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What is the Market Telling You? An Important Look Ahead ...

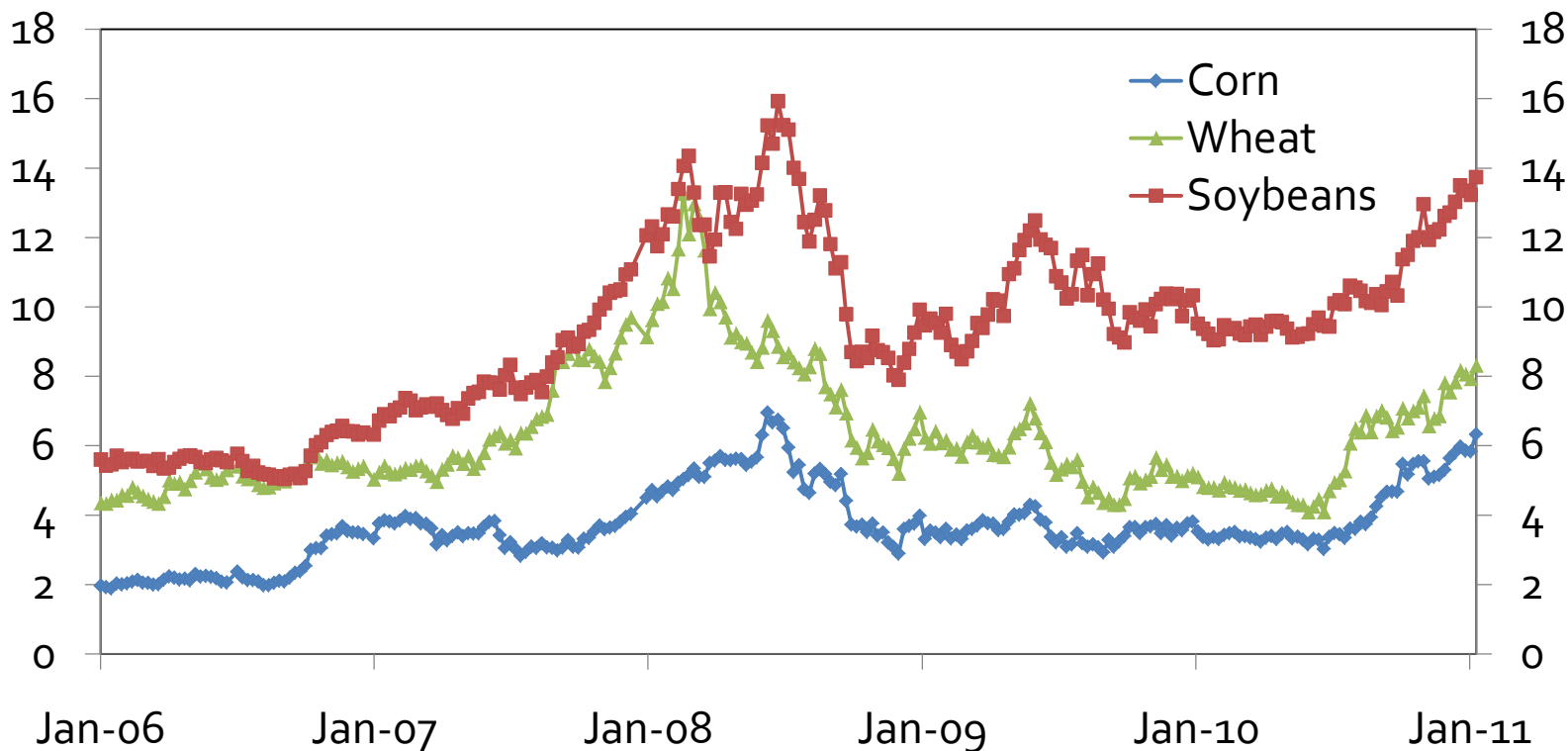


The views expressed are those of the author and do not necessarily reflect the opinions of the Federal Reserve Bank of Kansas City or the Federal Reserve System.

Crop Prices Spike with Resurgent Demand and Tight Supplies.

U.S. Crop Prices

Constant 2005 dollars (billions)



Source: Commodity Research Bureau



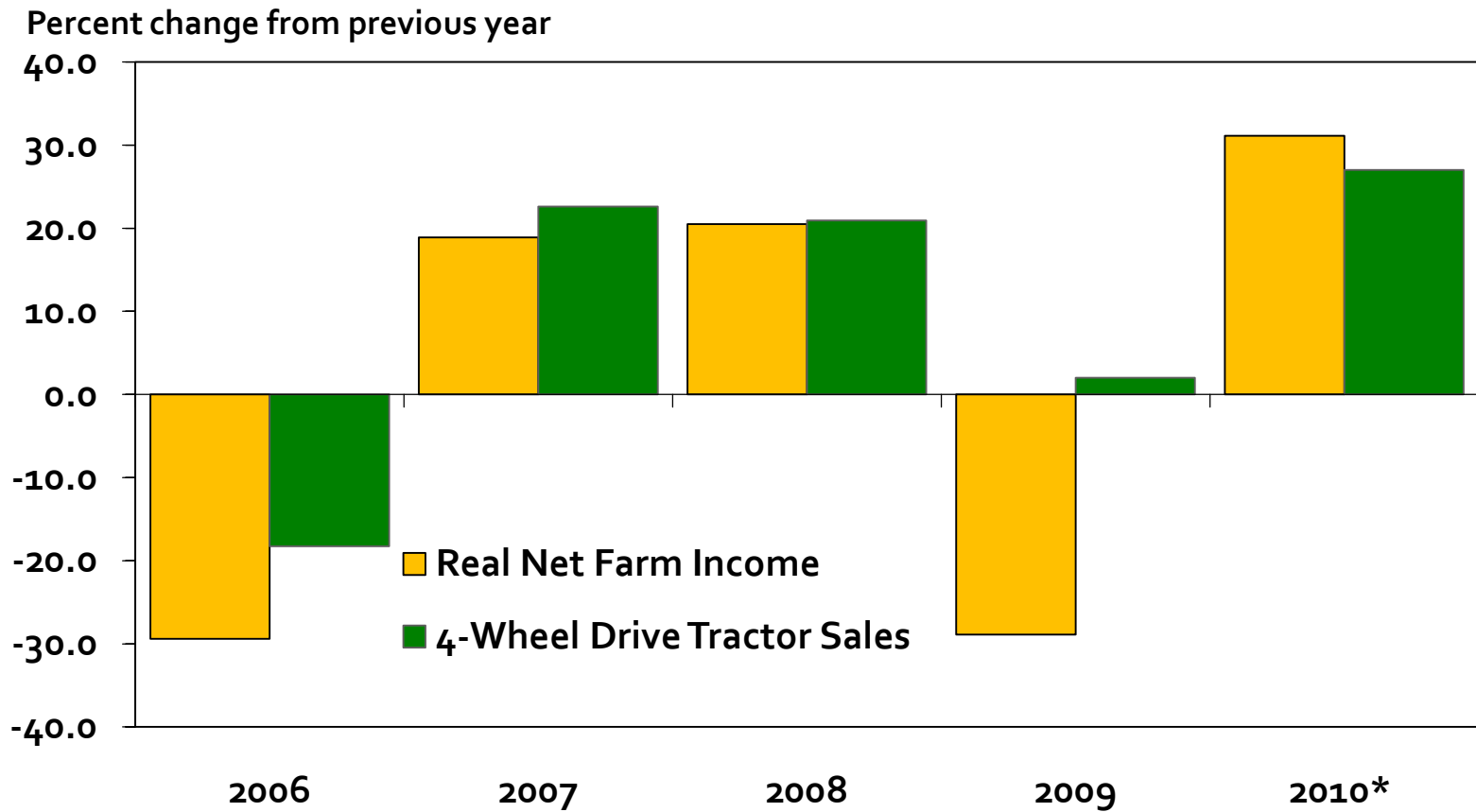
Implications of High Crop Prices

- Record profits for crop producers.
 - Biggest gains for fall crops – corn, soybeans, and cotton.
- Rising feed costs trim livestock profits.
 - Biggest struggles in the dairy sector.
 - Cattle and hog profits at breakeven levels.
 - Will livestock and dairy revenues rise?
 - Will there be further liquidations?



Stronger farm incomes boost agricultural equipment sales.

U.S. Real Net Farm Income and Agricultural Equipment Sales



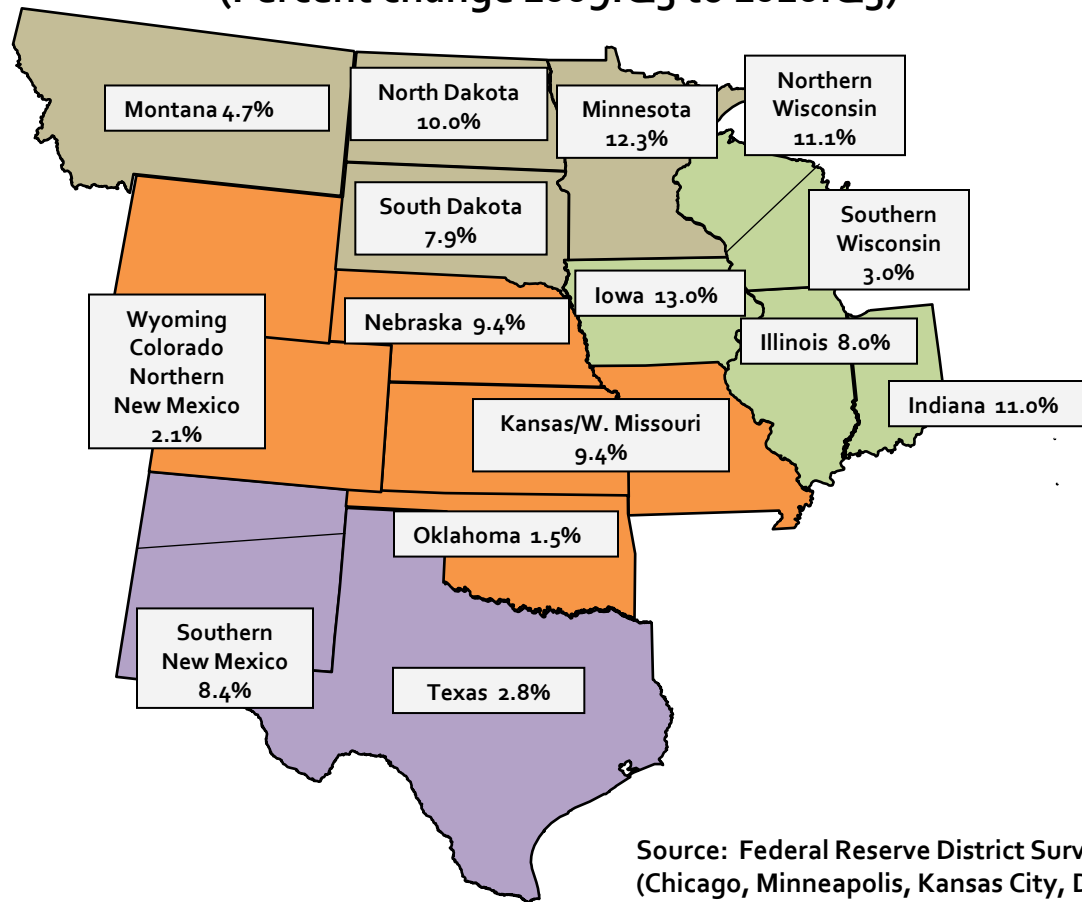
Source: Association of Equipment Manufacturers and USDA

* Tractor Sales data are year-to-date through November and Net Farm Income forecast for 2010 dated November 30, 2010.



Cropland values surge across the Corn Belt.

Non-irrigated Cropland Values
(Percent change 2009:Q3 to 2010:Q3)

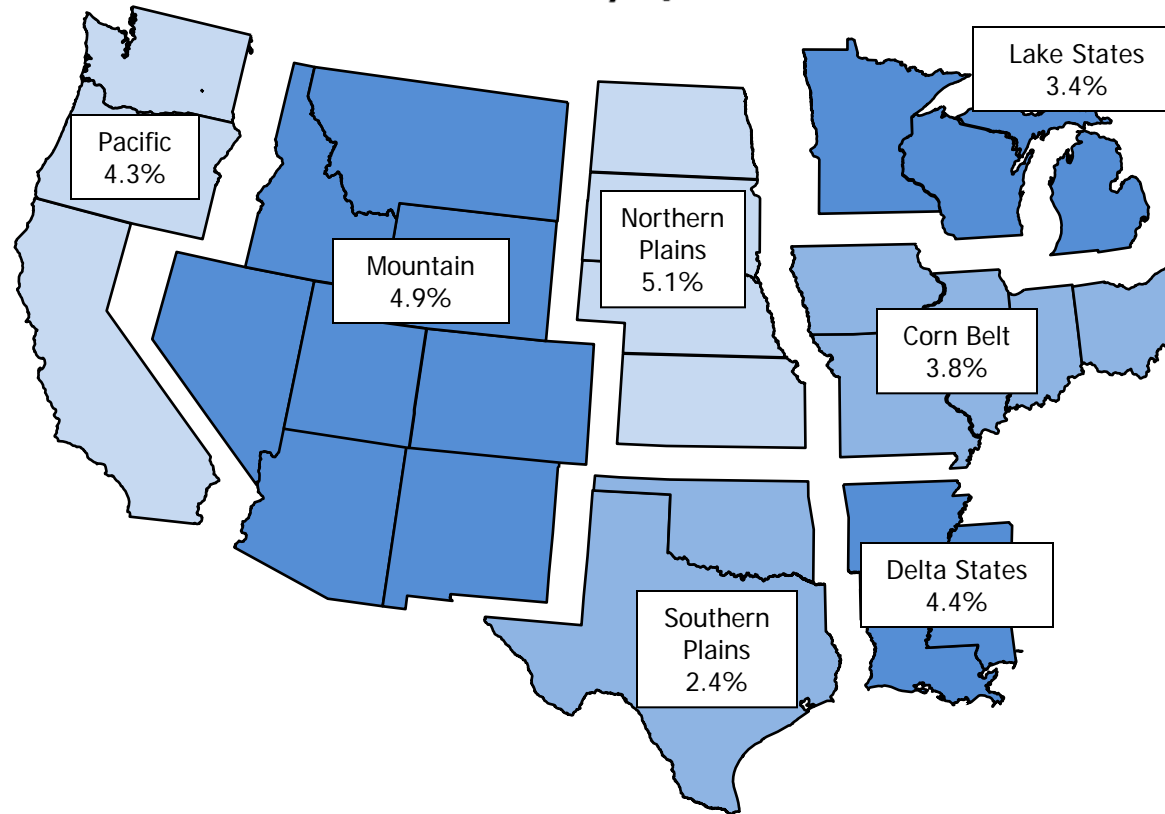


Source: Federal Reserve District Surveys
(Chicago, Minneapolis, Kansas City, Dallas)



Land values rise faster than cash rents, pushing rent to value ratios to record lows.

Cropland Cash Rent to Land Value Ratio January 1, 2010



Calculations based on USDA Land Values and Cash Rents, August 2010



Capitalized Revenues from Corn Production

Land values should equal capitalized revenues

$$\text{Land Values} = \frac{\text{Expected Revenues}}{\text{Capitalization Rate}}$$

Assumptions:

Corn Price: \$5.35 per bushel
25% of gross revenues go to land

	Yield (bushel per acre)	
	160 bushels	200 bushels
Capitalization rate		
5%	4280	5350
4%	5350	6690
3%	7133	8920

Indiana average yield was 160 from 2006 to 2010

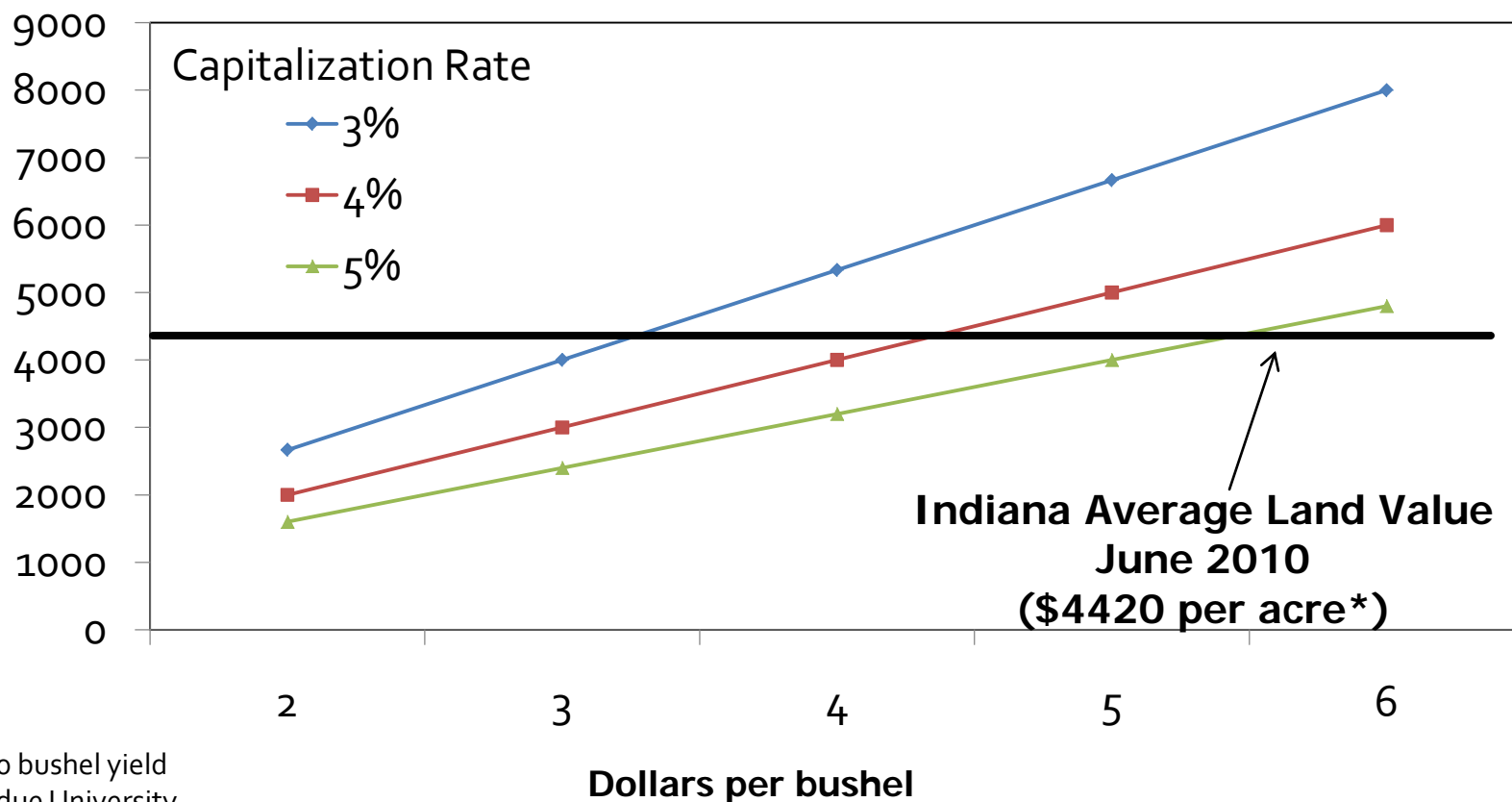
U.S. average annual price \$5.35 per bushel



Current land values assume historically high prices and historically low interest rates.

Capitalized Land Revenues from Corn Production

Dollars per acre



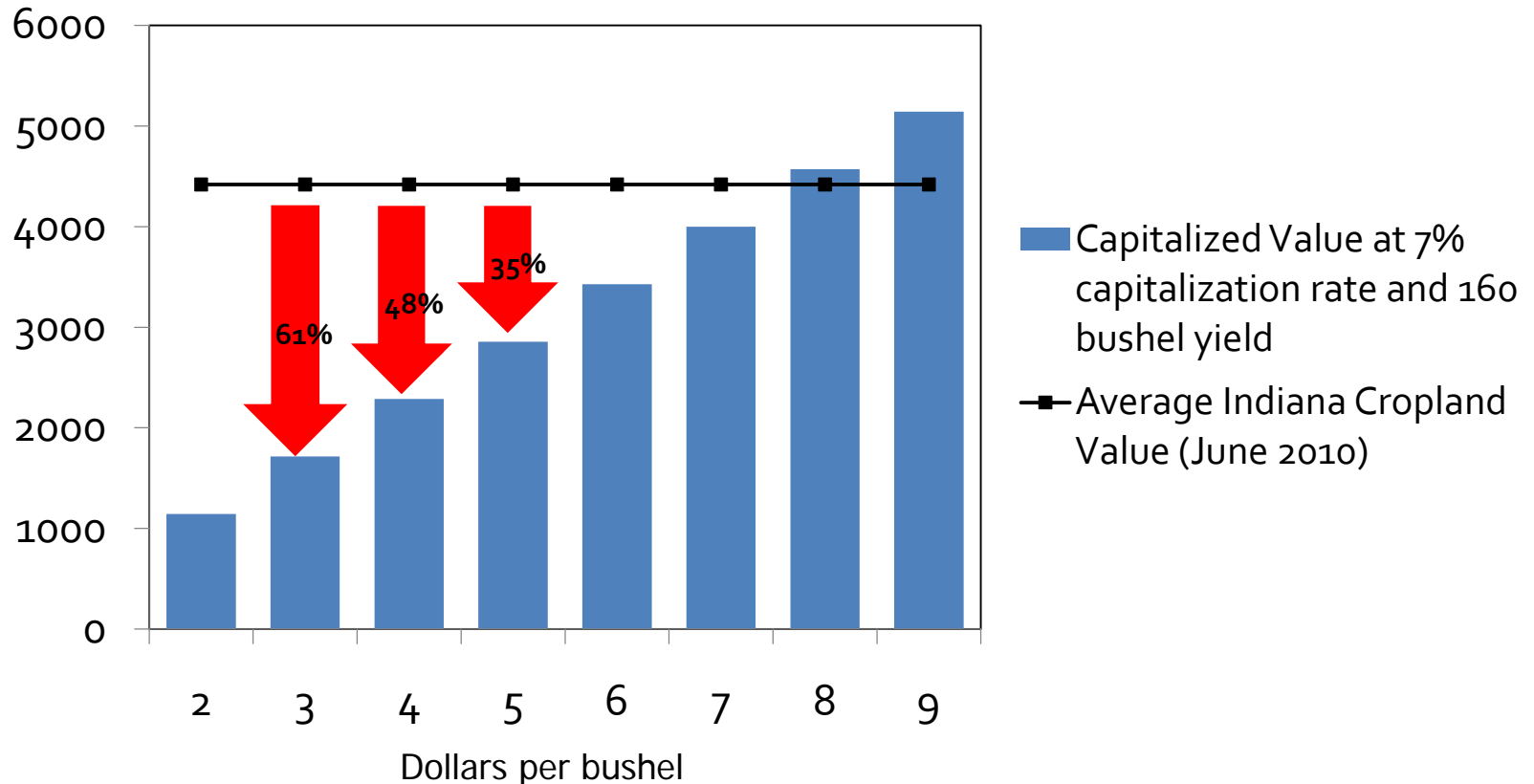
•Based on 160 bushel yield
*Source: Purdue University



What happens if capitalization rates and interest rates rise?

Capitalized Revenues from Corn Production

Dollars per acre



How do interest rates affect farm incomes?

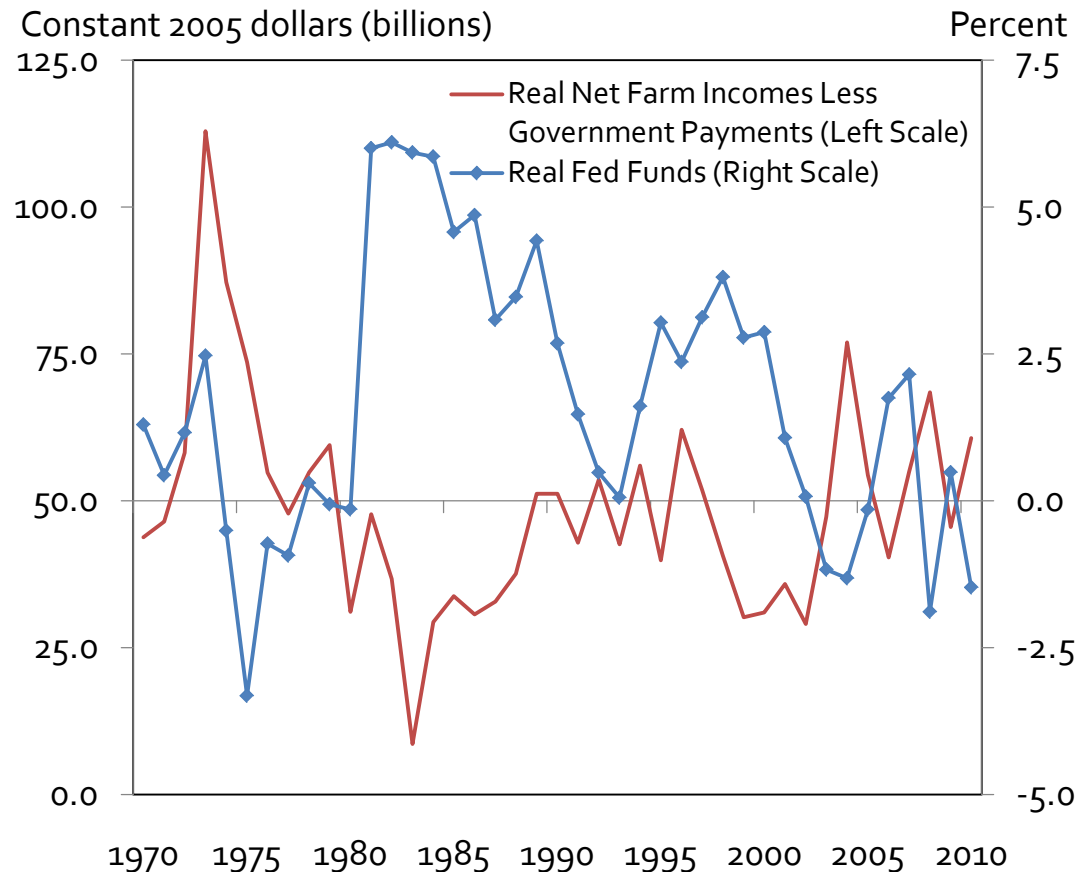
Falling interest rates ...

- Weakens the dollar,
- Lifts exports,
- Raises commodity prices,
- Boosts farm incomes

Rising interest rates ...

- Strengthens the dollar,
- Shrinks exports,
- Lowers commodity prices,
- Cuts farm incomes

Real Fed Funds Rate and Net Farm Incomes



Sources: USDA , Federal Reserve, BLS



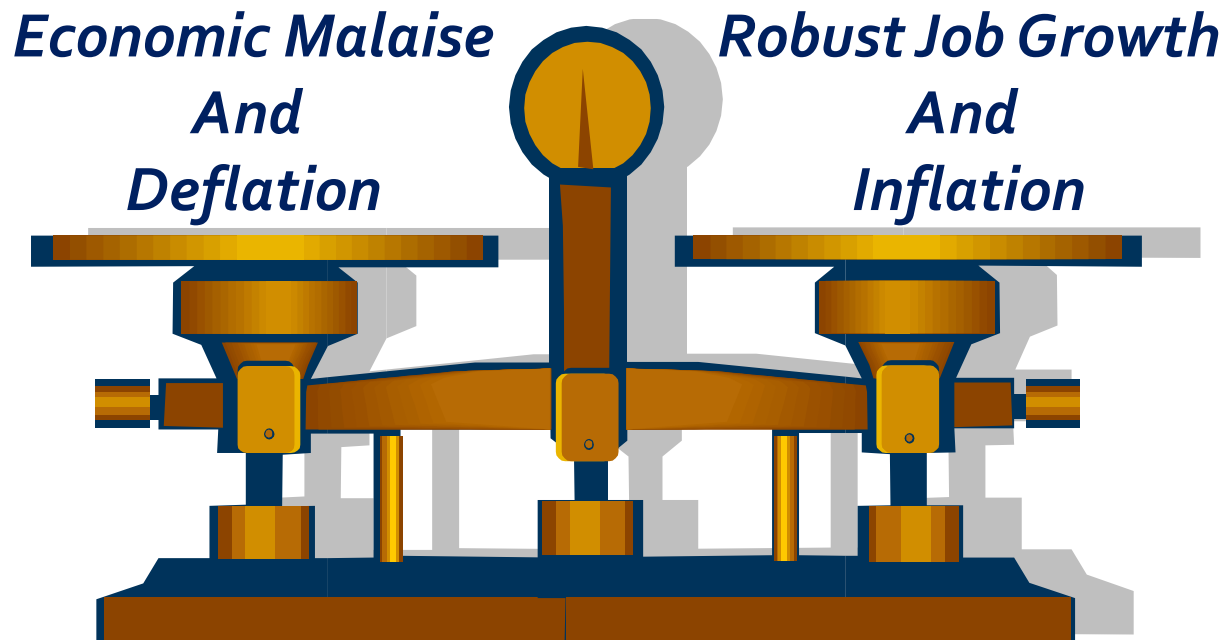
Agriculture Faces Huge Interest Rate Risk

INTEREST RATE RISK



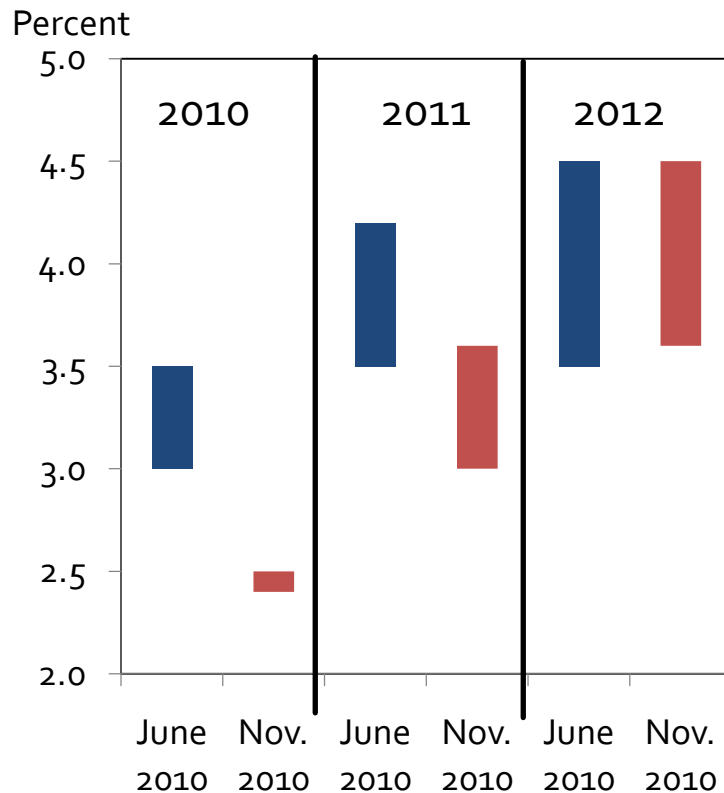
U.S. Monetary Policy: A Risk Management Approach

What is the Risk?

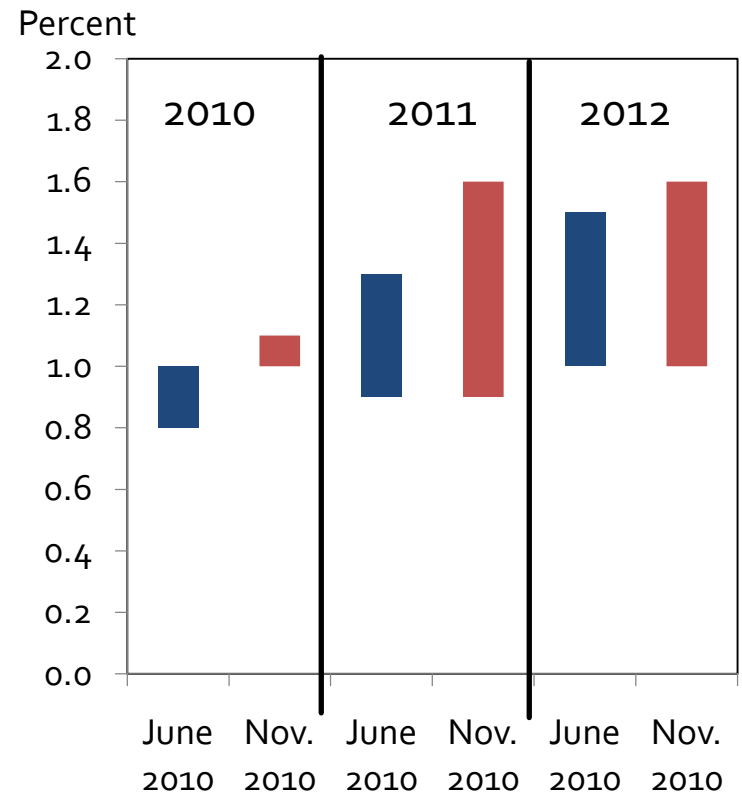


Federal Reserve economic growth projections fell sharply at the end of 2010

U.S. GDP Growth Projections (Central Tendency)



Core PCE Inflation (Central Tendency)



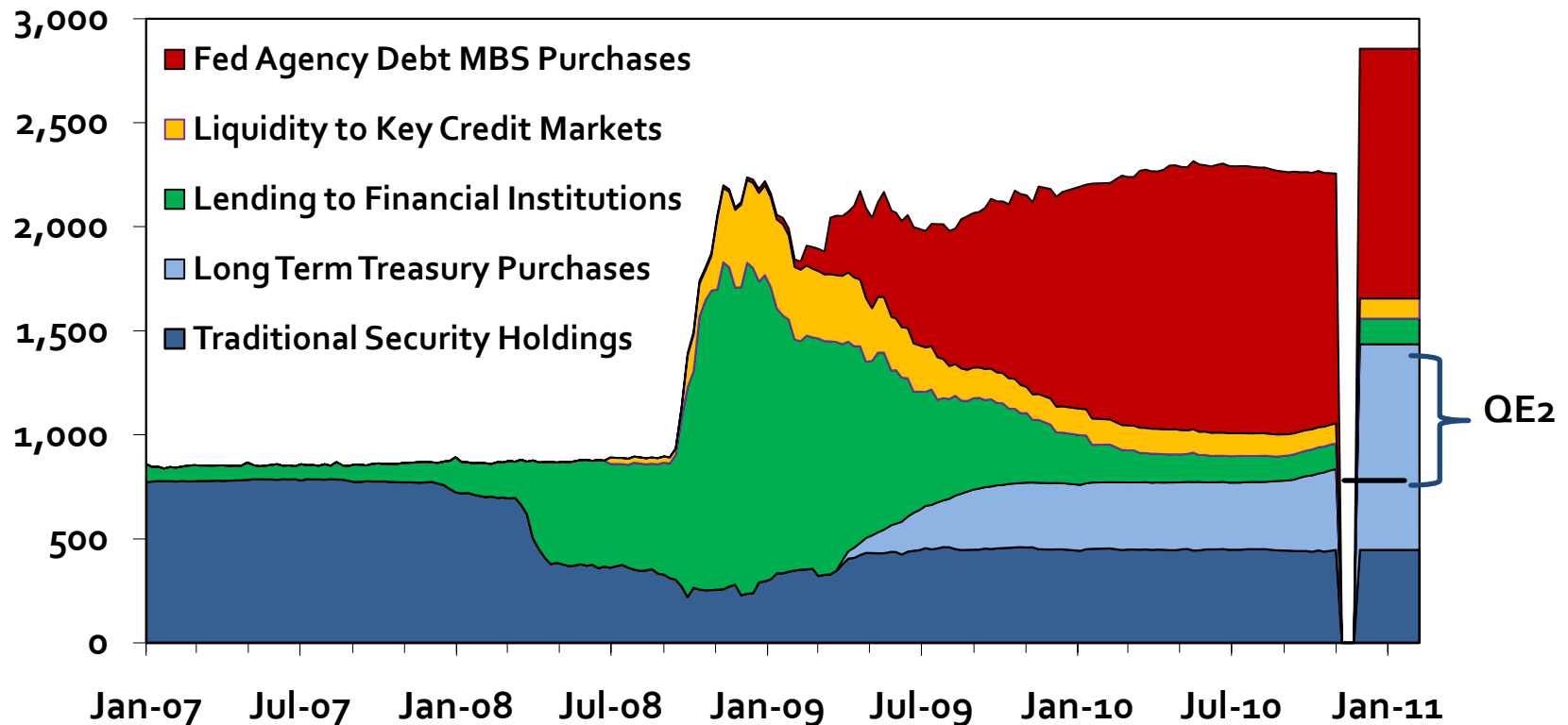
Source: Federal Reserve Board of Governors



Quantitative easing (QE) is designed to expand the Federal Reserve balance sheet to lower long term rates.

Federal Reserve Balance Sheet: Assets

Billion Dollars



Source: Federal Reserve Bank of Cleveland



Have the Risks Changed?



Inflation is based on money and velocity.

Quantity Theory of Money

$$\text{Price} = \frac{\text{Money} * \text{Velocity}}{\text{Quantity}}$$

Definition of Inflation:

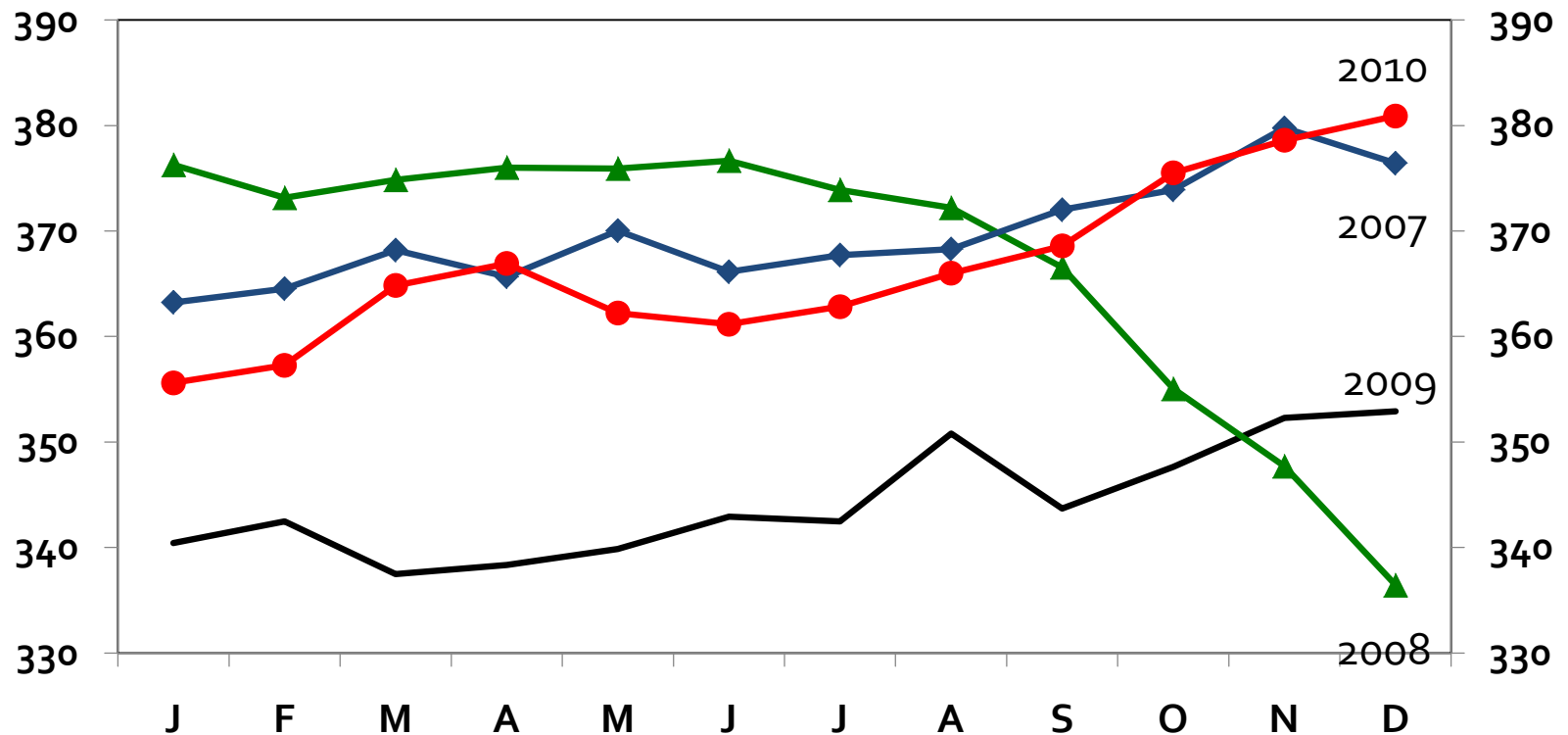
Too much money $M \uparrow$
chasing $V \uparrow$
too few goods $Q \downarrow$



After a summer lull, consumer spending is on the rise.

U.S. Monthly Retail and Food Sales

Billion dollars



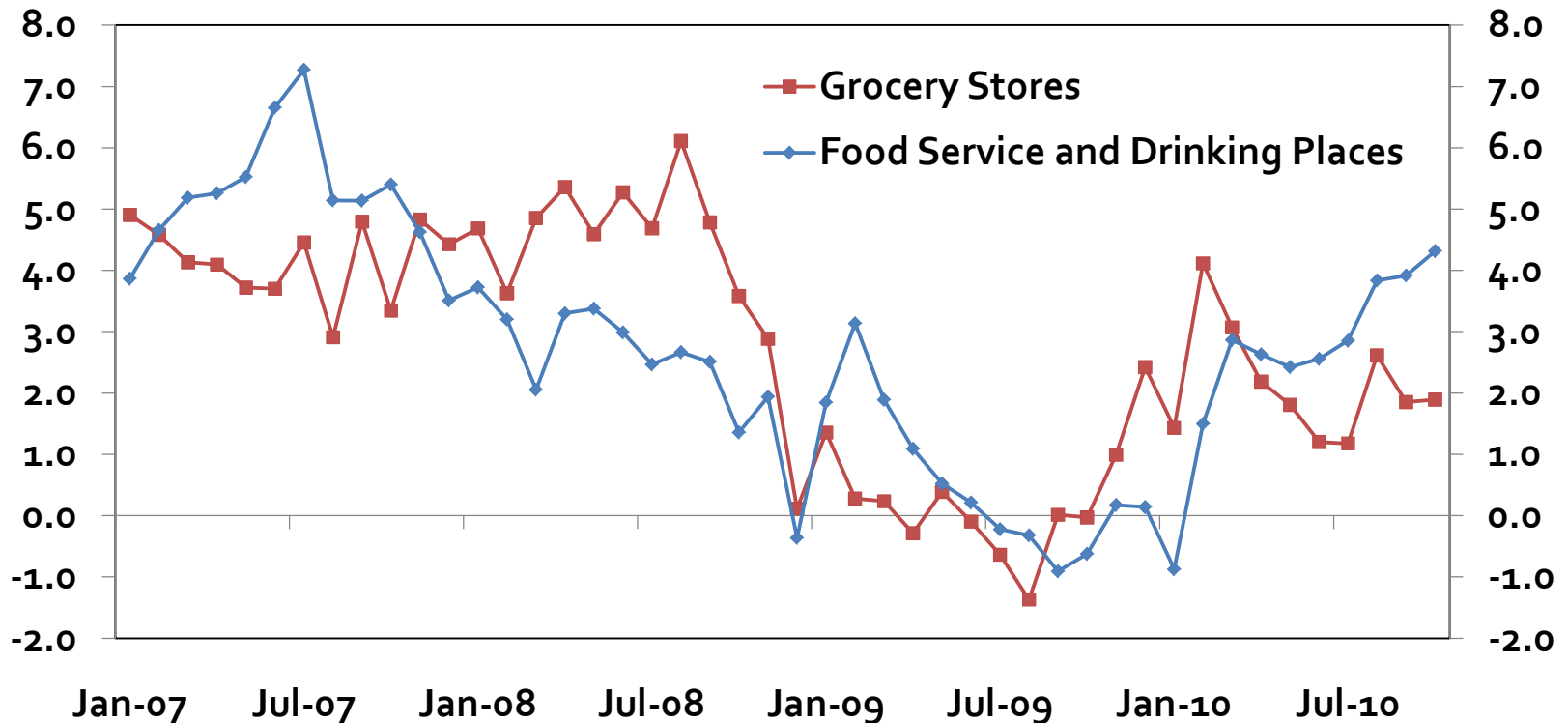
Source: U.S. Census Bureau



U.S. food expenditures have rebounded.

U.S. Retail Sales at Grocery Stores and Restaurants

Percent change from year ago



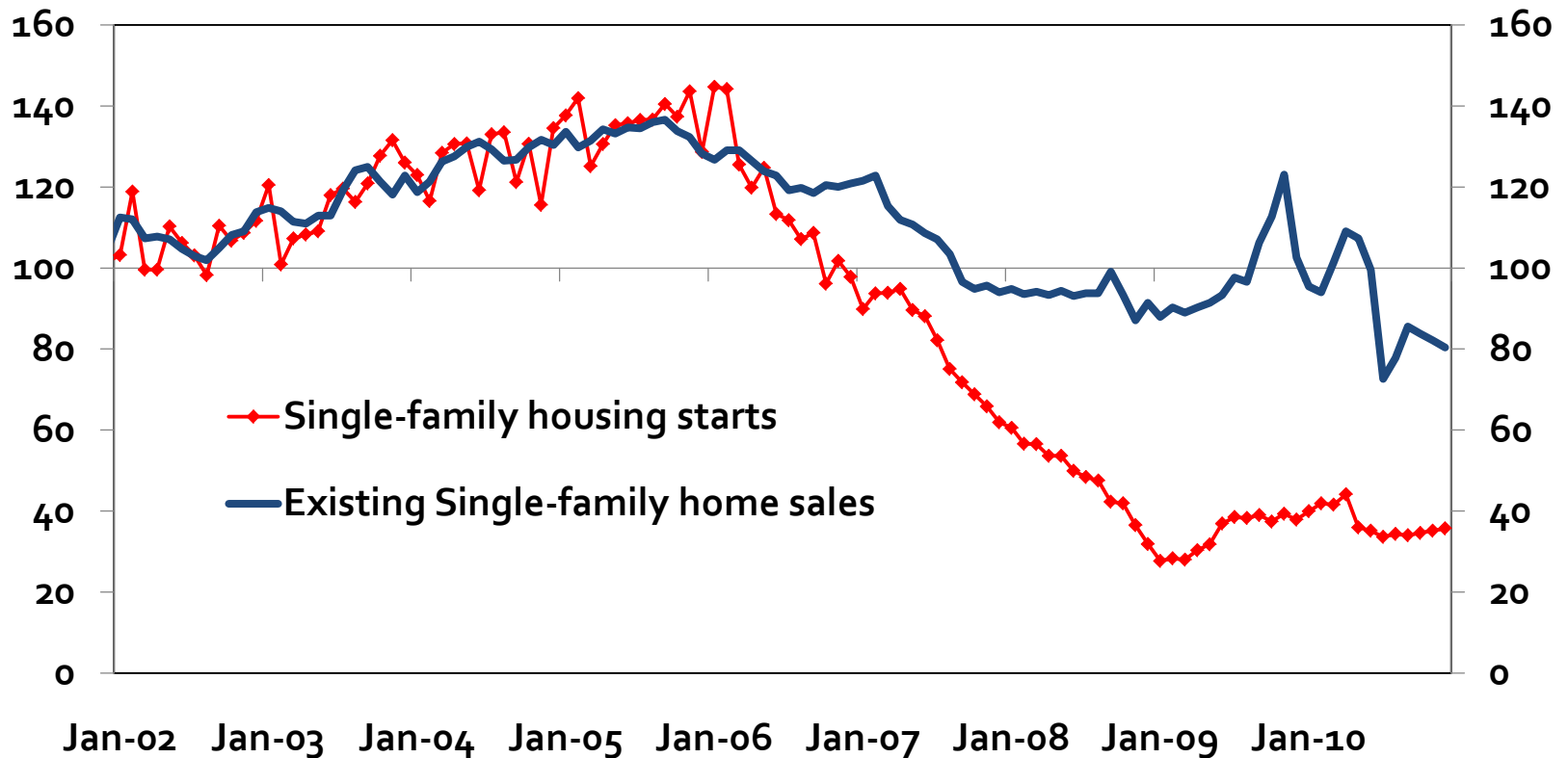
Source: Census Bureau



Housing markets slump after the tax credits.

U.S. Housing Starts and Home Sales

Index (2000:Q2 = 100)

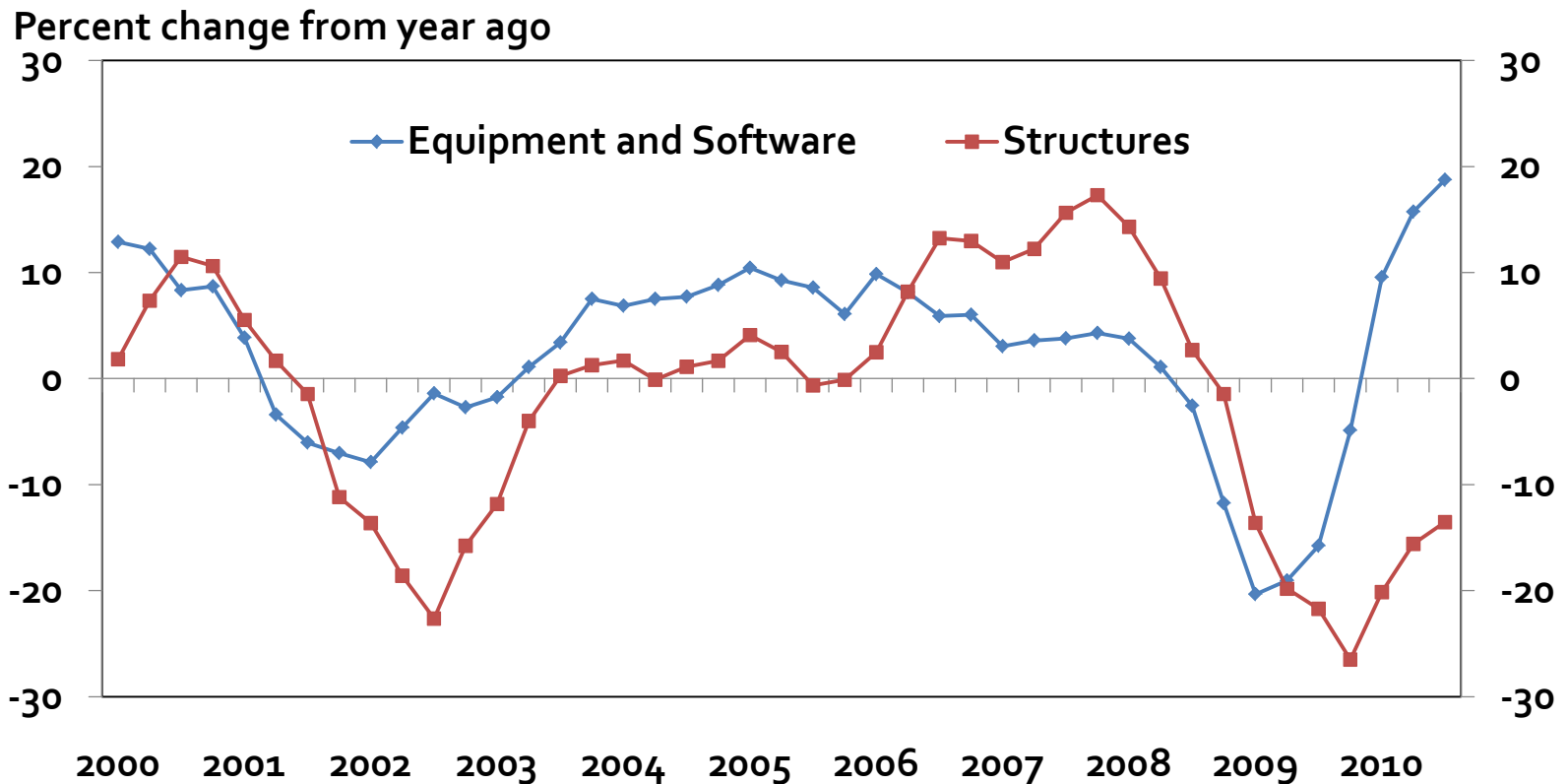


Source: U.S. Census Bureau and National Association of Realtors



Business investment is beginning to rebound.

Nonresidential Fixed Investment



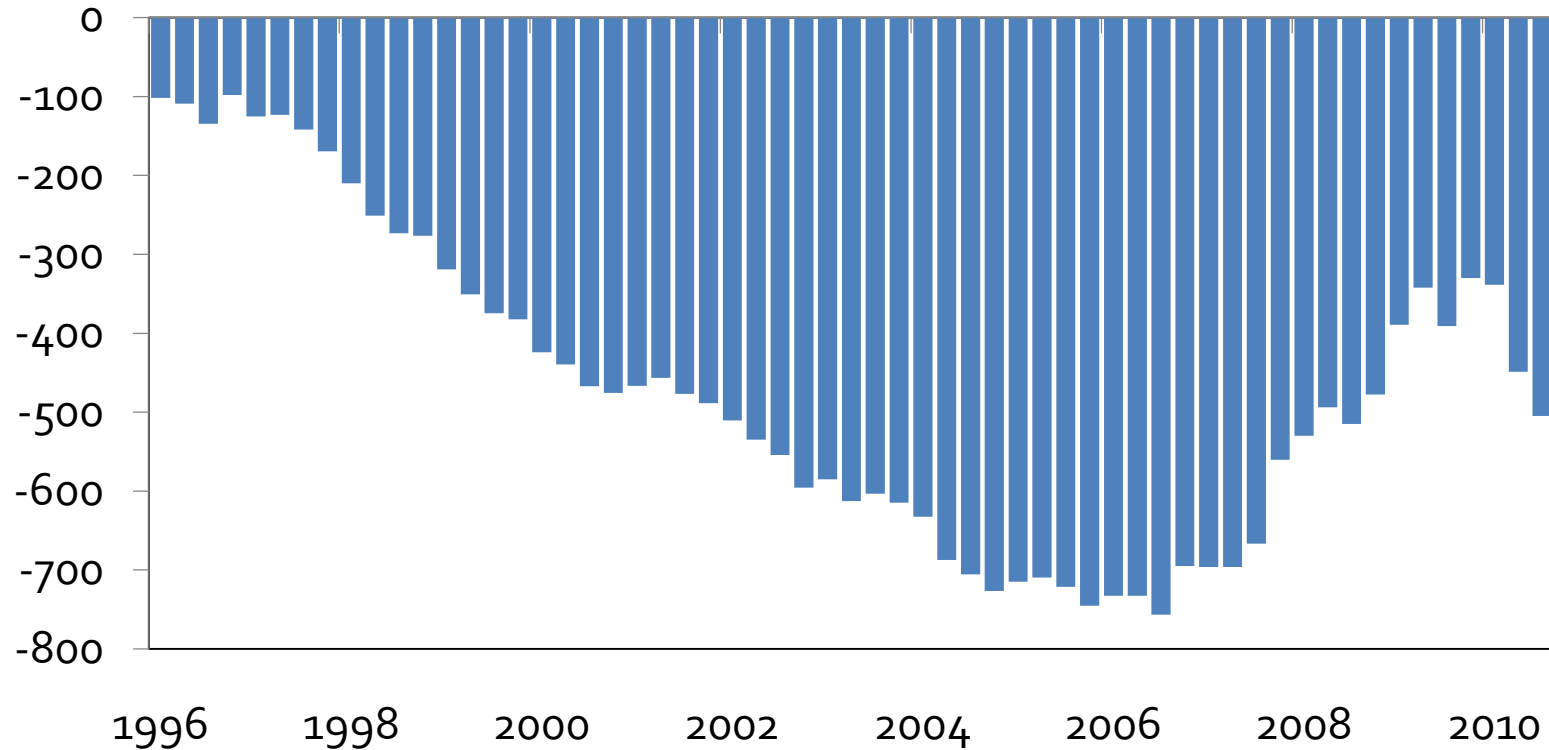
Source: Bureau of Economic Analysis



Despite higher exports, net export activity has fallen with stronger imports.

U.S. Real Net Exports

Constant 2005 dollars (Billions)



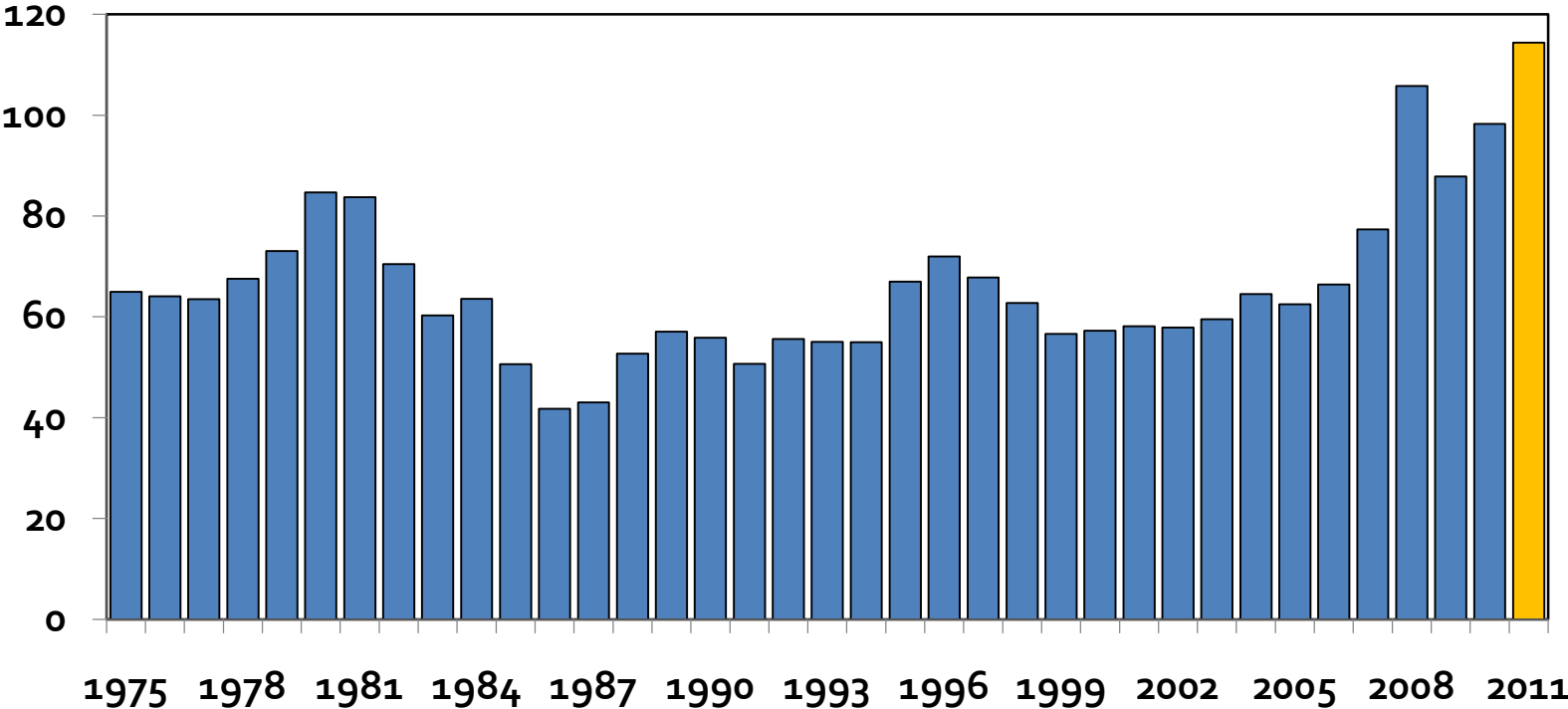
Source: Bureau of Economic Analysis



U.S. agricultural exports are expected to rise.

U.S. Agricultural Exports

Constant 2005 dollars (billions)



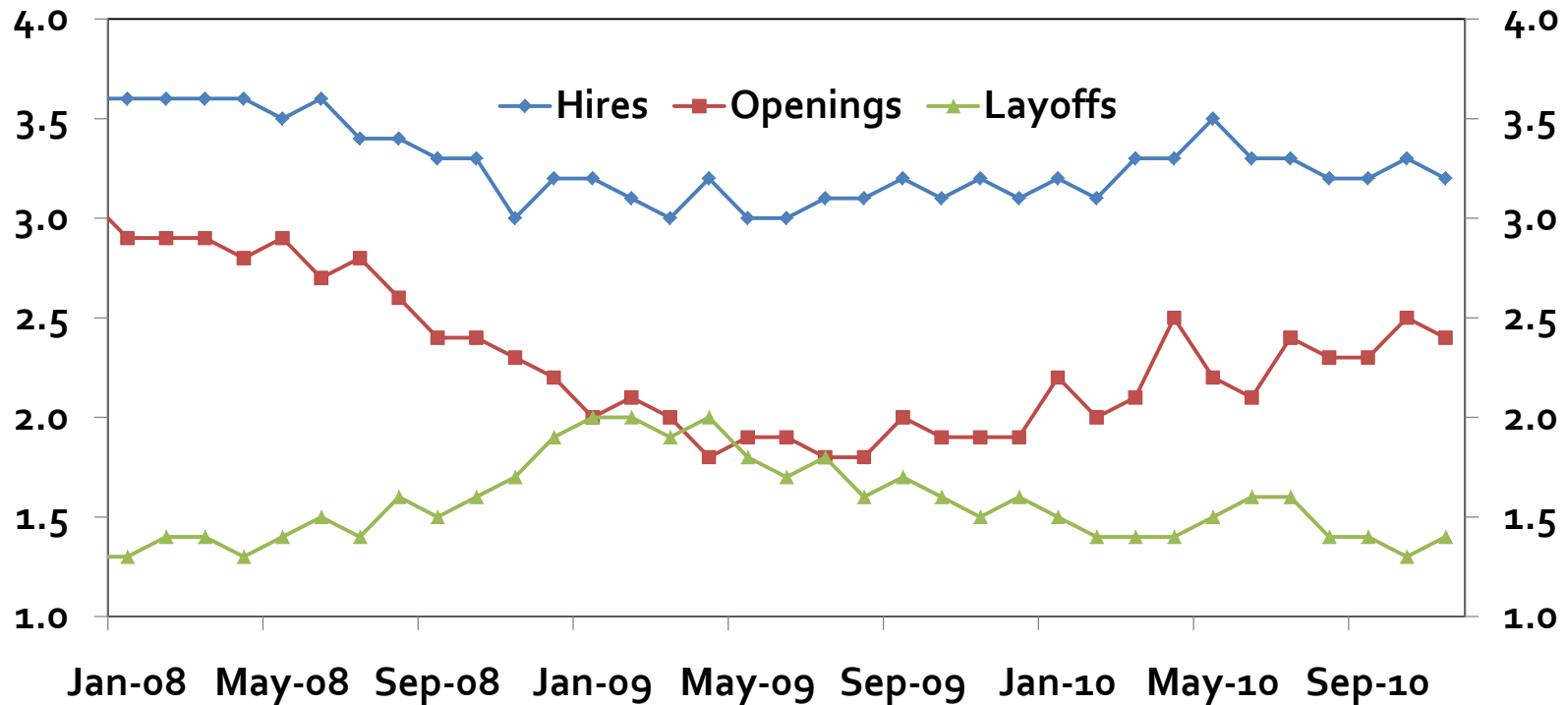
Source: Census Bureau



Job openings are on the rise, will hiring follow?

Job Openings and Labor Turnover

Percent of employment



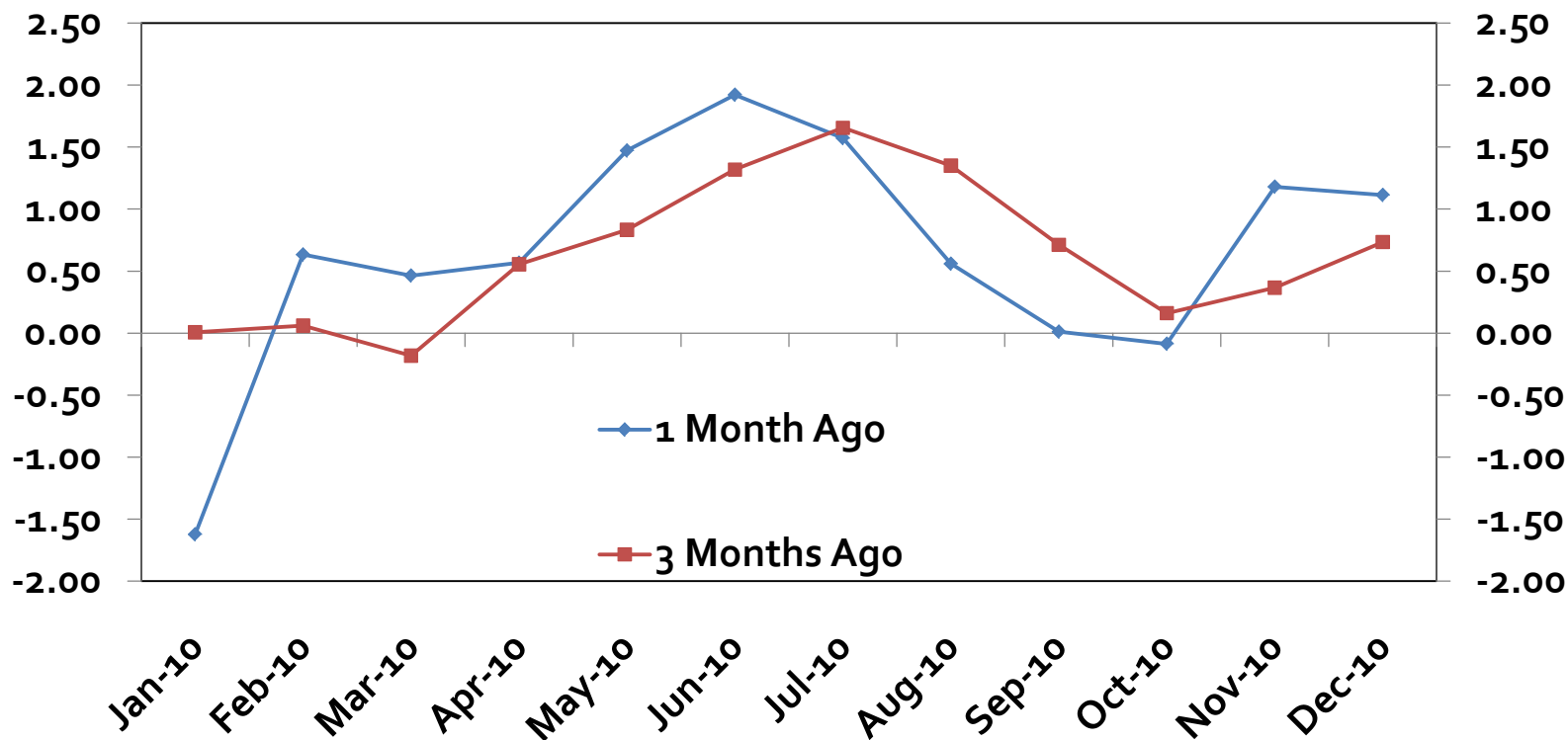
Source: Bureau of Labor Statistics



Will a stronger economy lift inflation?

Consumer Price Inflation – Less Food and Energy

Percent change from year ago



Source: Bureau of Labor Statistics



Conclusions

- Farm incomes are booming from stronger demand and tight supplies.
- Farmers are buying tractors, land, and more.
- Agriculture faces major interest rate risk.
- Monetary policy is risk management.
- Have the risks changed from deflation to inflation?

Agricultural Landscapes Change with Interest Rates



For More Information
Federal Reserve Bank of Kansas City
Omaha Branch

www.kansascityfed.org/omaha



Main Street Economist

<http://www.kansascityfed.org/publications/research/mse/index.cfm>