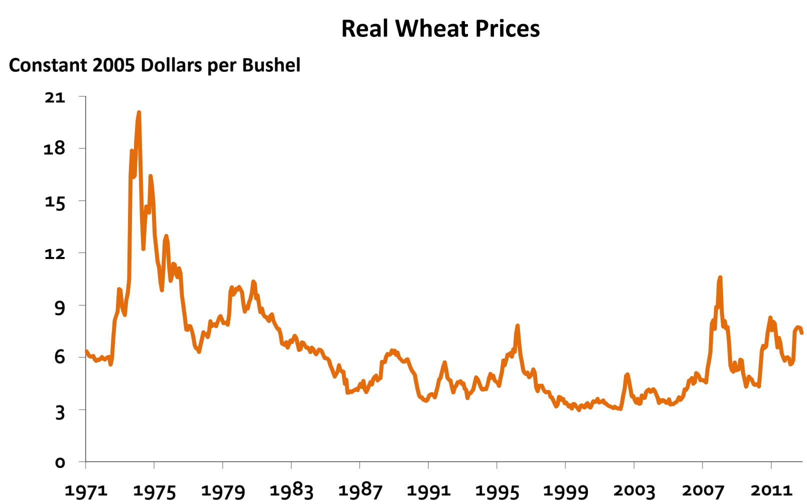
Similar surge / volatility story in wheat as in corn.



Source: Kansas City Board of Trade; deflated by PCE

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Inflation?

- Today, monetary policy is extremely accommodative
- Bank excess reserves are extremely large and interest rates are low
  - Liquidity effect
- So, what about inflation and the expectations of future inflation?

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To understand the current environment for inflation, it is helpful to pull a page from Econ 101.

A rapid rise in inflation occurs when **too much money** *is chasing* **too few goods**.

Quantity Theory of Money

$$Price = \frac{Money * Velocity}{Quantity\ of\ Goods} = \frac{M * V}{Q}$$

So, for rapid price inflation: $\frac{M\uparrow * V\uparrow}{Q\downarrow}$

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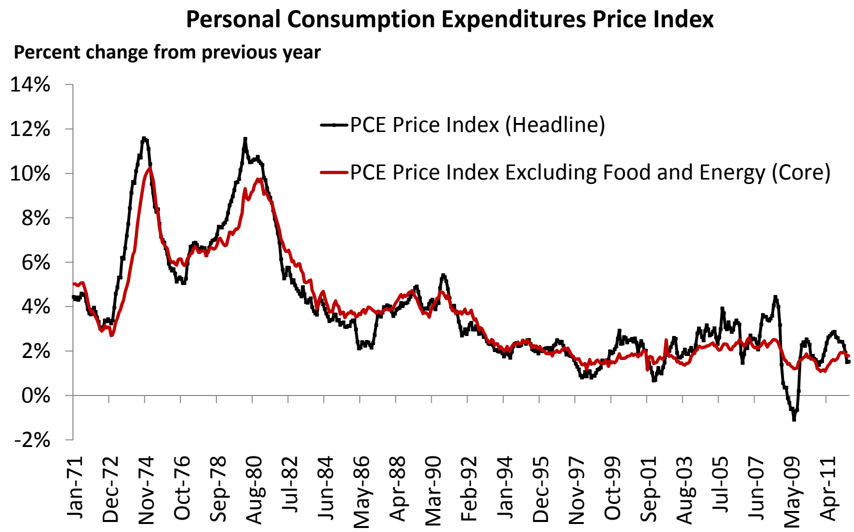
Today's inflation is well below 1970s levels…

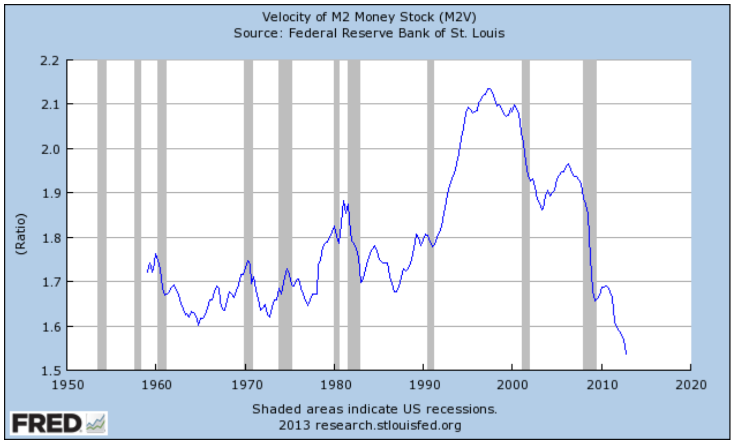


Source: Federal Reserve Economic Data, Federal Reserve Bank of St. Louis

…and inflation expectations are very low.

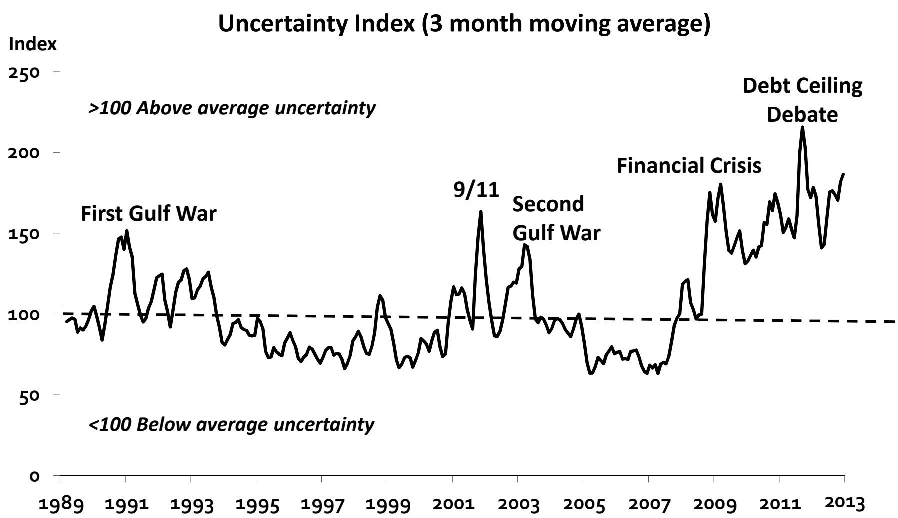
Source: Federal Reserve Bank of Cleveland

Why is inflation low? Velocity has plummeted.



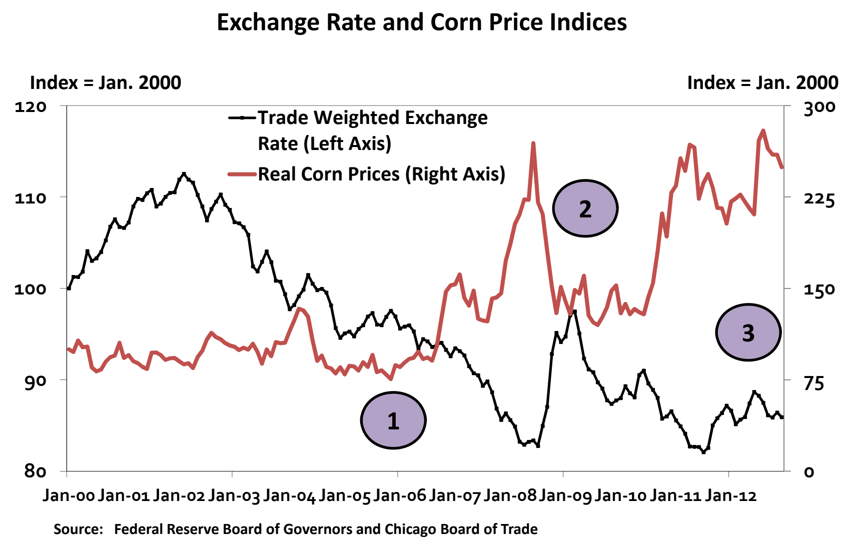
- One way to measure velocity is by calculating the ratio of GDP to money stock (M2). This ratio is essentially a turnover ratio that illustrates how quickly money is turned into output.
- What will it take to raise velocity, and when might this happen?

Uncertainty is likely helping keep velocity at exceptionally low levels.

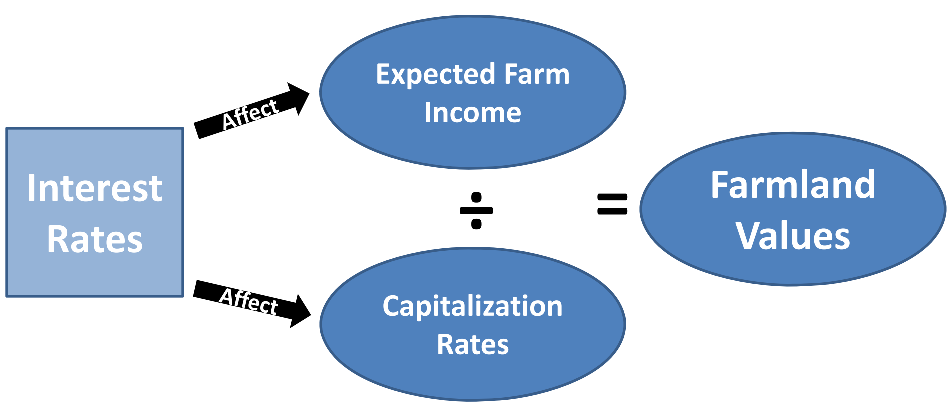


Source: Baker, Bloom and Davis, accessed at www.policyuncertainty.com

Commodity markets give us some insight into how uncertainty impacts agriculture.

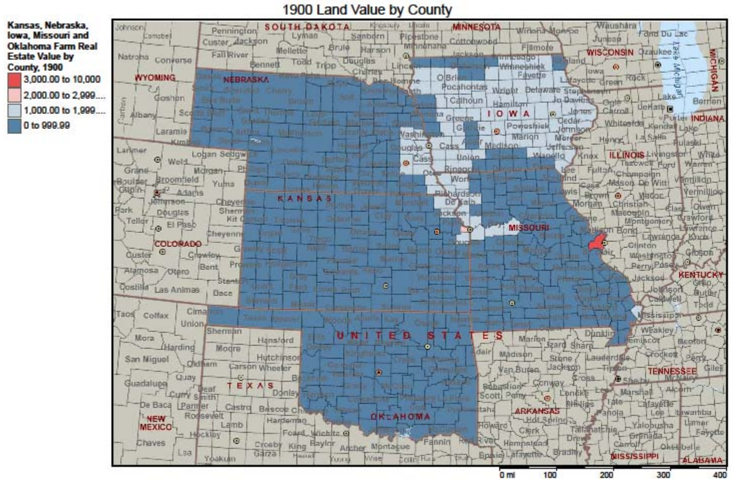


Interest rate movements also have two important impacts on farmland values.



With the start of the 20th century, farmland values began to heat up.

1900 Land Value by County



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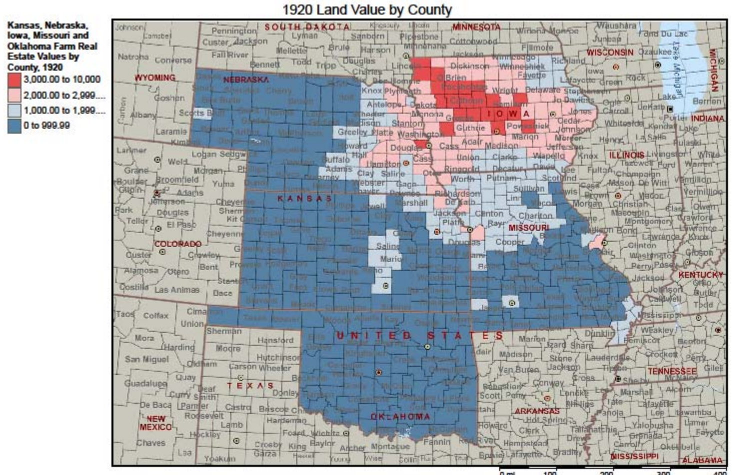
After World War I, farmland values caught “fire” with surging ag exports and excessively leveraged farms.

1920 Land Value by County



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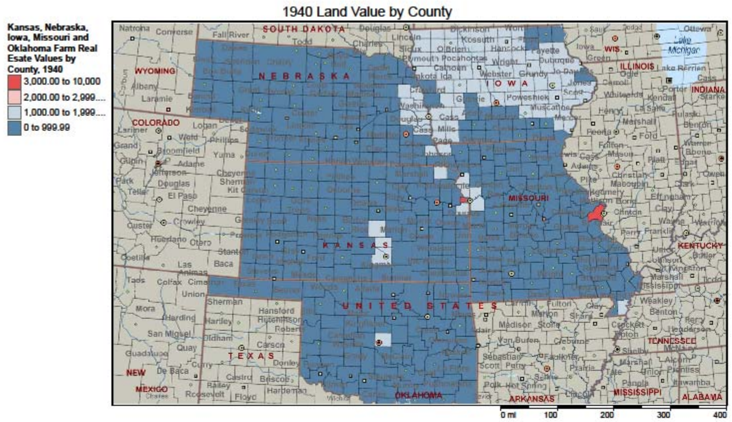
After a surge in bankruptcies and the Great Depression, the "fire" was out.



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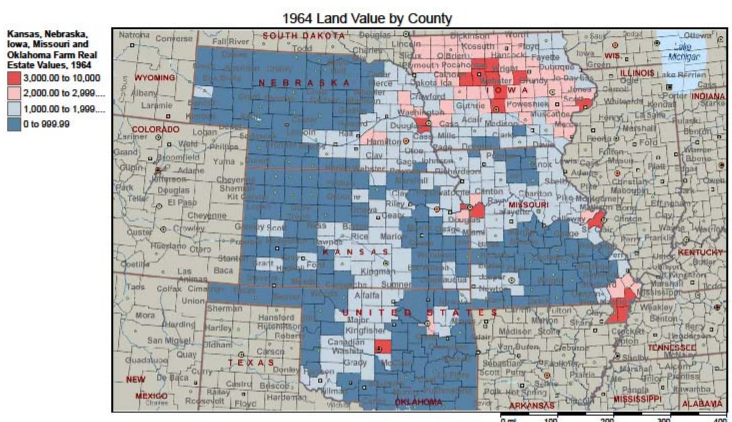
After World War II, farmland values started to heat up again as new technology was adopted.



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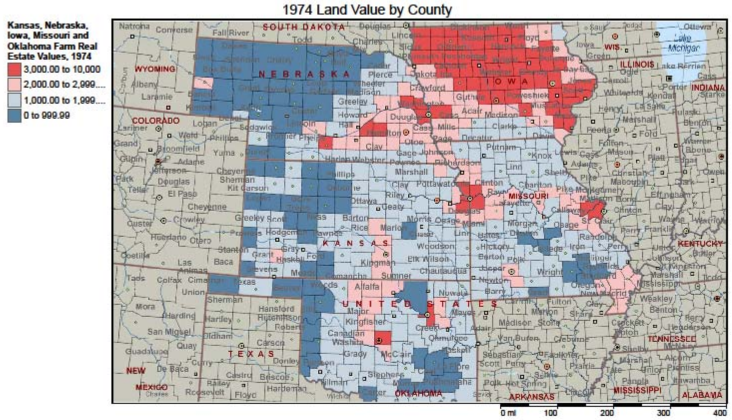
New export markets and easy credit set farmland values ablaze, especially in the corn belt.

1974 Land Value by County



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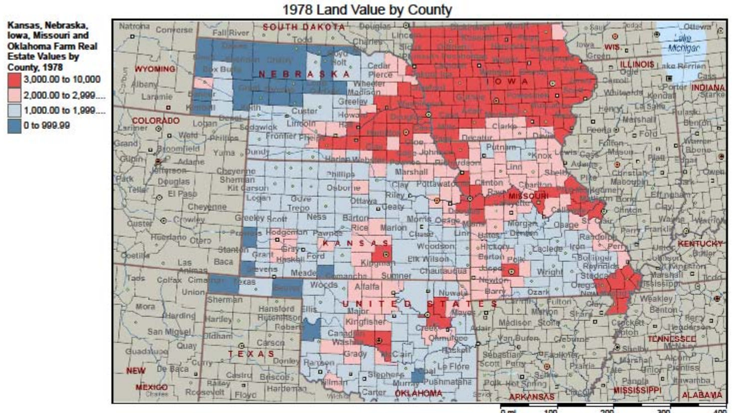
By 1978, Iowa farmland values were “red hot” and it was spreading throughout the region.

1978 Land Value by County



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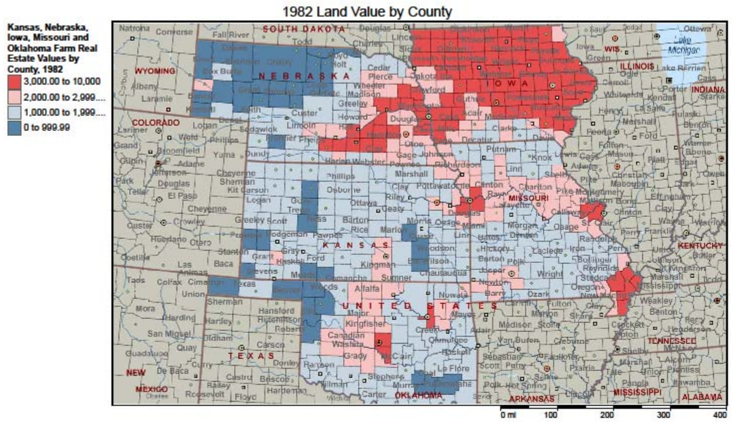
The start of the 1980s farm debt crisis began to cool the flame surrounding farmland values.



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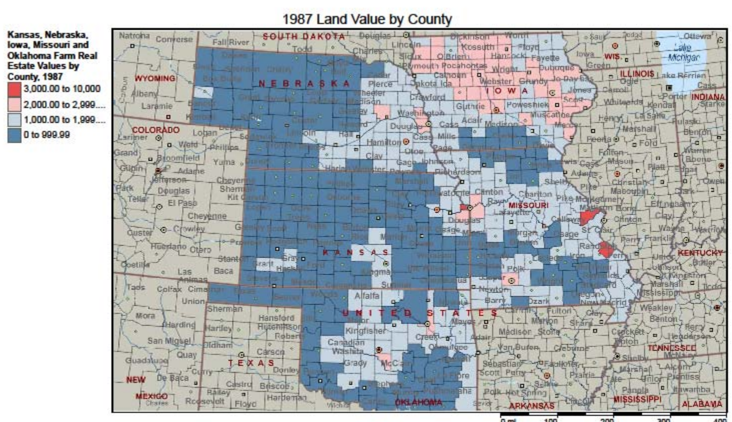
By 1987, forced land sales and a collapse in farm income put the “fire” out.



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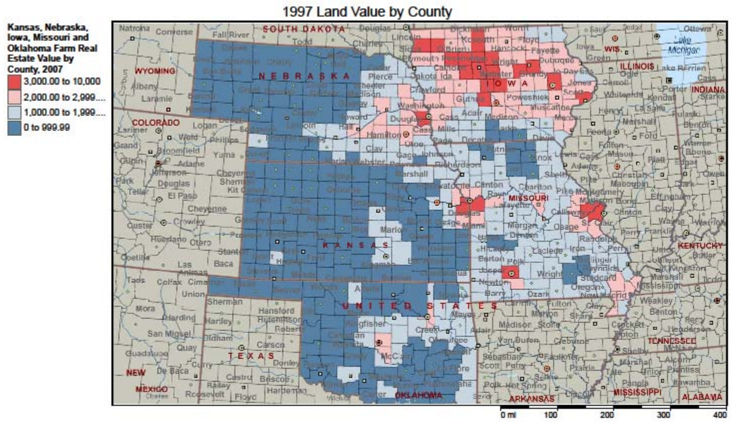
After the 1980s, a slow, steady recovery helped farmland values recover.



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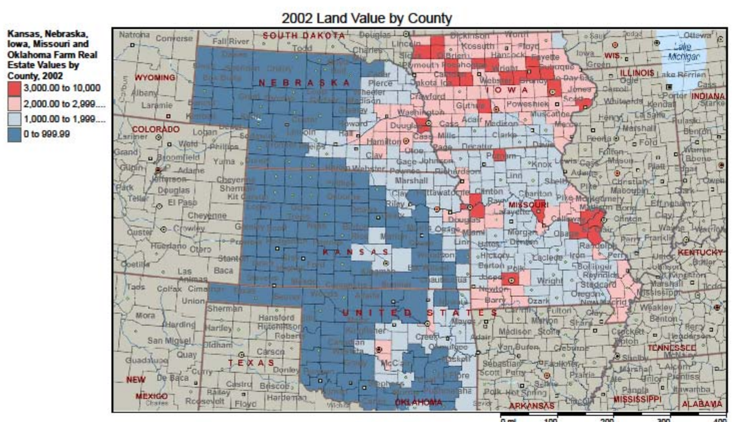
At the turn of the century, farmland values held steady until…



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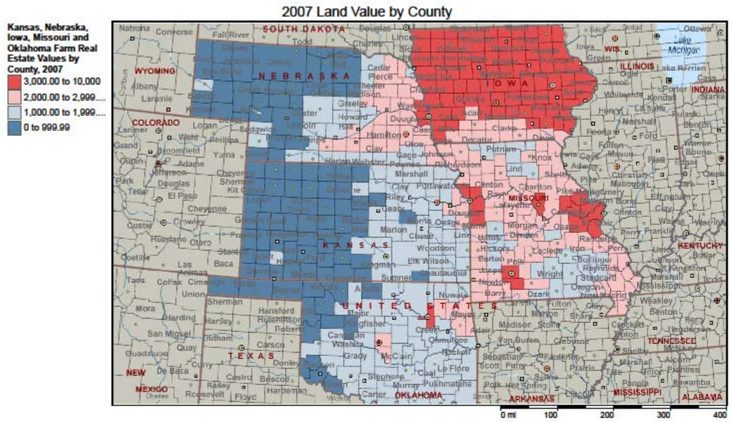
…a booming U.S. housing market as well as surging ag exports lit another "fire" under land values.



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Concluding thoughts

- Monetary policy is extremely accommodative
  - Dove versus Hawk debate within the Fed
- The impact of ultra-low interest rates and massive amounts of liquidity have had a large impact on the U.S. economy, global economy and agriculture
  - Agriculture as an investment: commodities and farmland values
  - Lots of liquidity sitting on the sideline…inflation?
- The Fed's exit strategy is very important, and the million dollar question, when will interest rates rise?

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Thank you

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