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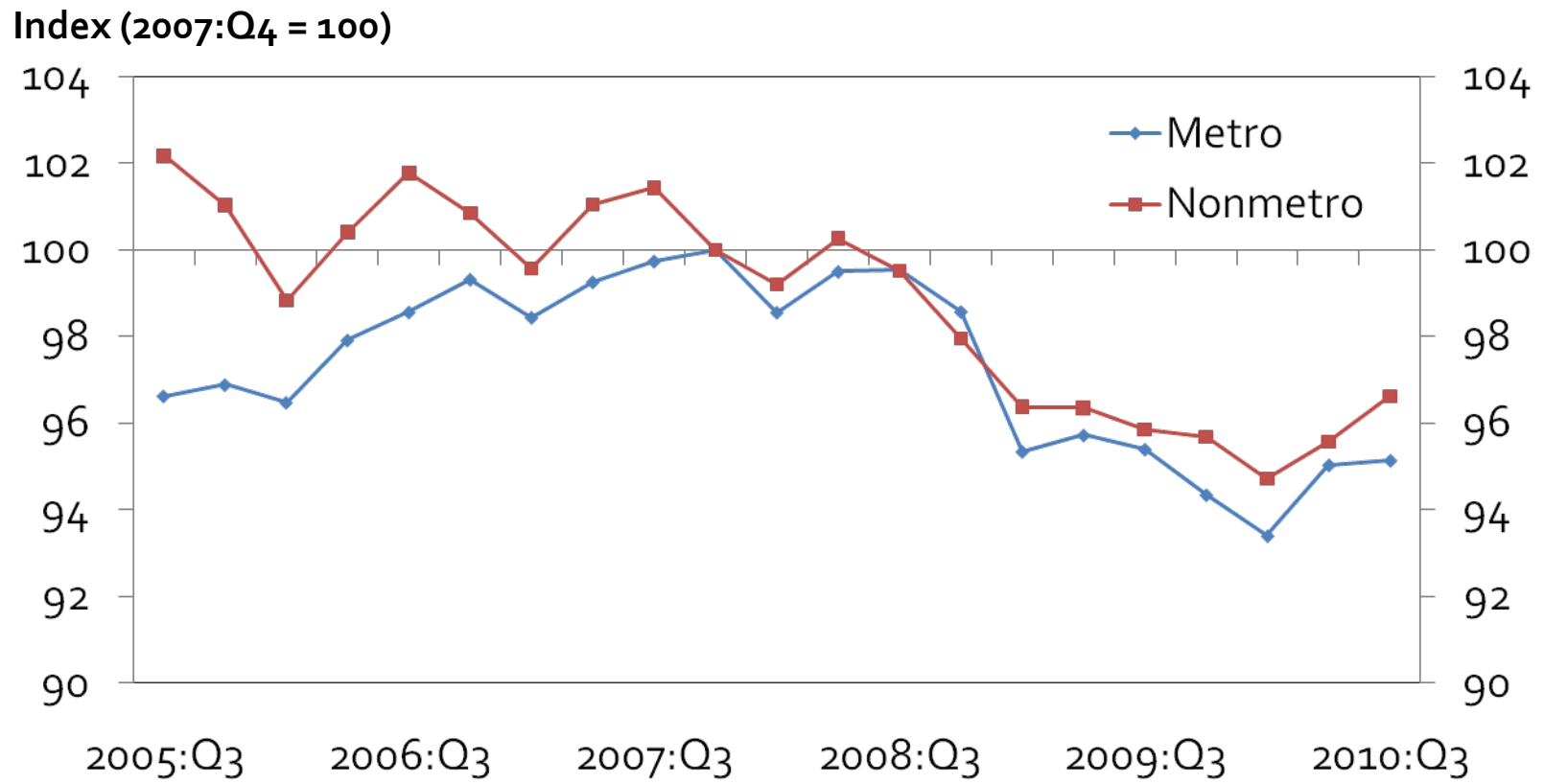
Outlook for the Rural Economy



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.

Rural economies held up better during the "Great Recession".

U.S. Employment by Metropolitan Status



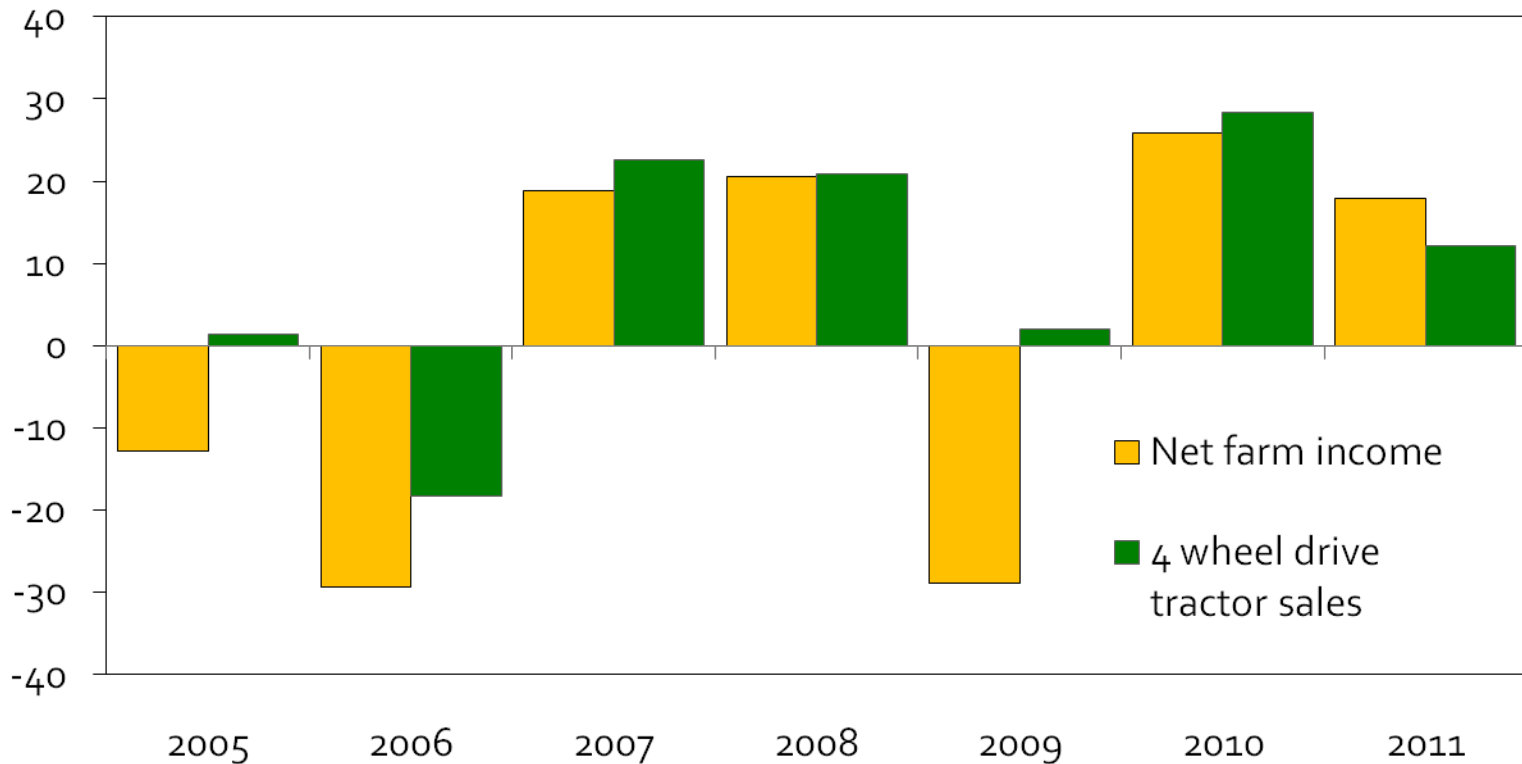
Source: USDA



Rising farm incomes spur capital spending.

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

Percent change from year ago

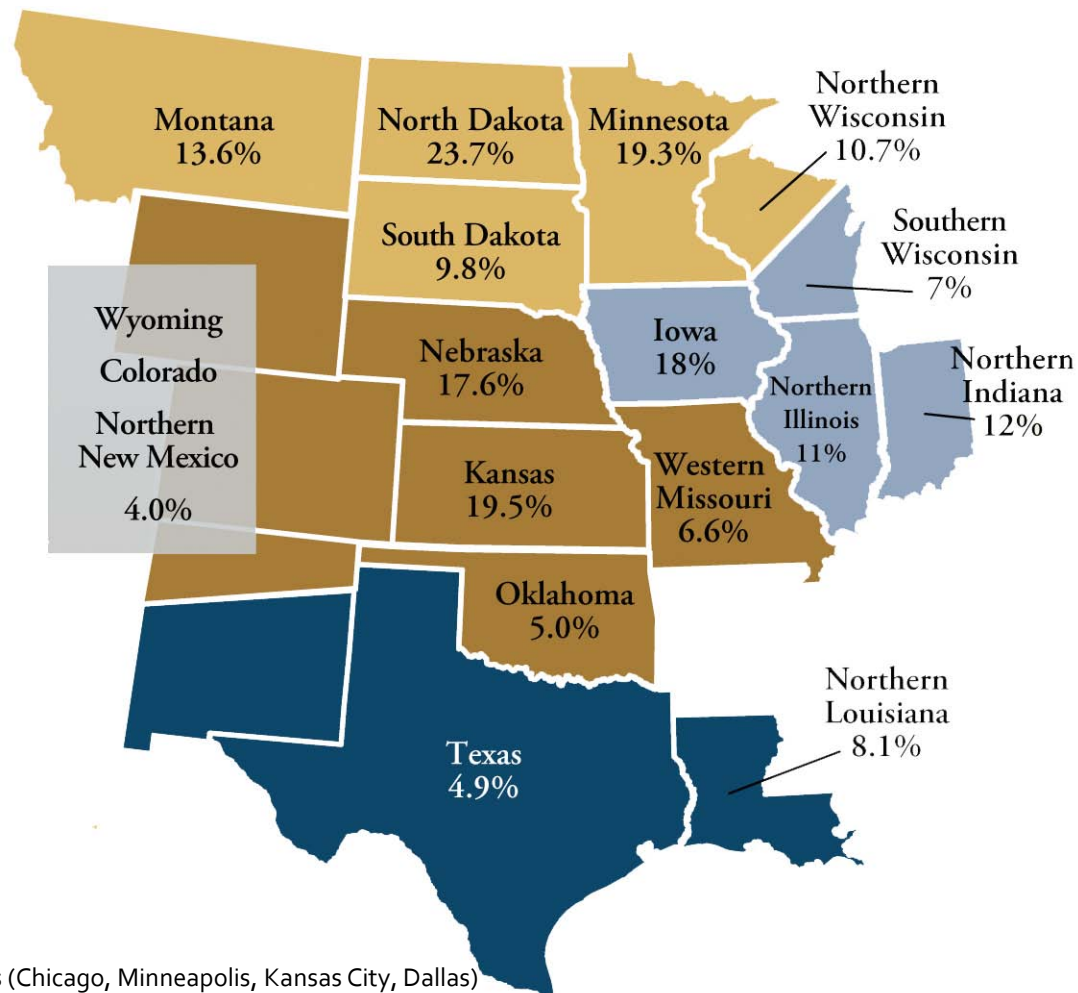


Source: USDA and Association of Equipment Manufacturers
Note: 2011 Agricultural Equipment Sales are YTD through March



Good Quality (Non-irrigated) Farmland Values

(Percent change fourth quarter 2009 to fourth quarter 2010)



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



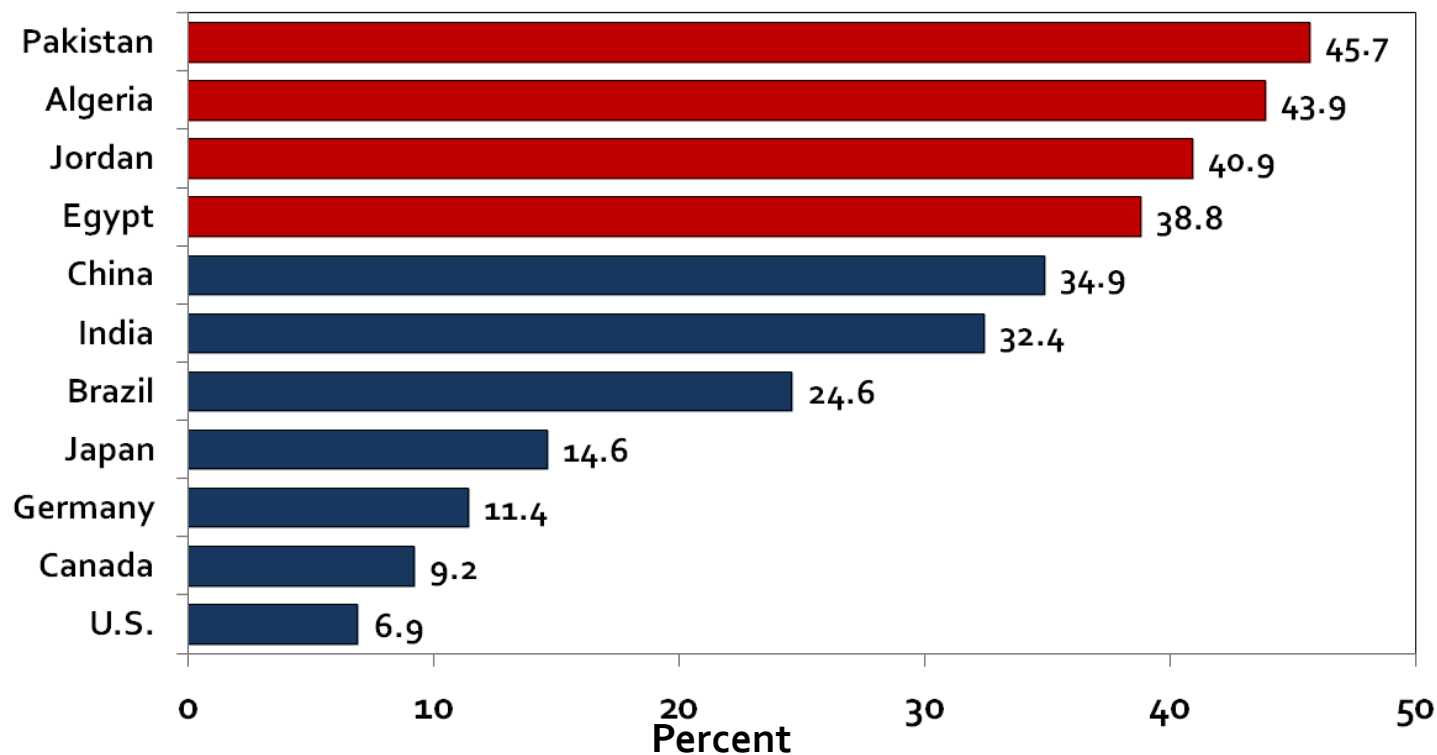
Does Everyone Win With Higher Commodity Prices?

COMMODITY PRICES



Poorer nations and low-income populations struggle under high food prices.

Food Share of Household Expenditure by Country, 2009

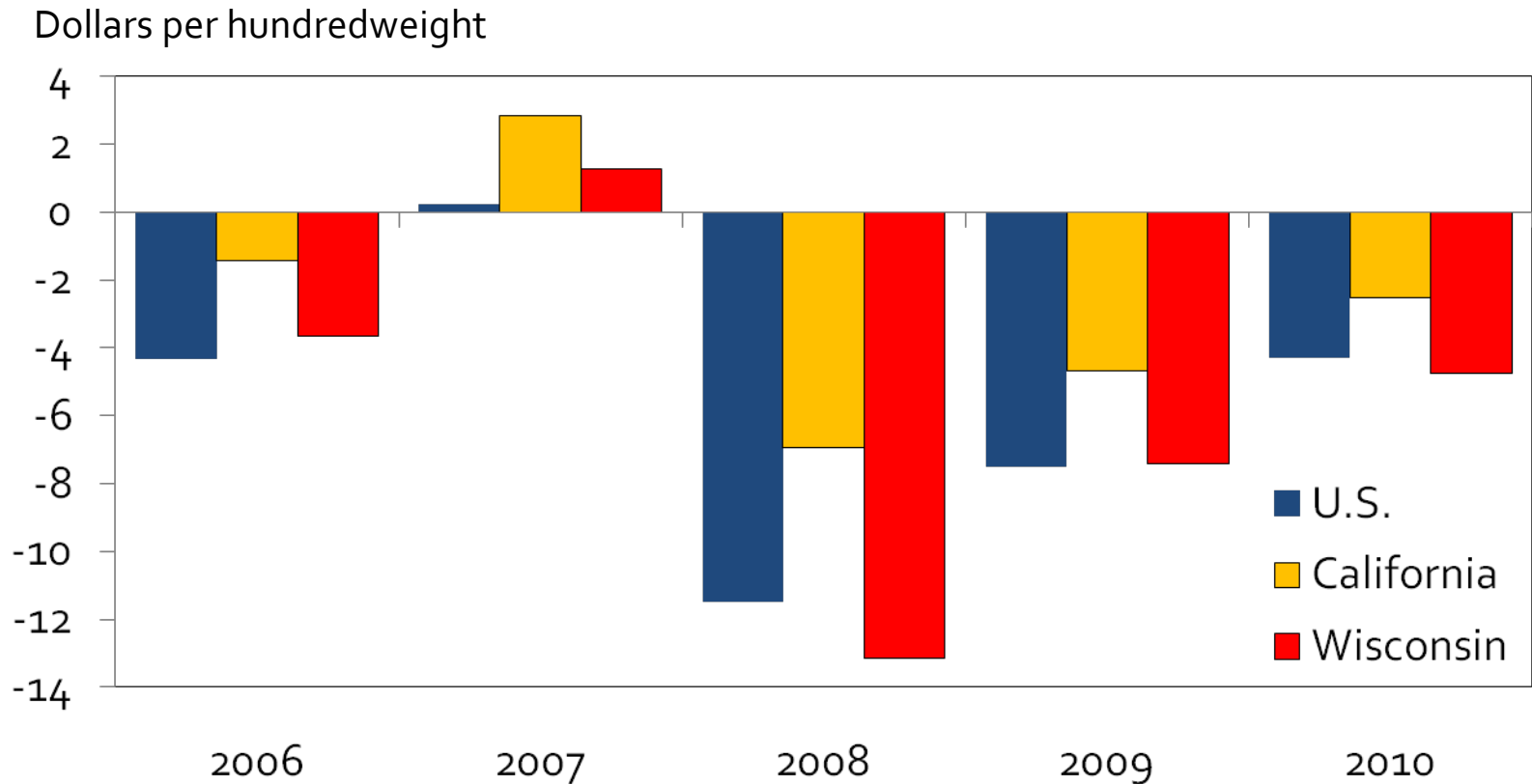


Source: USDA



Dairy producers struggle with profits.

Net Returns to Milk Production



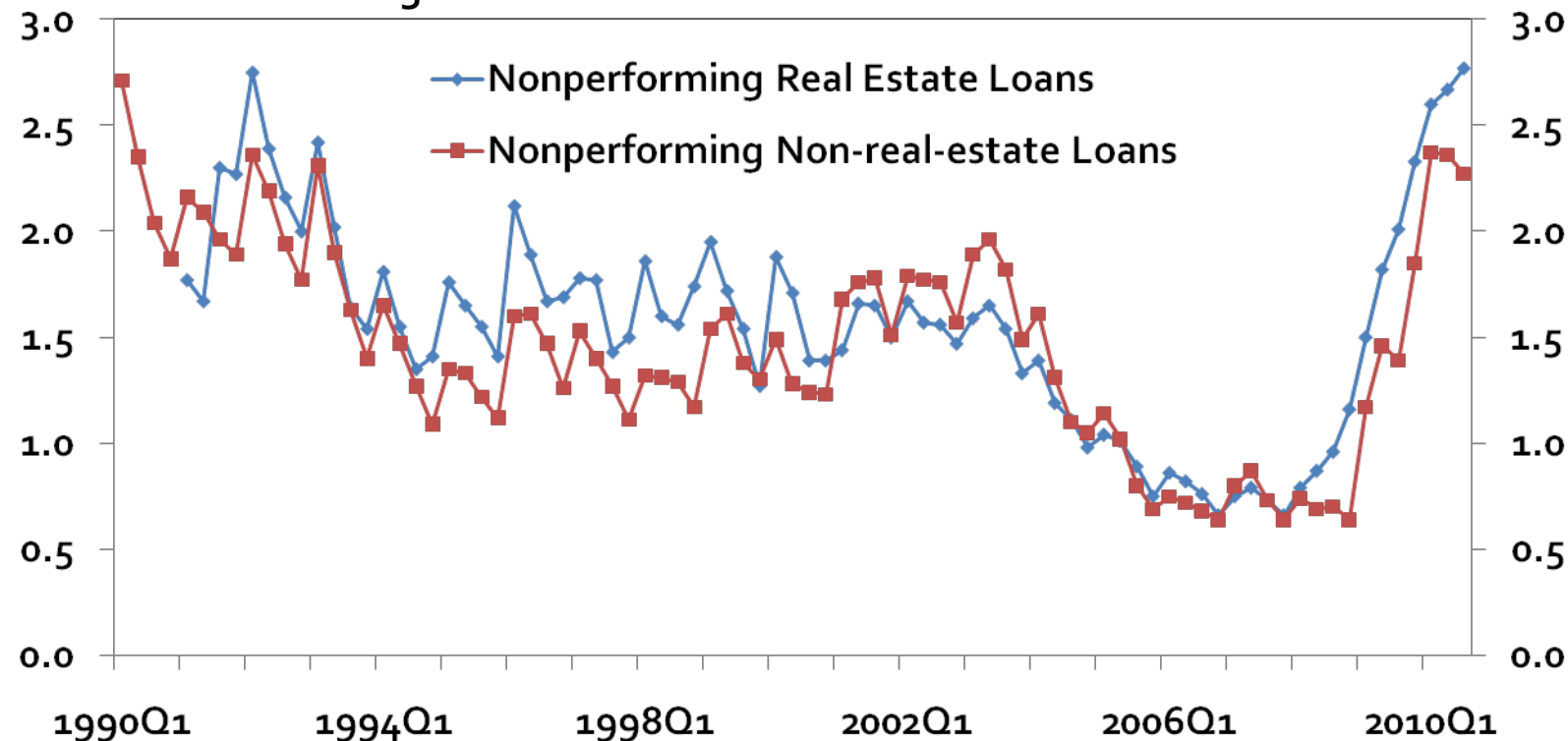
Source: USDA



Despite higher incomes, farm loan delinquencies rose to their highest levels since the 1980s.

Delinquent Farm Loans Held by Insured Commercial Banks

Percent of outstanding loans



Source: Agricultural Finance Databook, Federal Reserve Bank of Kansas City



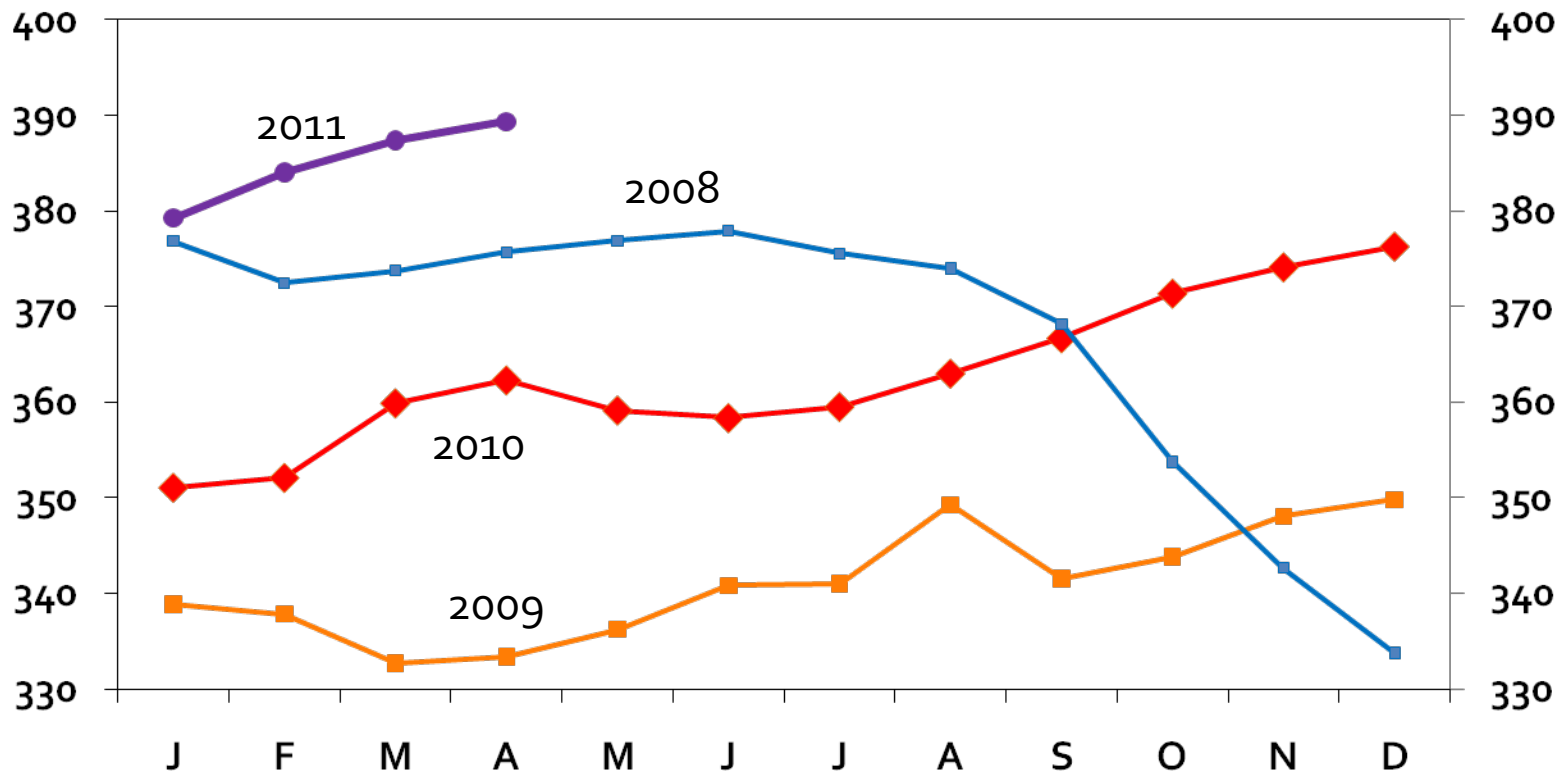
Economic Gains Strengthen



Consumer spending rises further.

U.S. Monthly Retail and Food Sales

Billion dollars



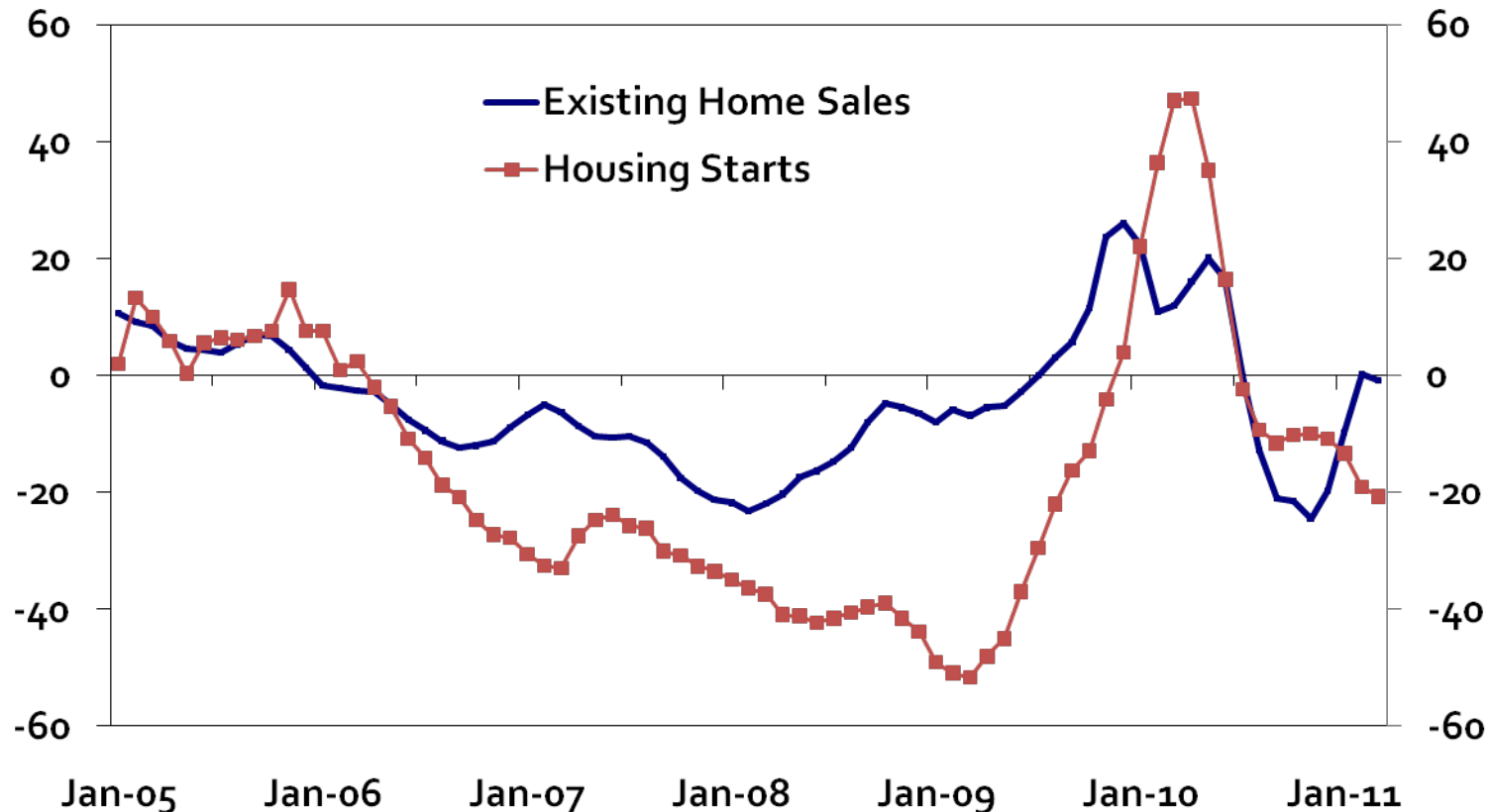
Source: U.S. Census Bureau



First-time home buyers tax credits end and housing remains sluggish.

U.S. Existing Home Sales and Single-Family Housing Starts

Percent change from previous year (3 month moving average)

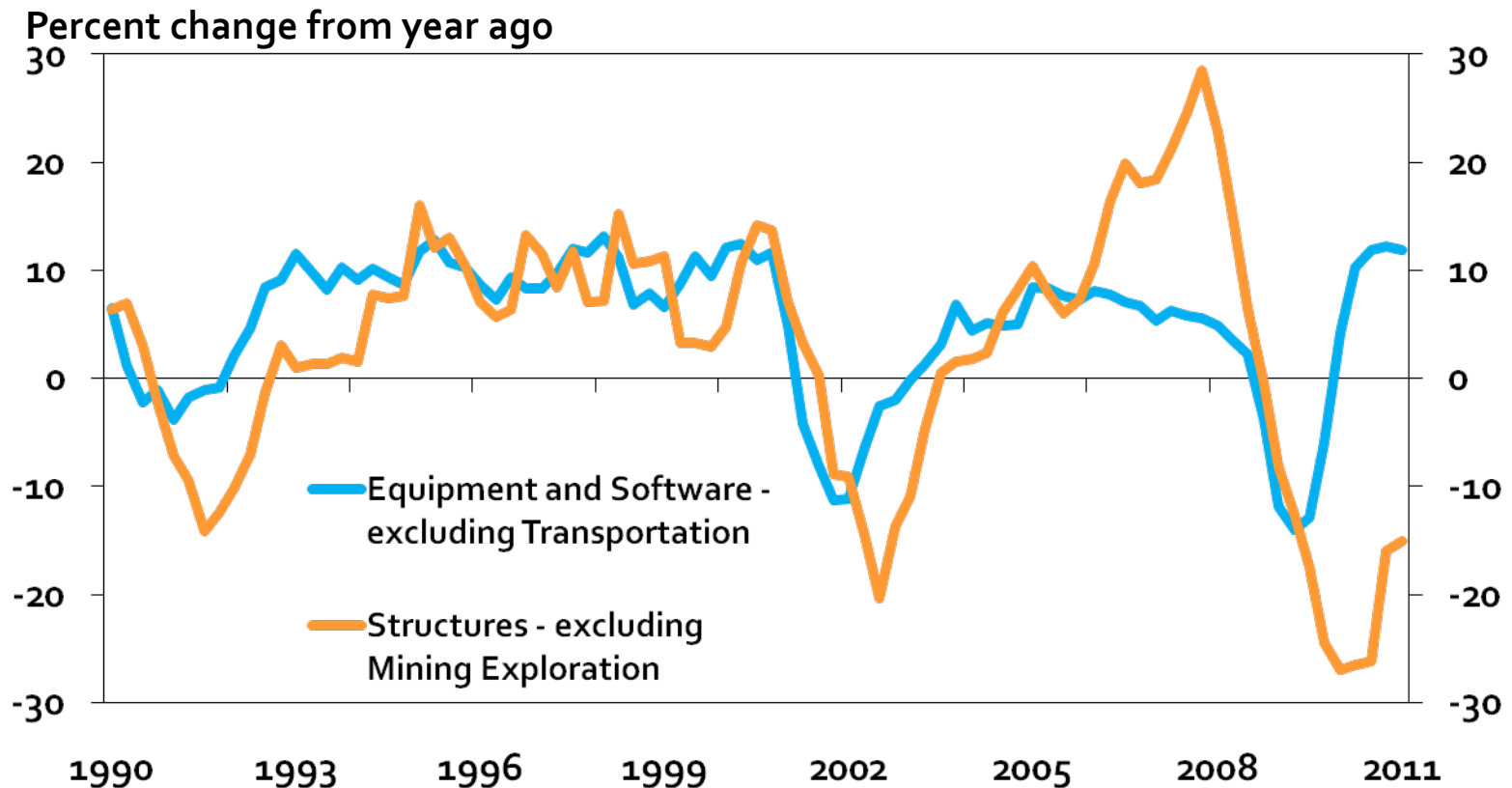


Source: Census Bureau



Business investment strengthens for equipment and software.

U.S. Non-residential Investment

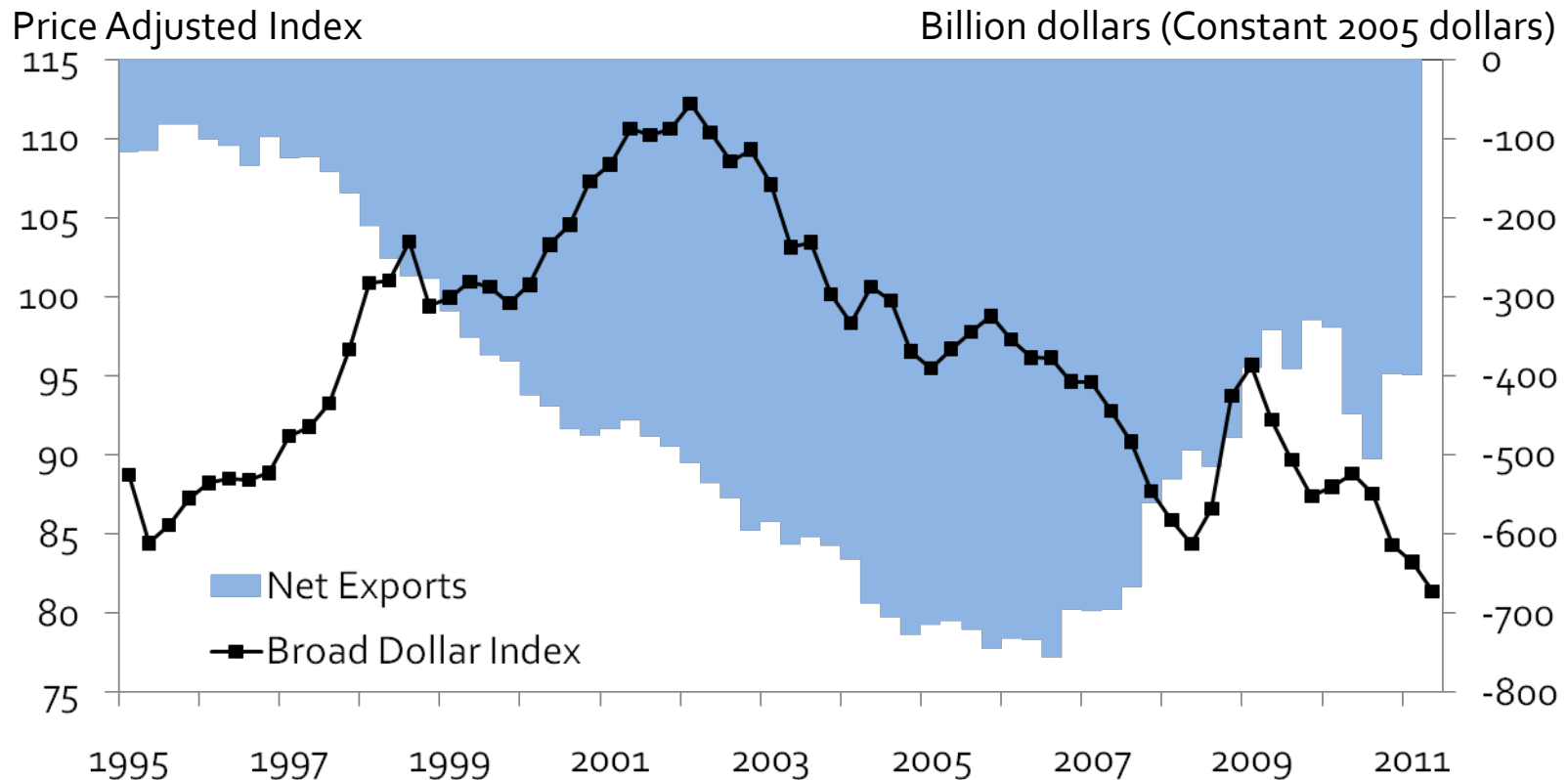


Source: Census Bureau



U.S. exports have strengthened and the dollar has weakened.

U.S. Net Exports and Value of the Dollar



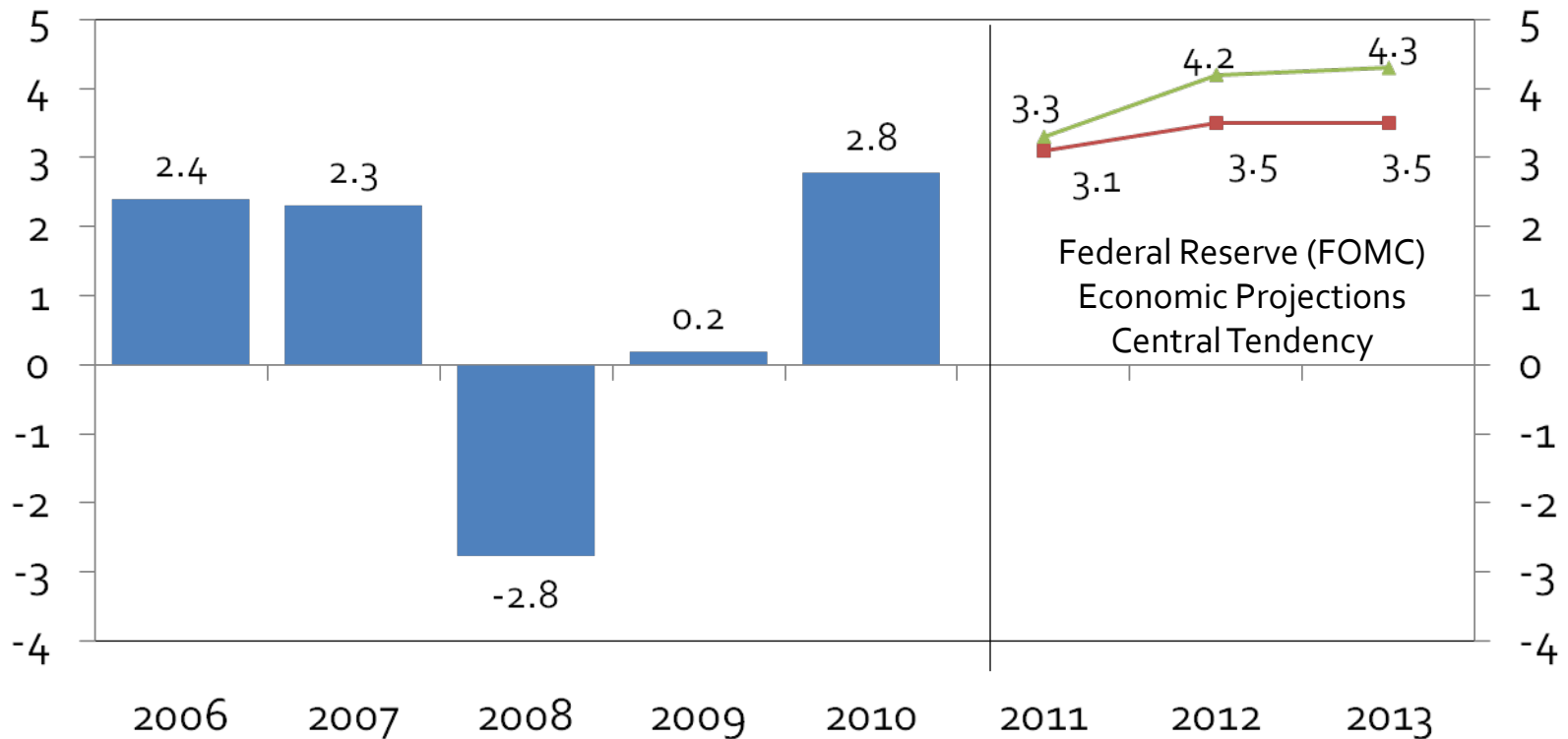
Source: Bureau of Economic Analysis and Federal Reserve



Economic growth is expected to strengthen.

U.S. Real GDP Growth

Percent change from fourth quarter of previous year to fourth quarter of year indicated



Source: Bureau of Economic Analysis and Federal Reserve Board of Governors



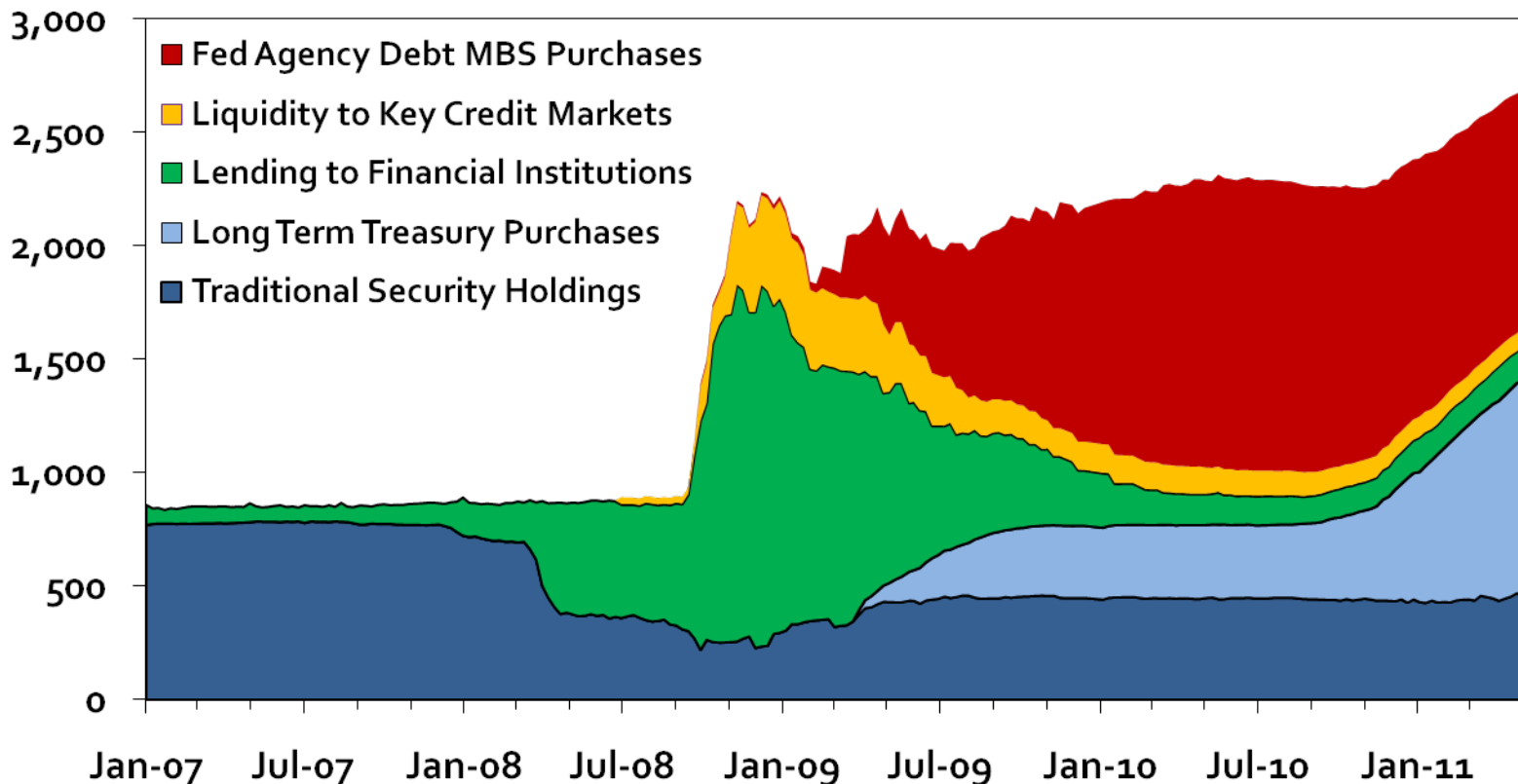
Have Inflation Risks Changed?



The Federal Reserve has expanded the monetary base.

Federal Reserve Balance Sheet: Assets

Billion Dollars



Source: Federal Reserve Bank of Cleveland



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 $Q \downarrow$



What Shapes Velocity?

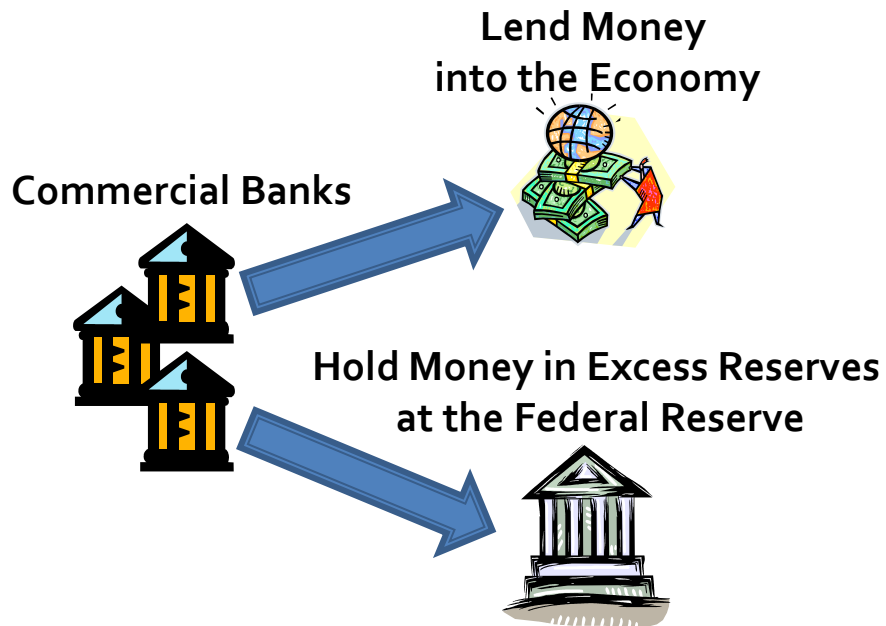
Bank
Lending

Consumer
Spending

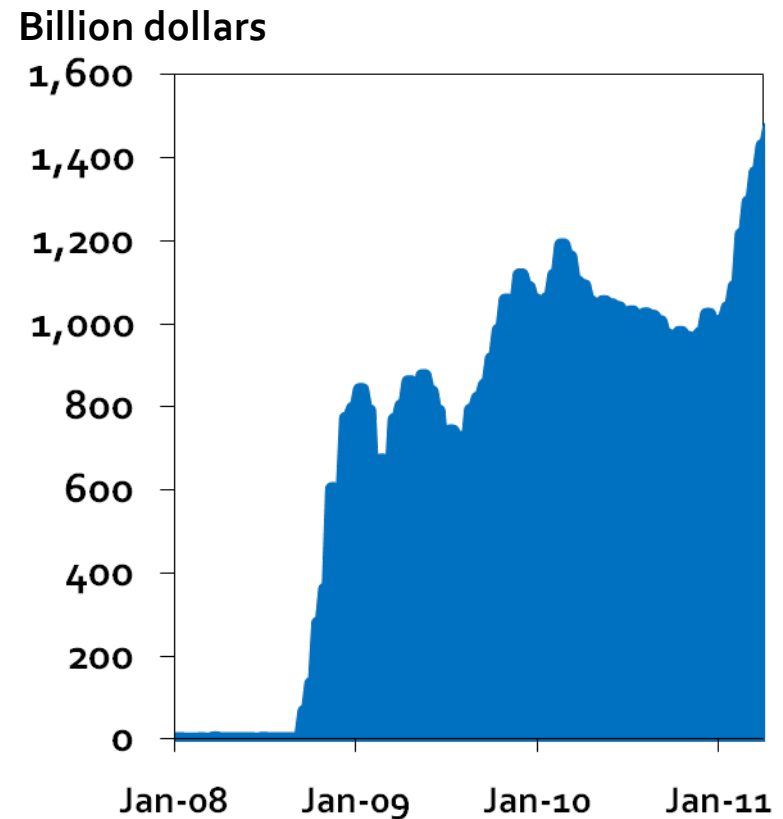
Business
Investment



When will excess reserves begin to decline?



Excess Reserves of Depository Institutions

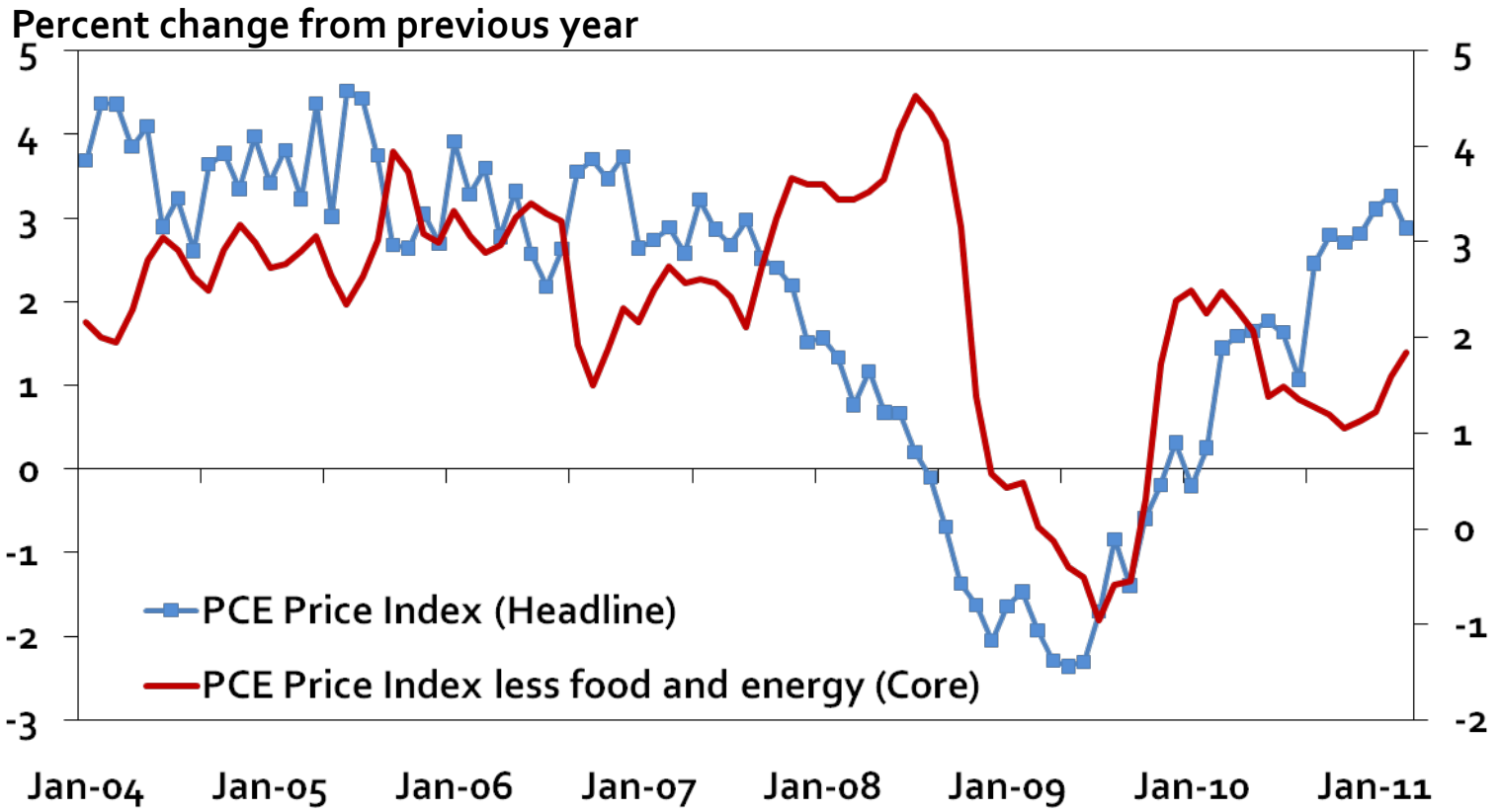


Source: Federal Reserve Board of Governors



Consumers prices are rising, especially for food and energy.

Personal Consumption Expenditures Price Index

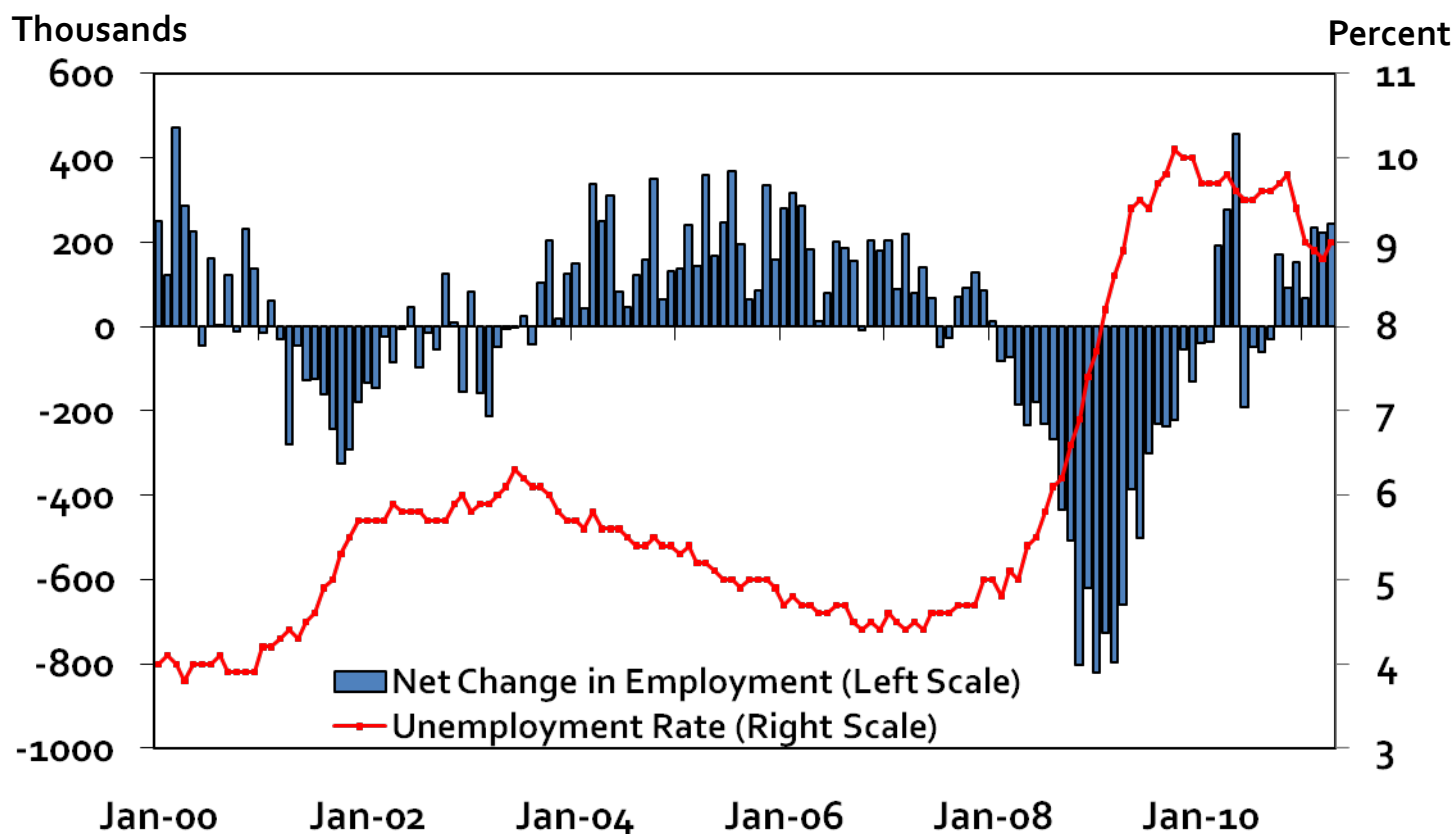


Source: Bureau of Economic Analysis



Labor markets need to strengthen further for additional "chasing".

Nonfarm Employment Change and Unemployment Rate



Source: Bureau of Labor Statistics



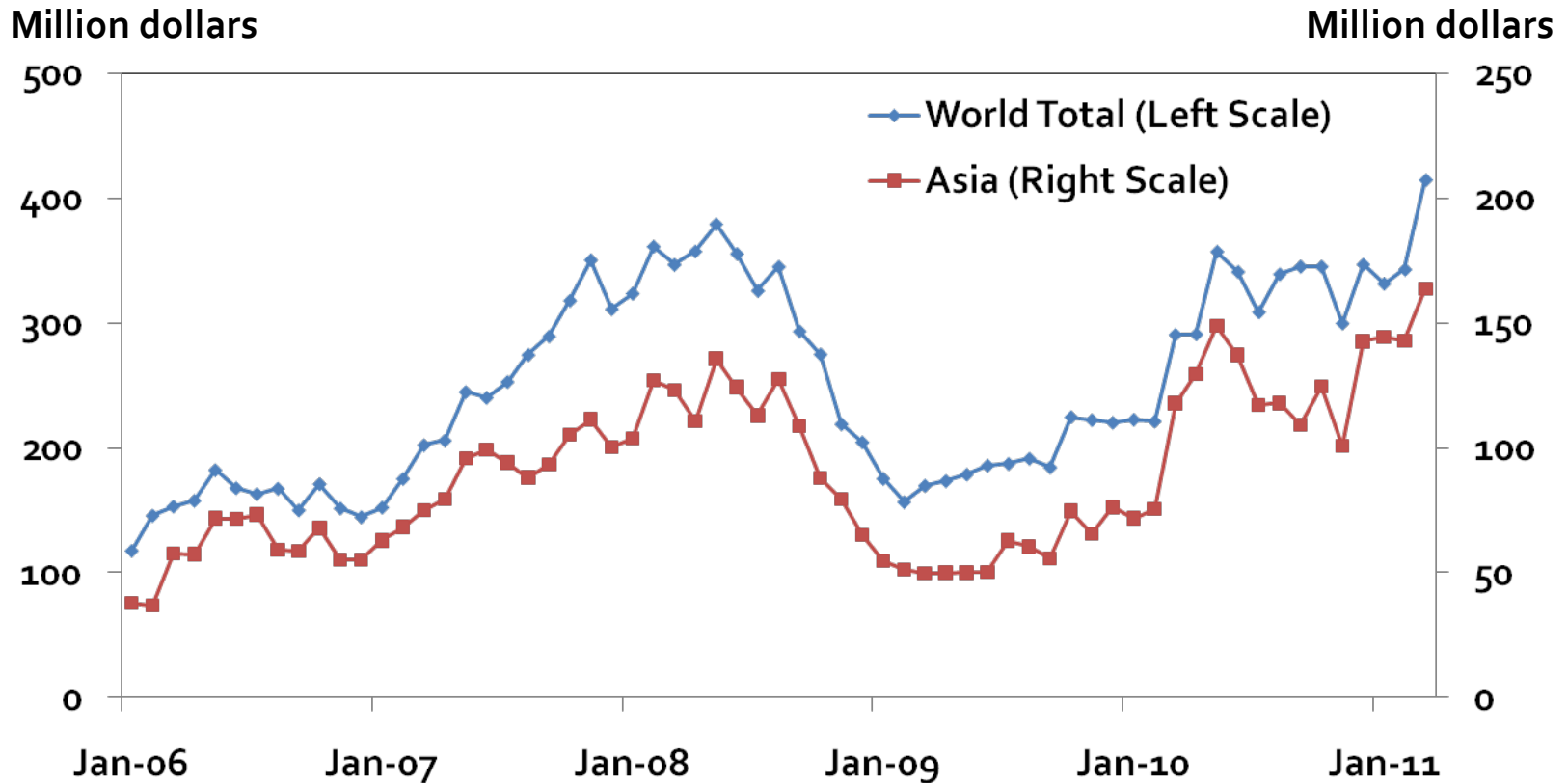
The Lesson of the “Great Recession”: Rising Demand Lifts All Boats

RISING DEMAND LIFTS ALL BOATS



Will Stronger Exports Drive Profits Higher?

U.S. Dairy Exports



Source: USDA



U.S. food spending has rebounded.

Retail Sales at Grocery Stores and Restaurants

Percent change from previous year



Source: USDA



What are the Risks for Agriculture?



Risk #1: The Best Cure for High Prices is High Prices

Farmers Always Produce Themselves Out of Prosperity

- 2011: U.S. Acres Planted to Corn Up 4.3%
- 2020: U.S. Corn Yields Up 17 Percent

How Quickly Could Farm Incomes Fall?

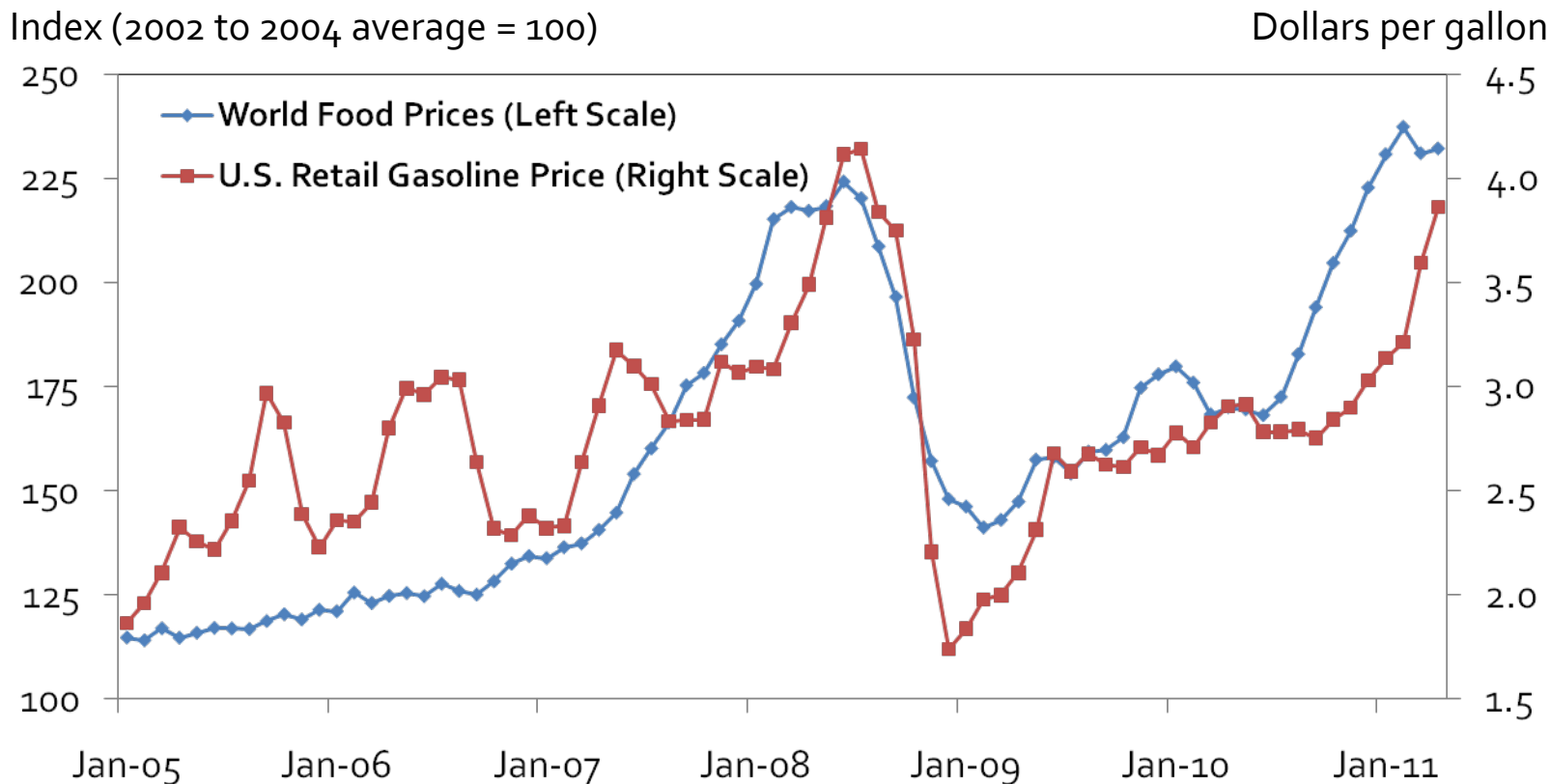
- 2013: Average Annual Corn Price is \$4.10
- 2013: Net returns above variable costs for corn fall 40% below today's levels.

Source: USDA



Risk #2: Soaring Global Food and Energy Prices

World Food Prices and U.S. Gasoline Prices

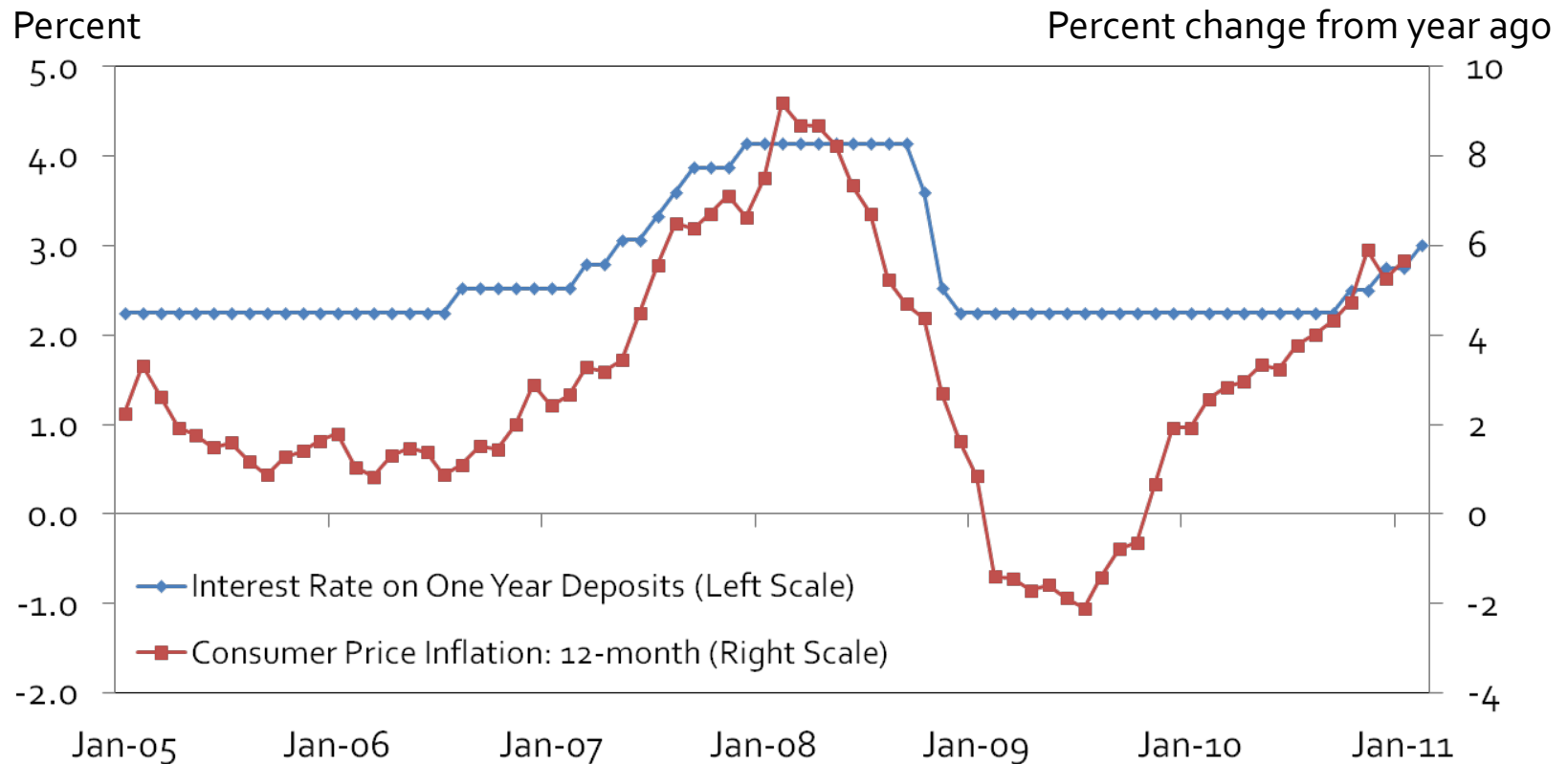


Source: Food and Agricultural Organization of the United Nations and Energy Information Administration



Risk #3: Higher interest rates slow the Chinese economy.

China's Inflation and Interest Rates



Risk #4: Agriculture Faces Huge Interest Rate Risk.

$$\text{Capitalized Land Values} = \frac{\text{Expected Incomes}}{\text{Expected Discount Rates}}$$

Farm Incomes Rise with
Lower Interest Rates

Discount Rates Fall with
Lower Interest Rates

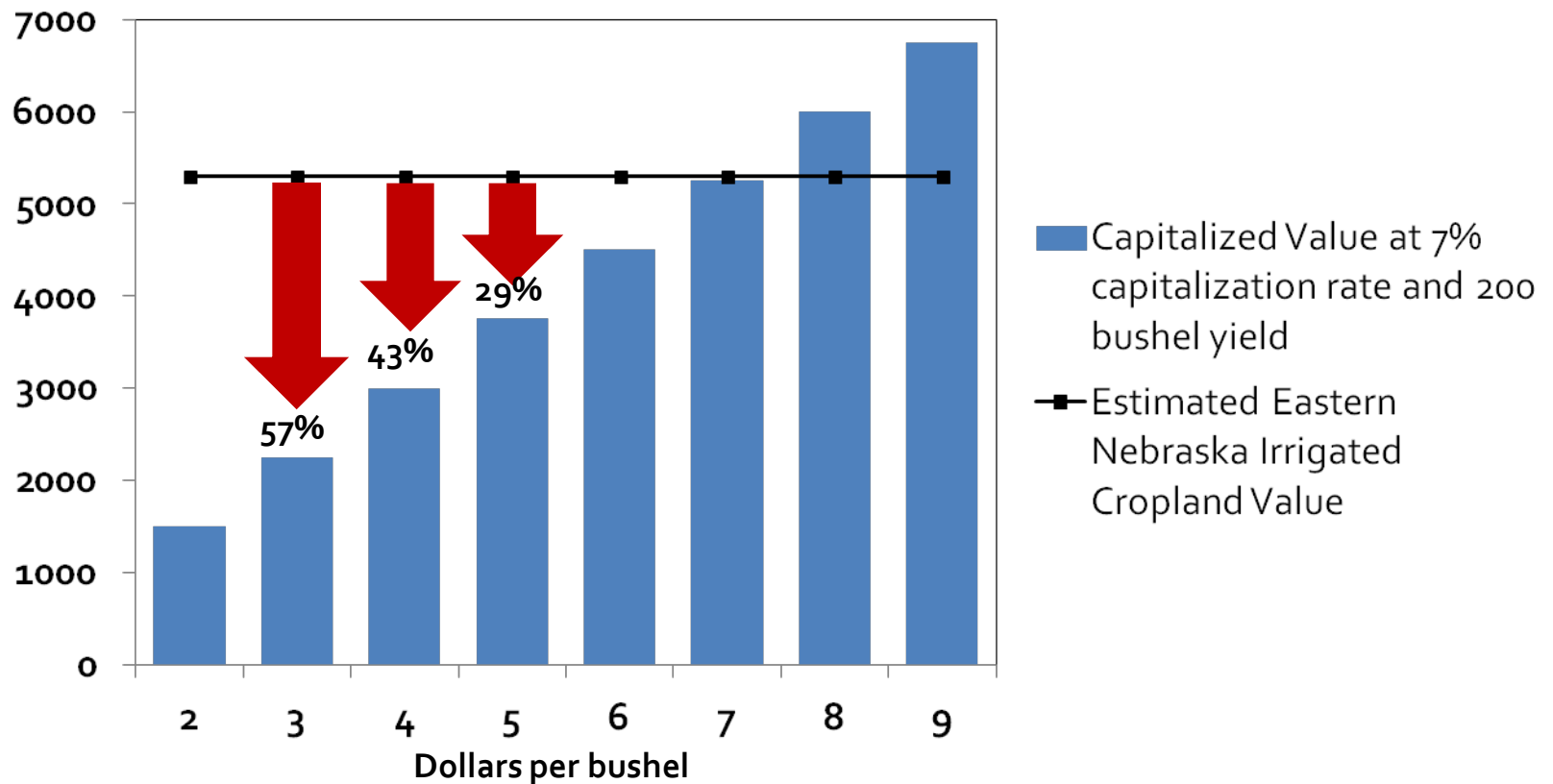
What Happens to Farmland Values
Under Higher Interest Rates?



Could farmland values experience a correction?

Capitalized Revenues from Corn Production

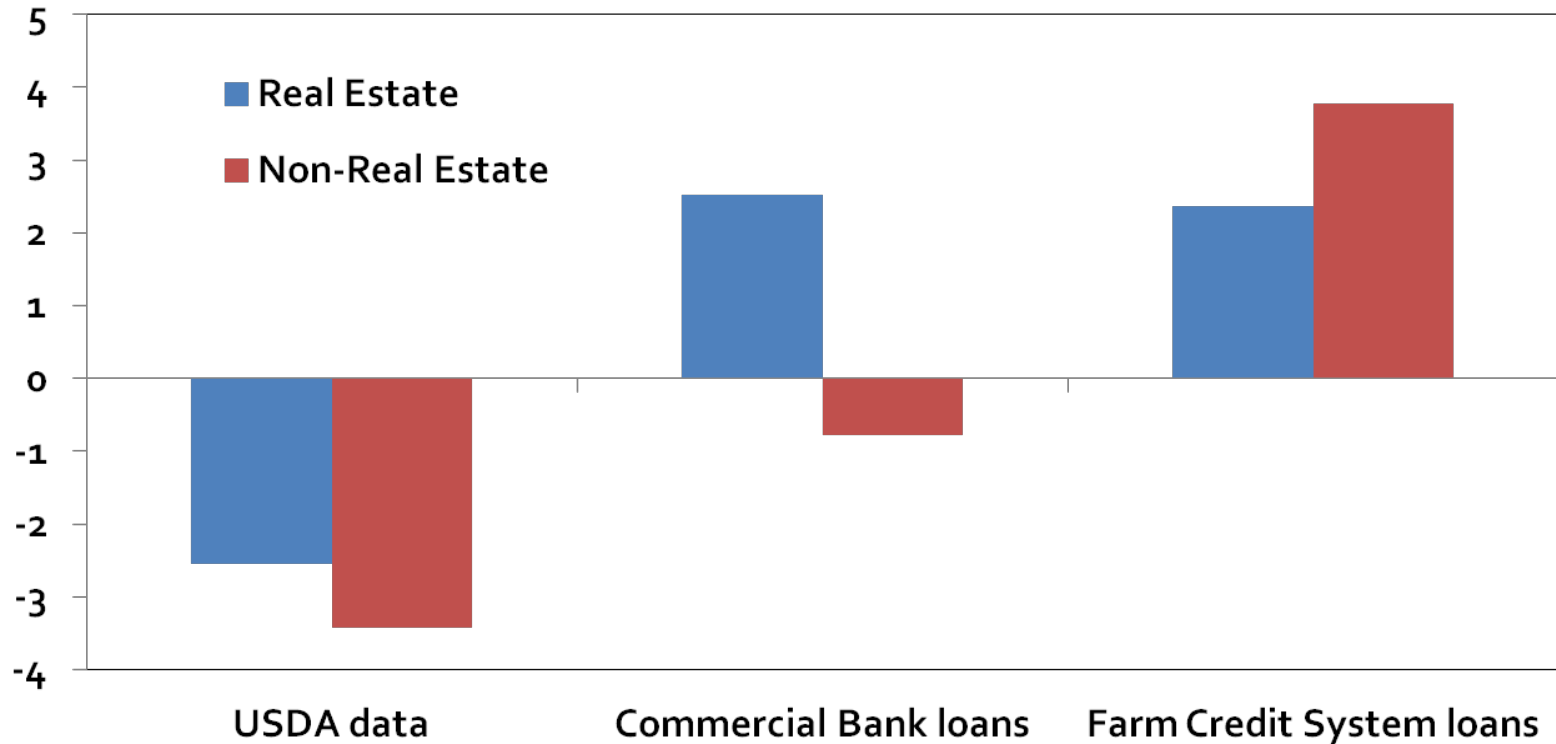
Dollars per acre



Risk #5: How much debt do farmers really have?

Growth in Farm Real Estate and Non-Real Estate Debt (2009 to 2010)

Percent change from previous year

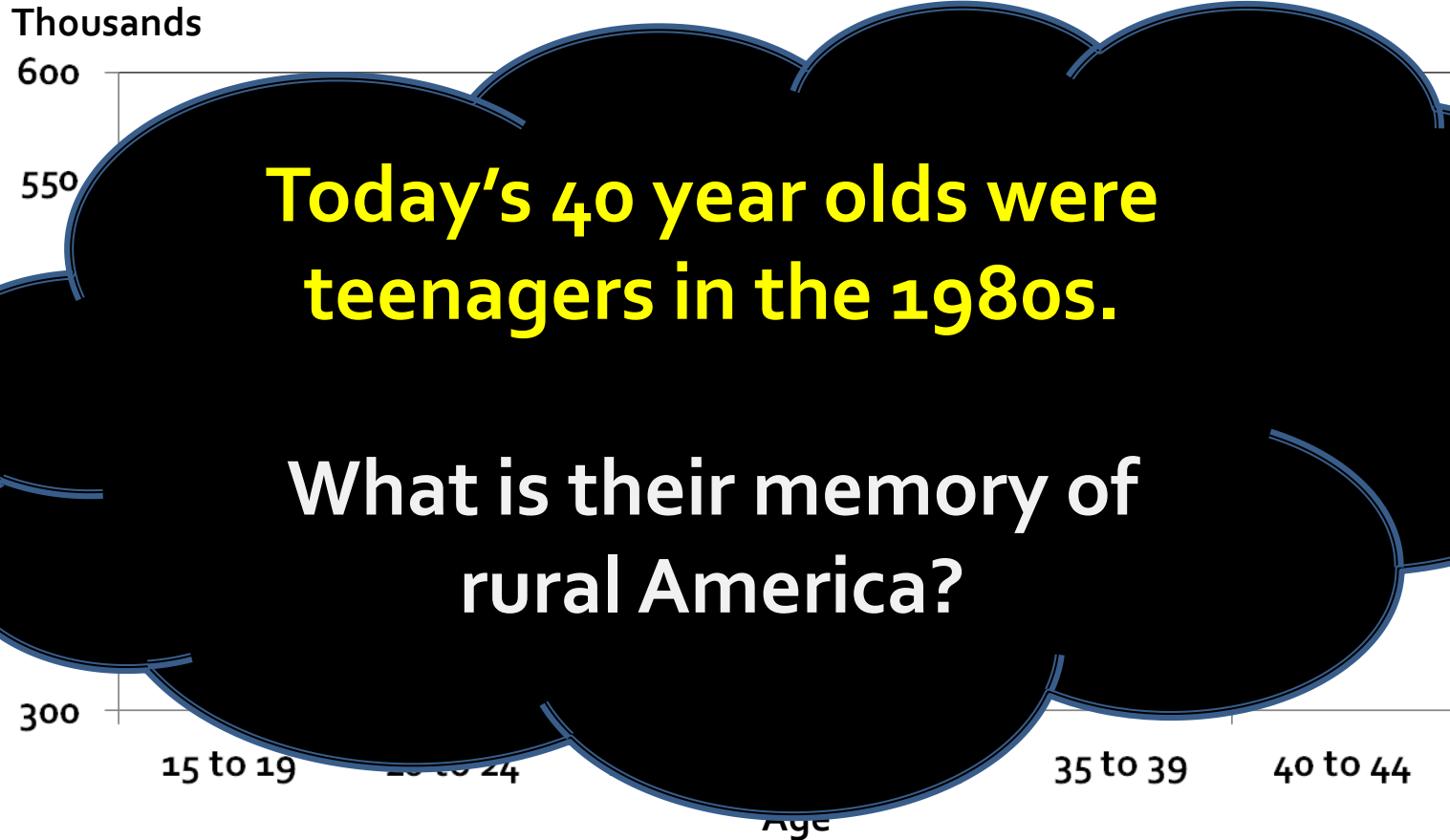


Source: USDA, Agricultural Finance Databook, Federal Farm Credit Banks



Risk #6: Will middle-aged residents return to rural America?

Tenth District Rural Counties



Source: Federal Reserve Bank of Kansas City



Conclusions

- Rural America fared better during the recession and recovery.
- Crop incomes are booming and farmers are buying tractors, land, and more.
- Economic growth and inflations have risen recently.
- Despite a stronger recovery, headwinds remains.
- New opportunities are emerging with stronger demand.
- Agriculture continues to face volatile markets.

Low leverage ratios and strong working capital are the best way to manage through volatile times.



For More Information on Agricultural and Rural Economies

www.kansascityfed.org

