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Agricultural Economy: What Does the Future Hold?



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.

What Does the Future Hold?

- Five potential trends for U.S. agriculture.
- The competitiveness of U.S. agriculture.



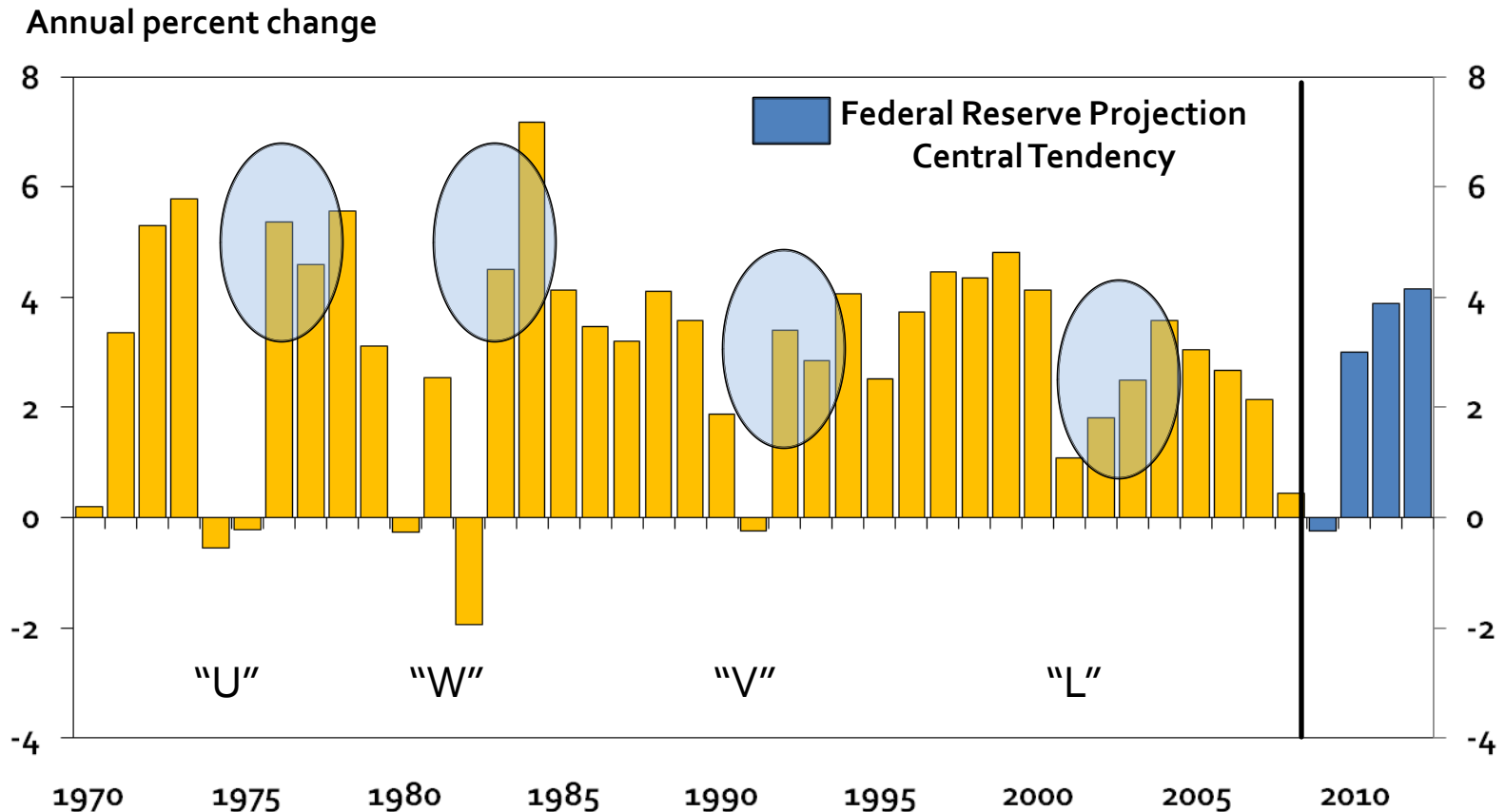
1) *The Consumer is King.*

- The “Great Recession” was the largest economic contraction since the 1930’s.
- It was not the second “Great Depression.”
 - 1929 to 1933: GDP fell 26%
 - 2007 to 2009: GDP fell 3.7%
- Will domestic or foreign consumption lead the recovery?



A sluggish economic rebound is expected.

Real GDP Growth

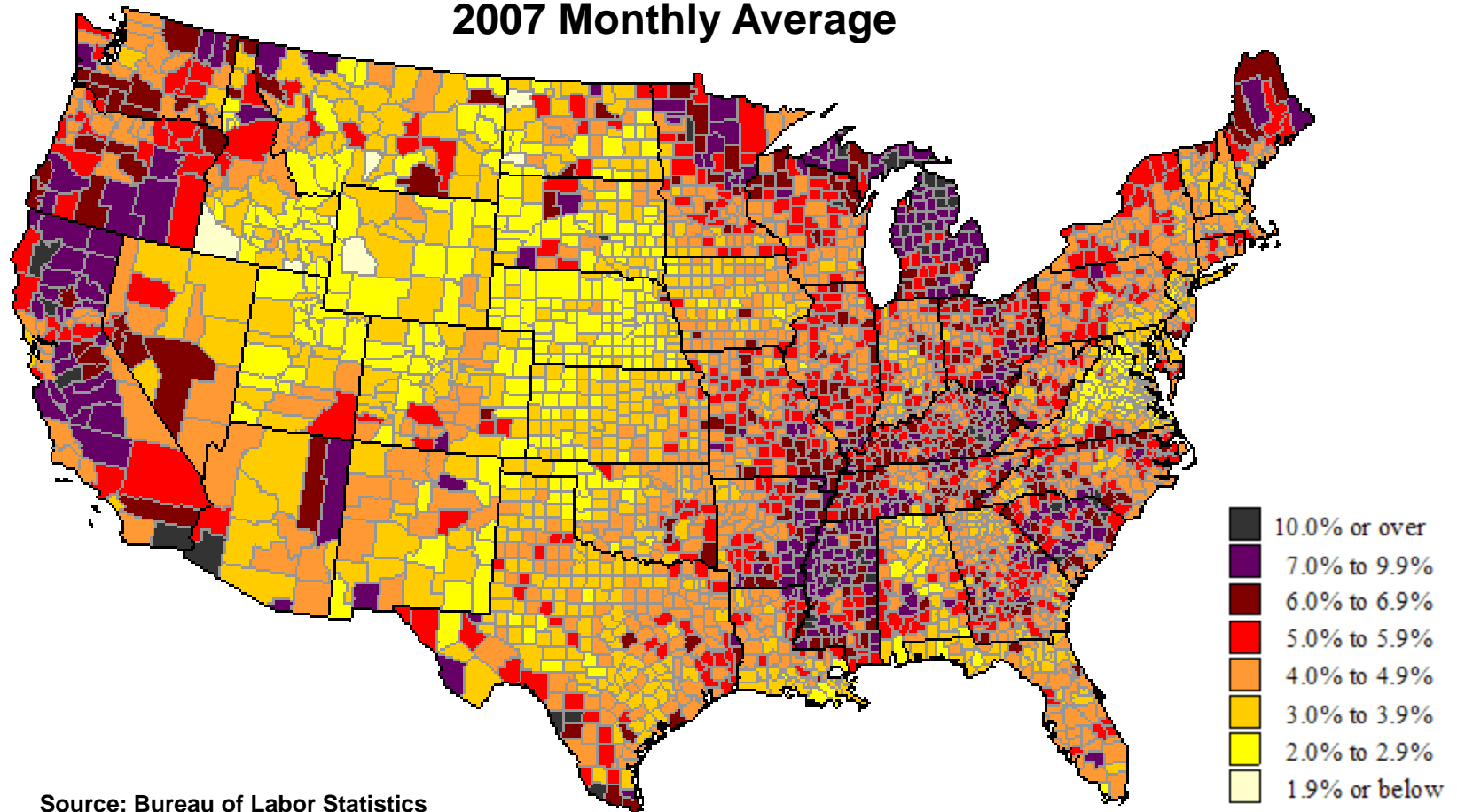


Source: Bureau of Economic Analysis Federal Reserve Board of Governors



Unemployment rates have spiked.

Unemployment Rate 2007 Monthly Average

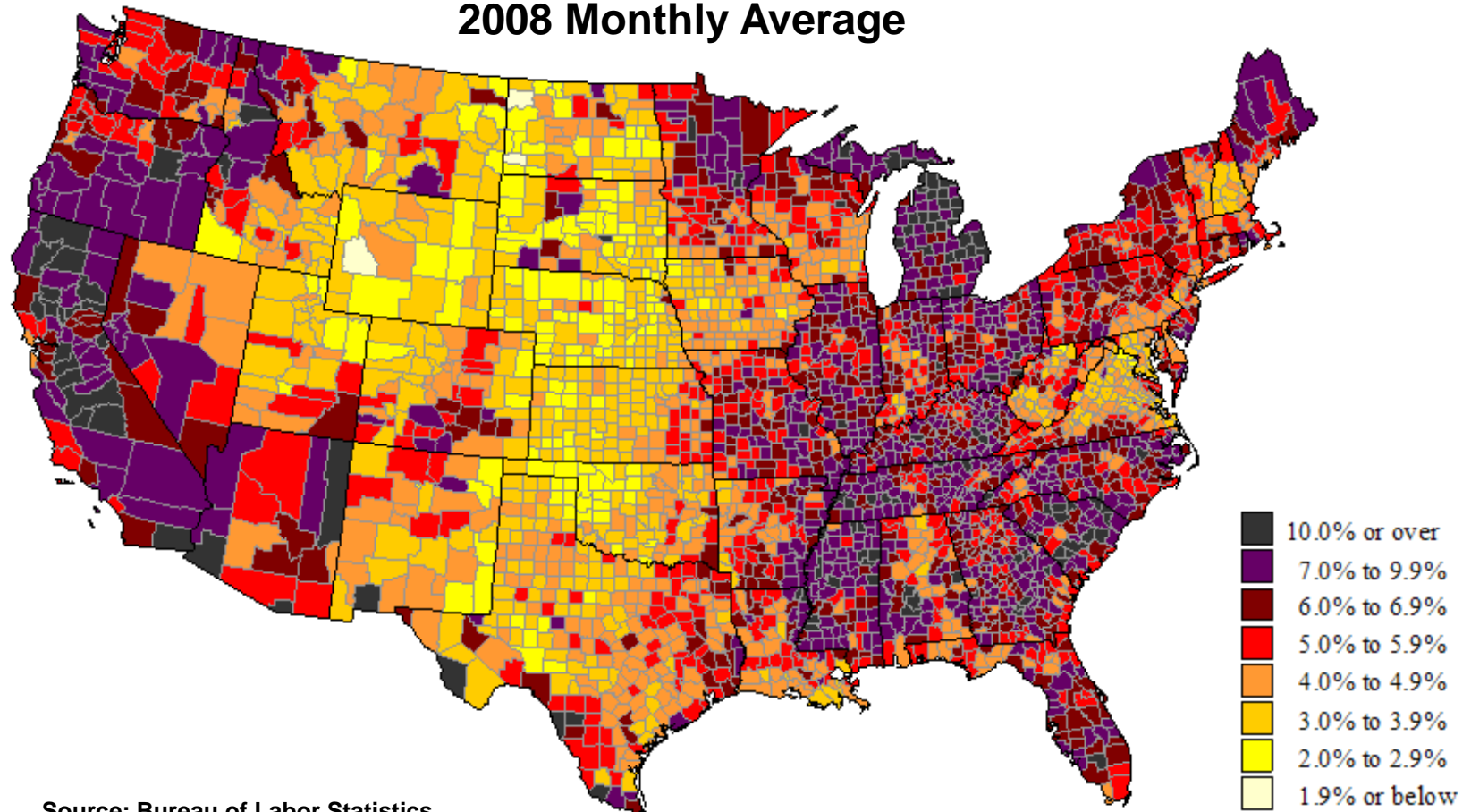


Source: Bureau of Labor Statistics



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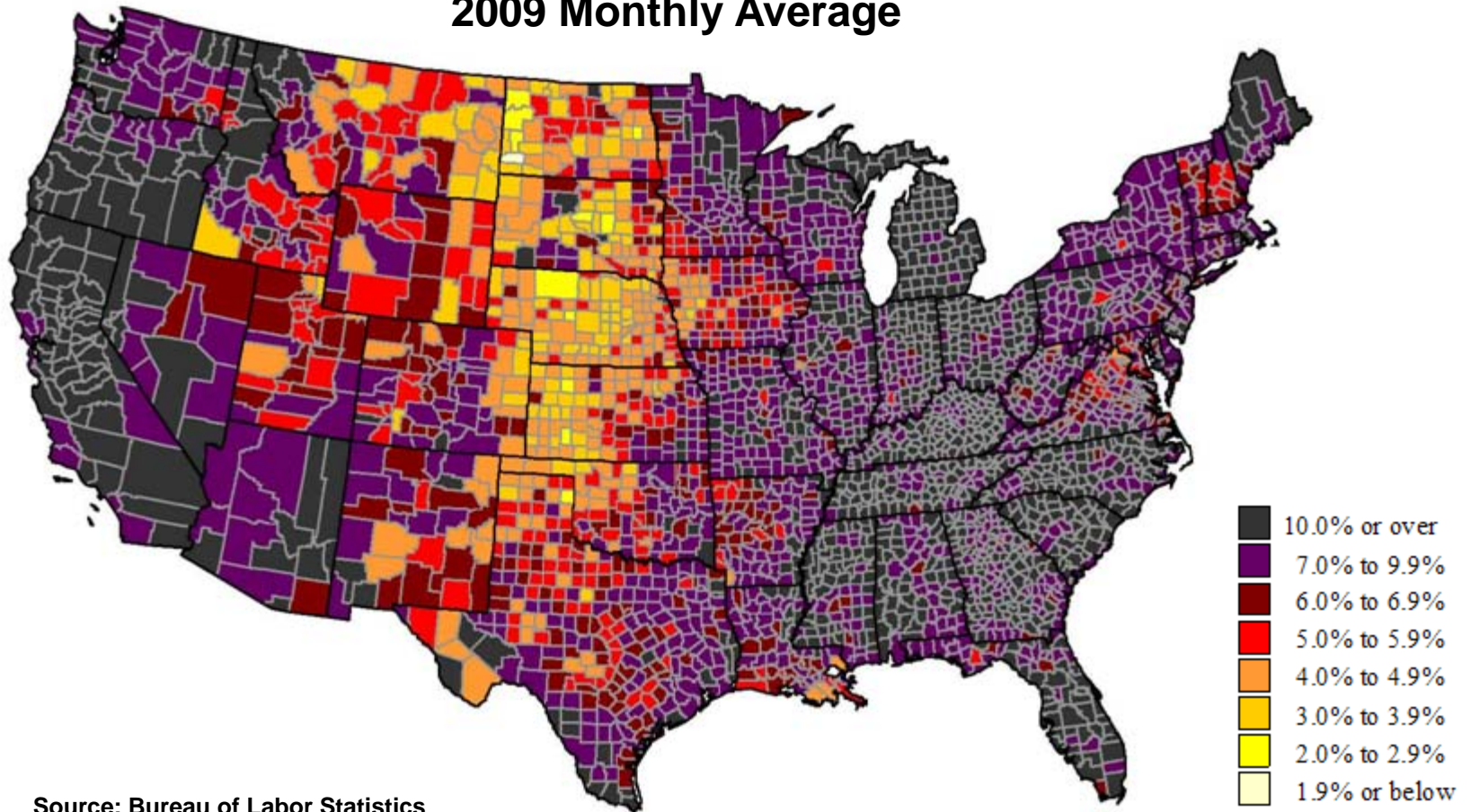


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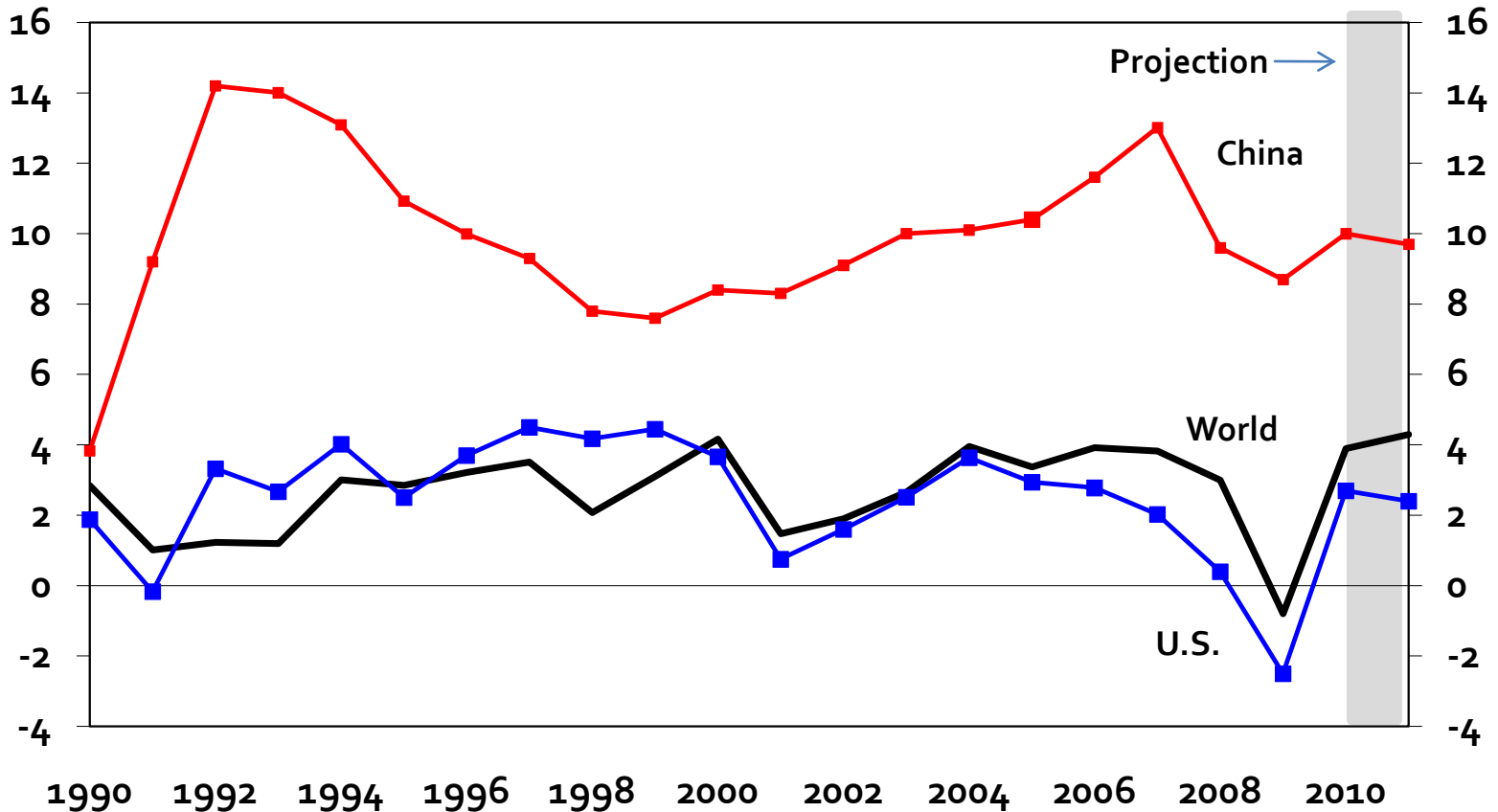
Source: Bureau of Labor Statistics



Will emerging countries lead the recovery?

GDP Growth

Annual percent change, constant dollars

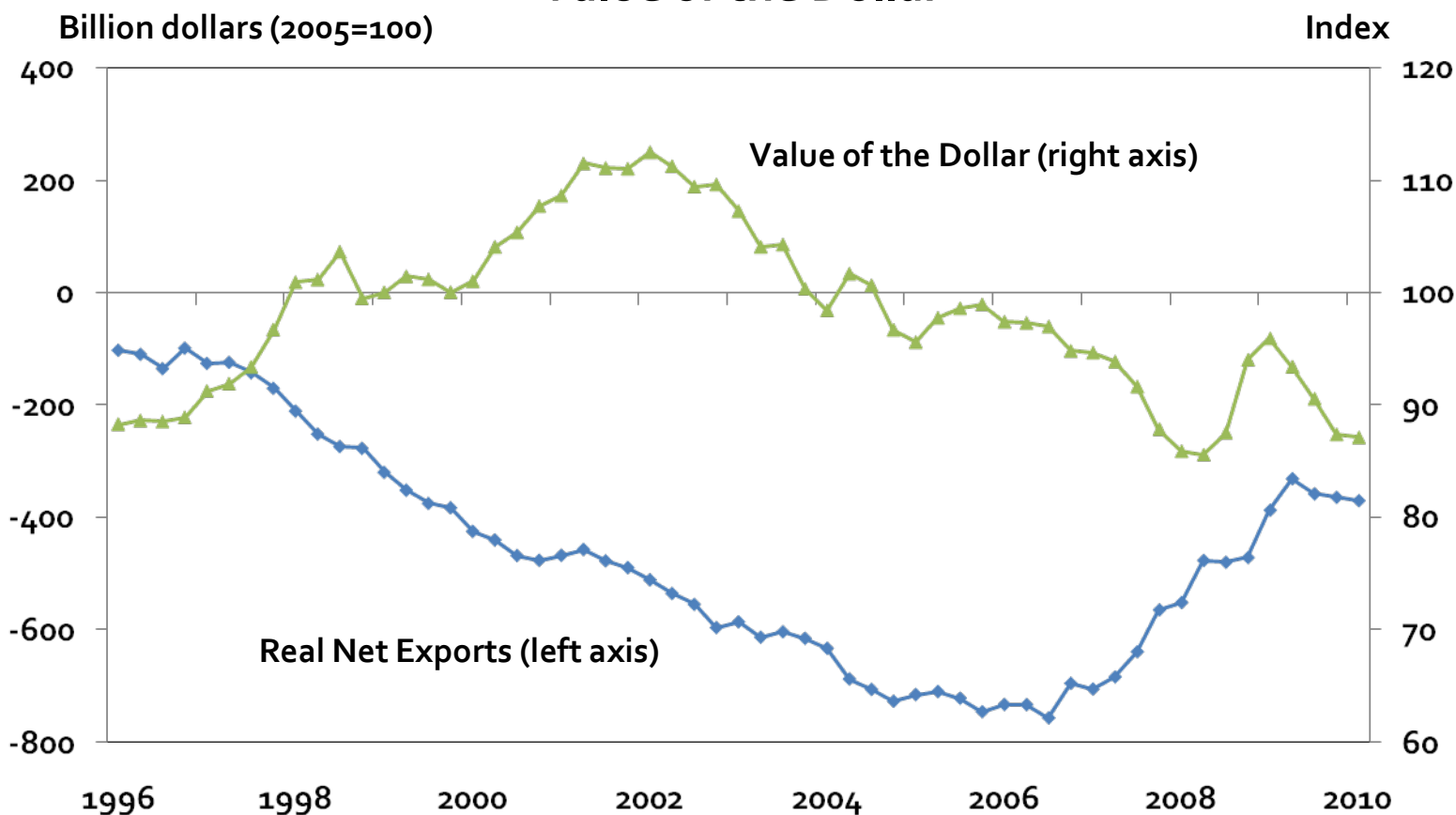


Source: International Monetary Fund, January 2010



Can stronger global economies and a weaker dollar spur further improvements in the trade balance?

Real Net Exports of Goods and Services Value of the Dollar

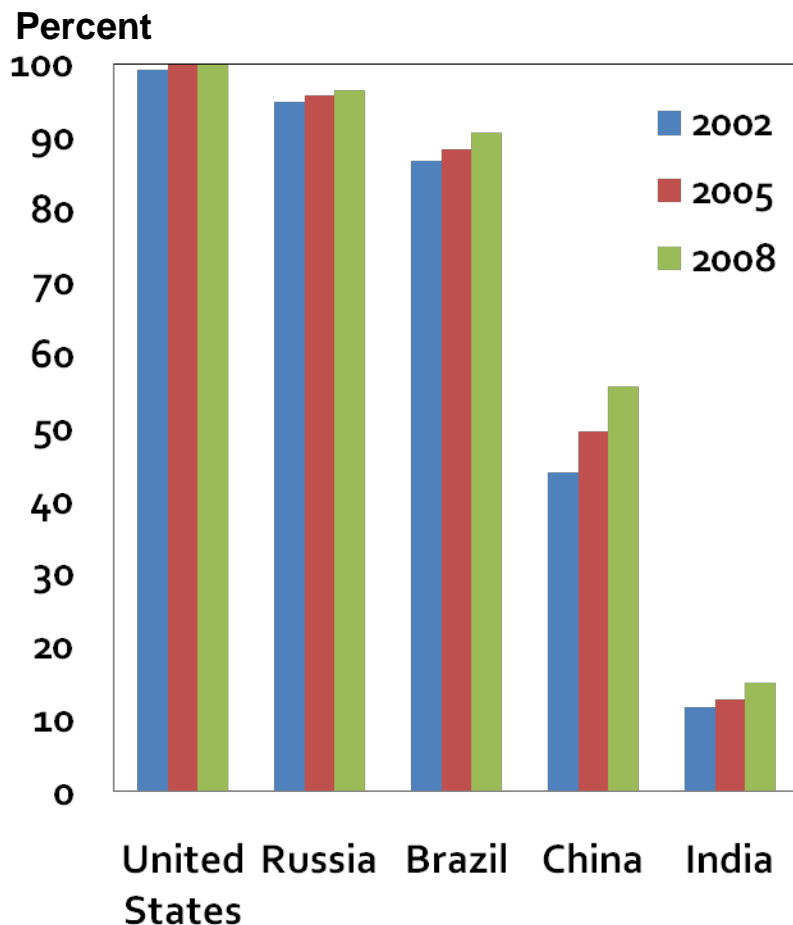


Source: Bureau of Economic Analysis



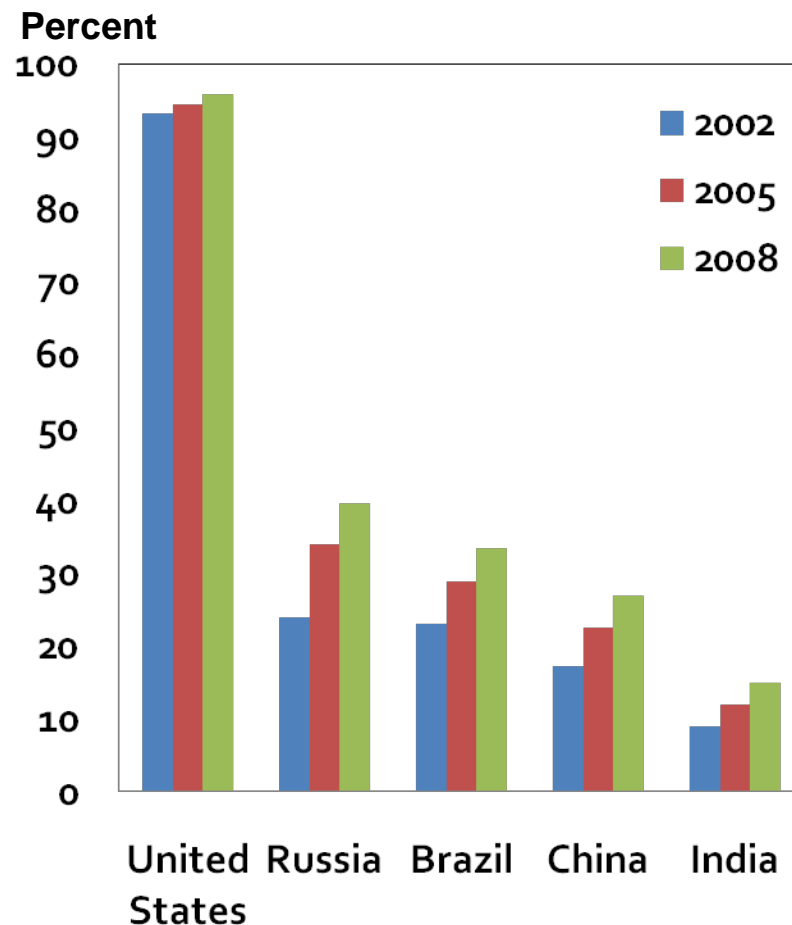
As incomes rise, how people purchase and prepare food changes.

Households Owning a Refrigerator



Source: USDA, Euromonitor

Households Owning a Microwave Oven



2) *U.S. Ag: High Hopes, Uncertain Profits.*

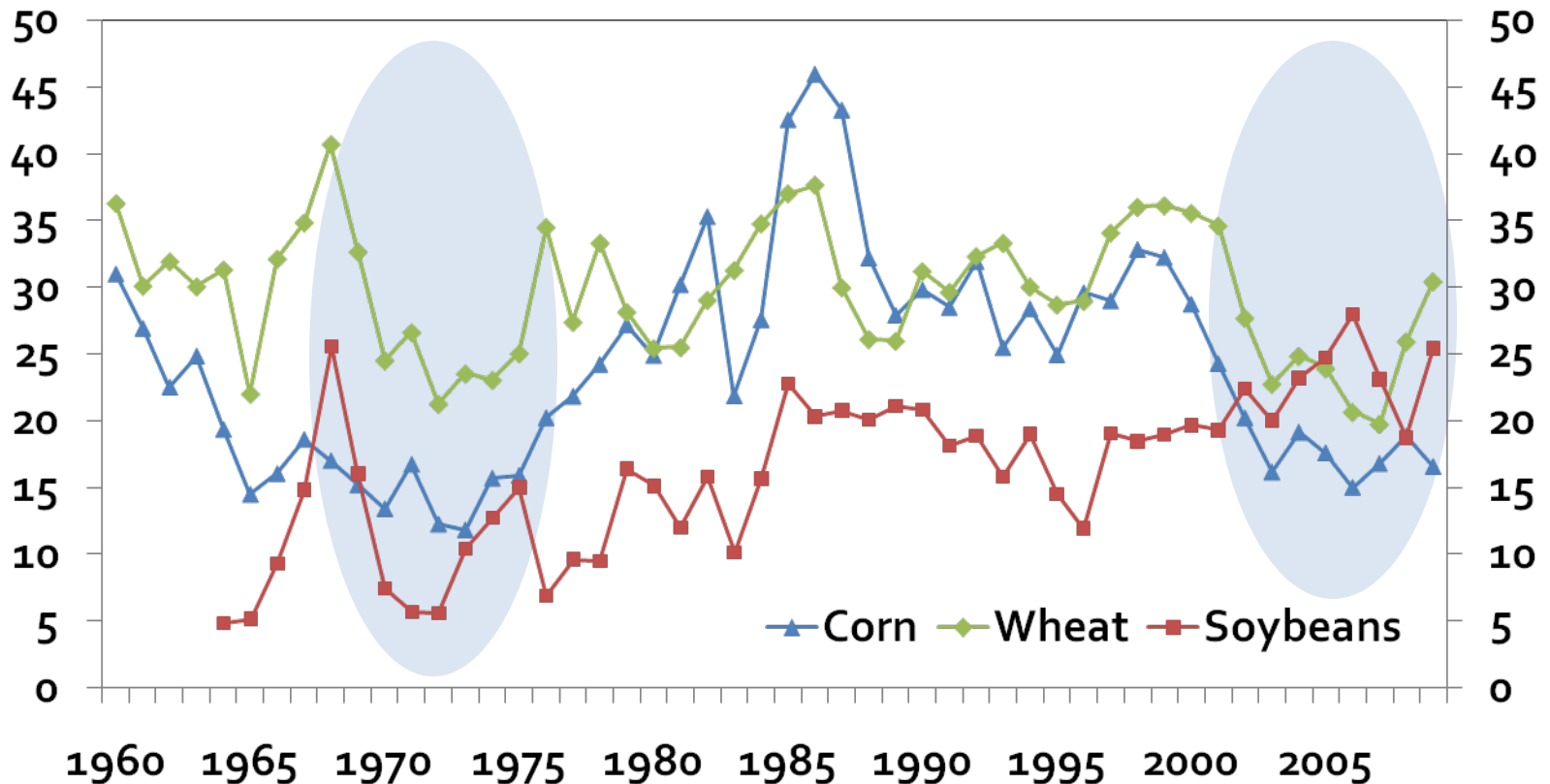
- If we can get \$4 corn with weak demand, what happens when demand rebounds?



Crop inventories remain low.

World Crop Inventories

Ending stocks to use ratio (percent)



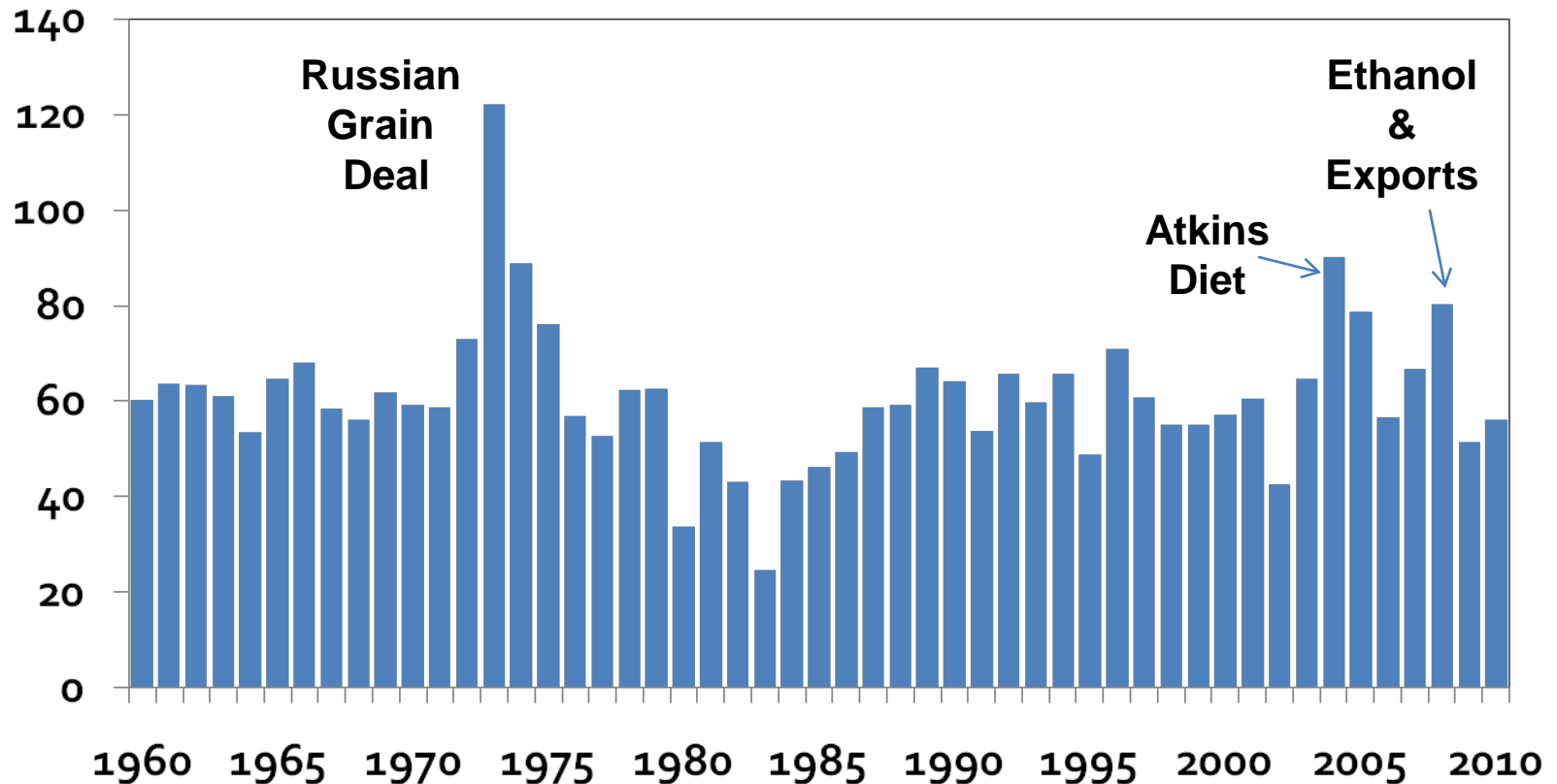
Source: USDA



Traditionally, farm booms are driven by demand.

Real U.S. Net Farm Income

Billion dollars



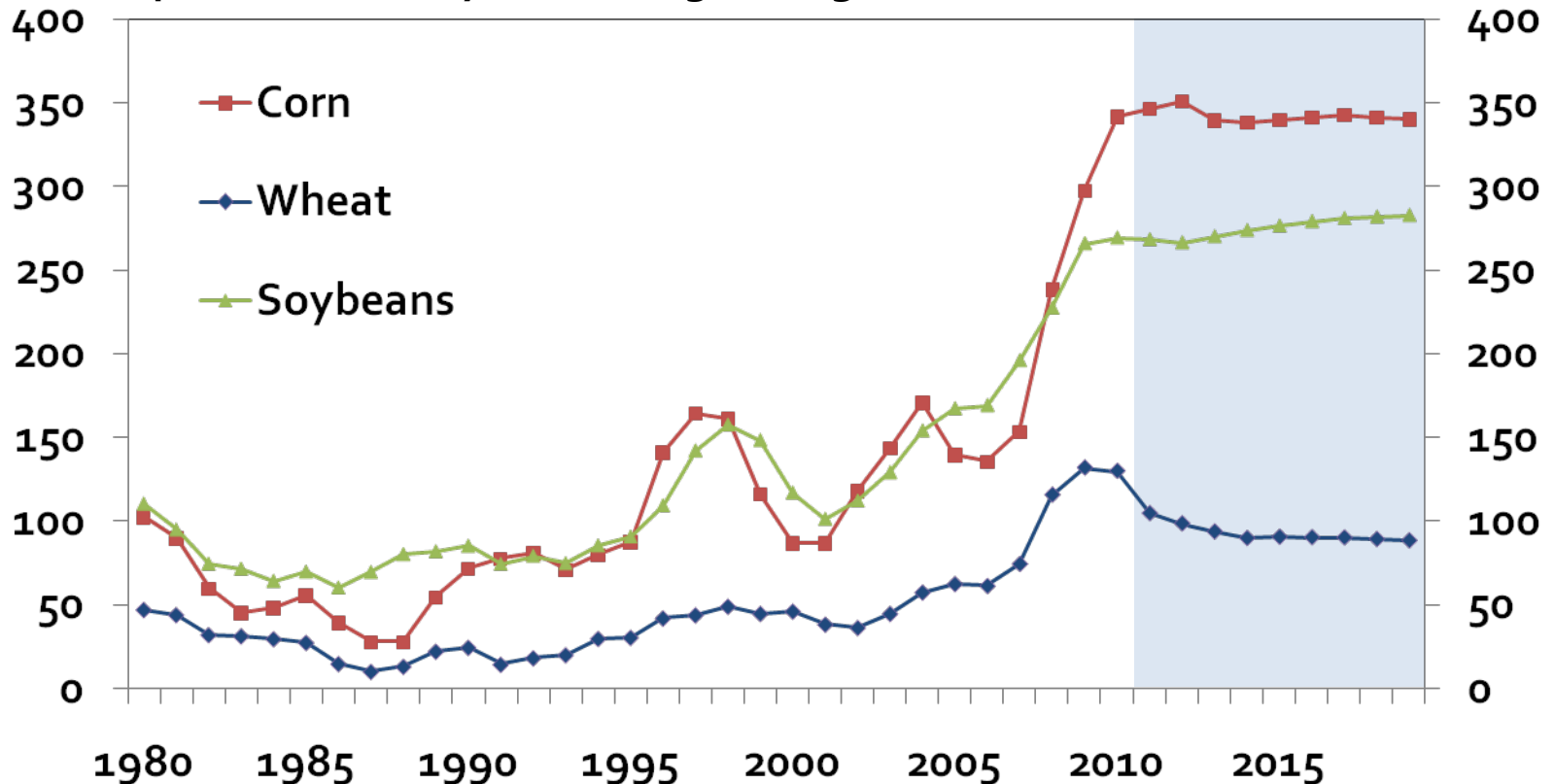
Source: USDA



A decade of high crop profits?

Net Returns to Crop Production (Gross Market Returns Less Variable or Cash Costs)

Dollars per acre (three-year moving average)



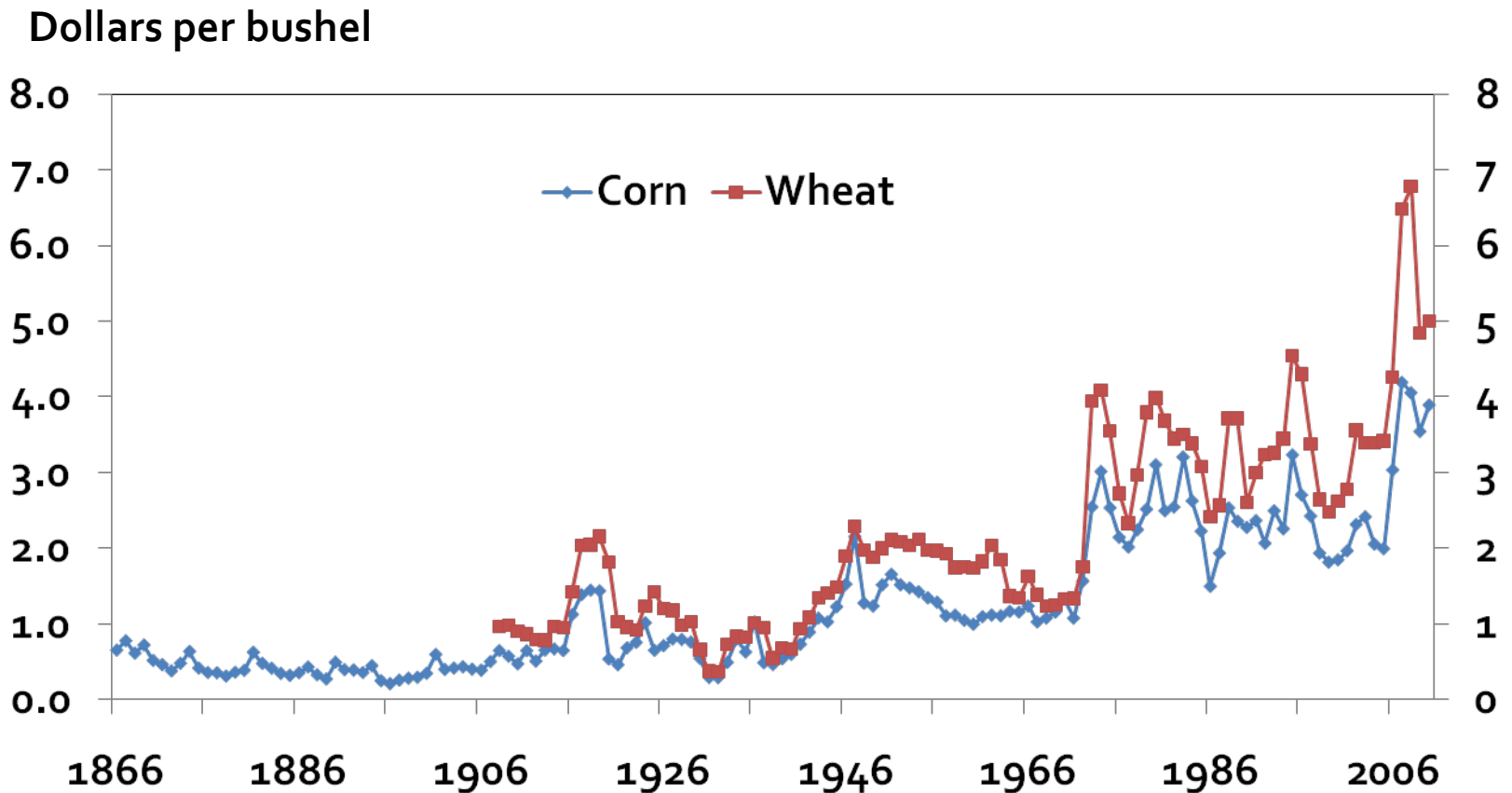
Source: USDA

Variable costs exclude costs for labor and management, depreciation, land, taxes, insurance, and farm overhead.



Volatility in commodity prices remains high.

U.S. Annual Farm Prices



Source: USDA



3) Changing Government Policies.

- Financial markets and regulation
- Environmental policy
- Energy policy
- Health care policy
- Agricultural policy
- Rural development
- ???



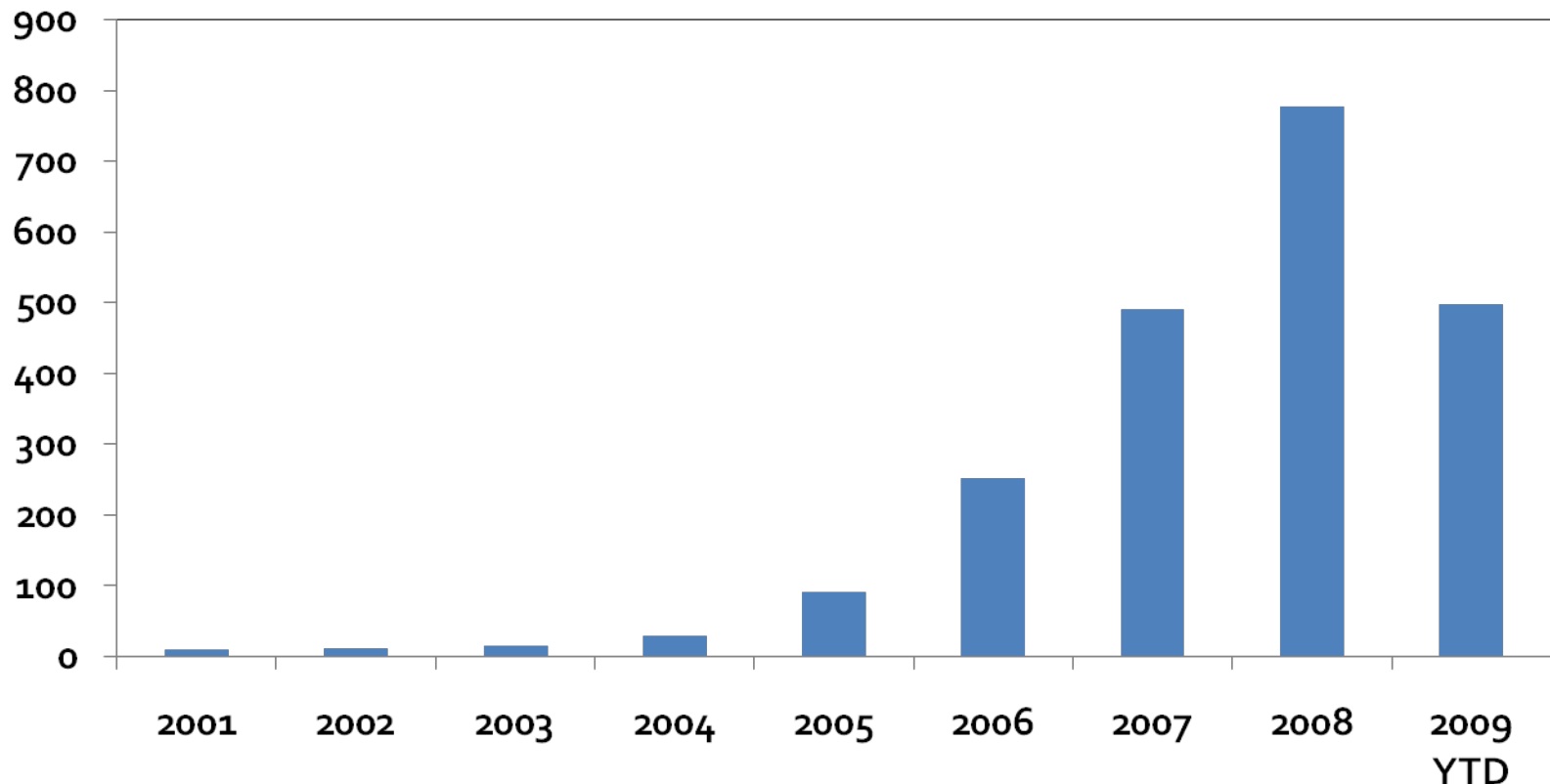
What People Want in their Food?



What happened to biodiesel production in Jan. 2010? Do you want to base your profits on government policy?

U.S. Biodiesel Production

Million gallons



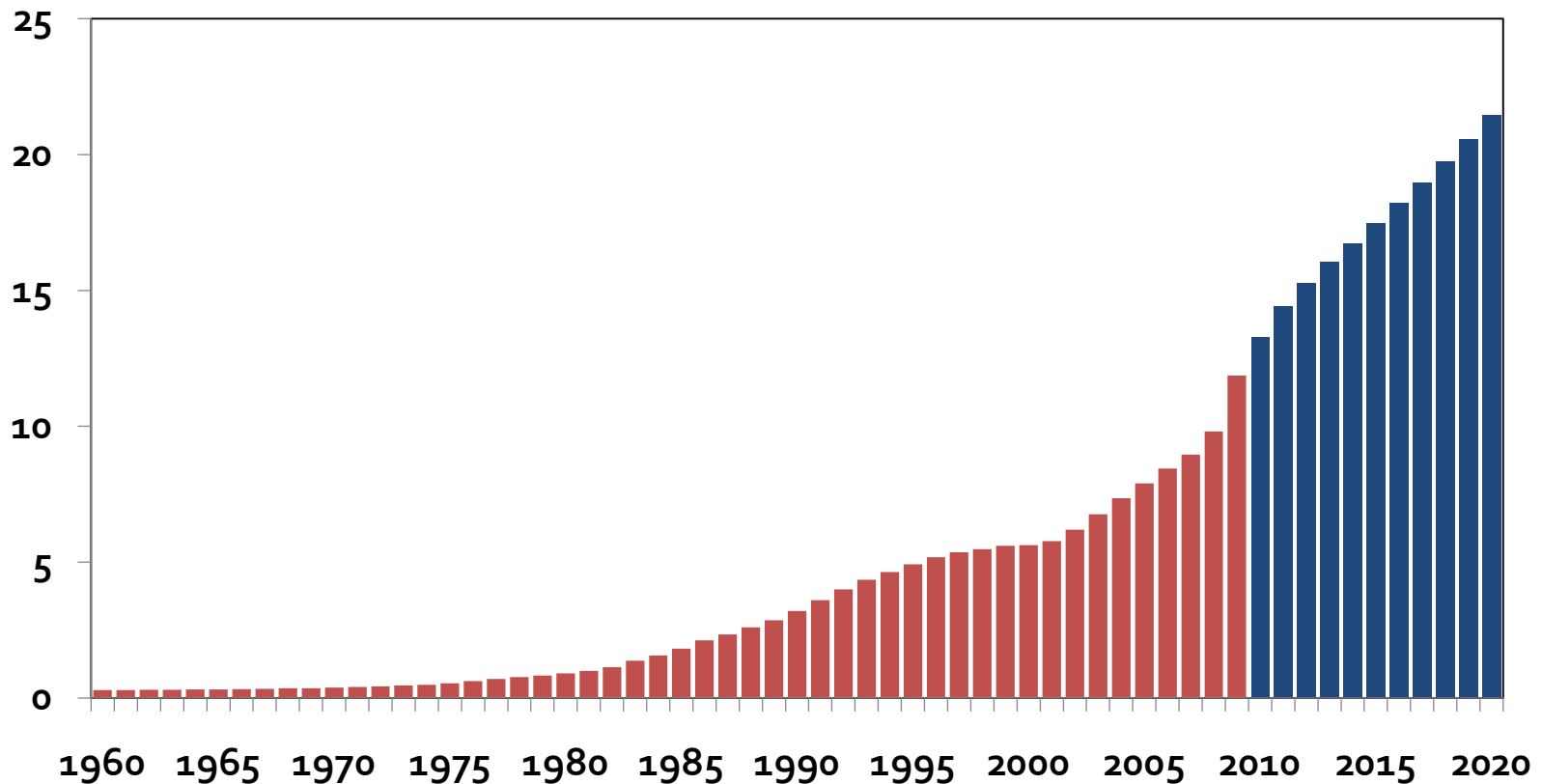
Source: Dept. of Energy



In the short run, deficit spending stimulates the economy. What about the long-term consequences?

U.S. Gross Federal Debt

Trillion Dollars



Source: Congressional Budget Office



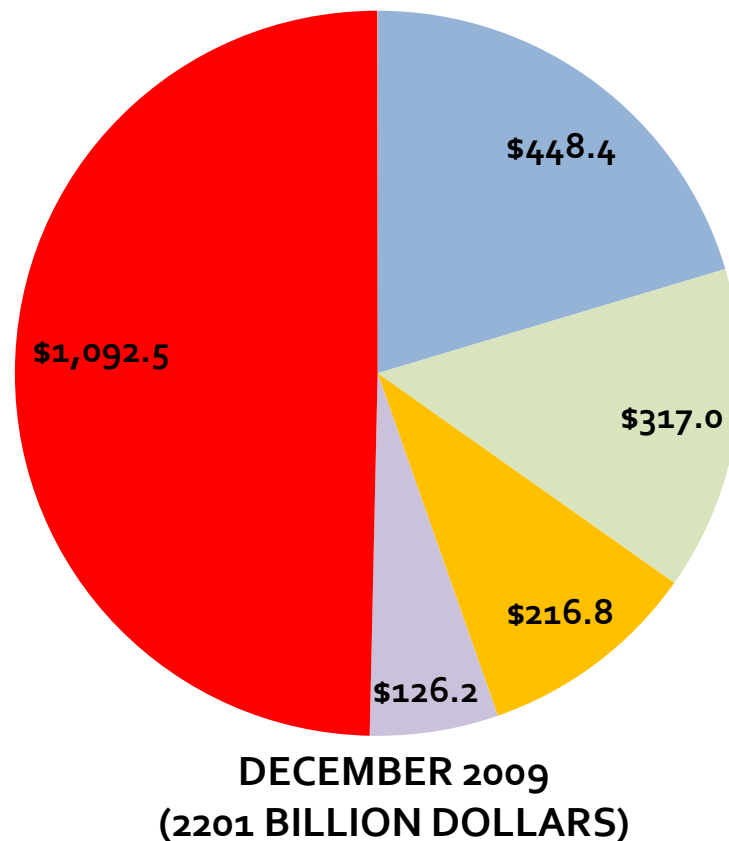
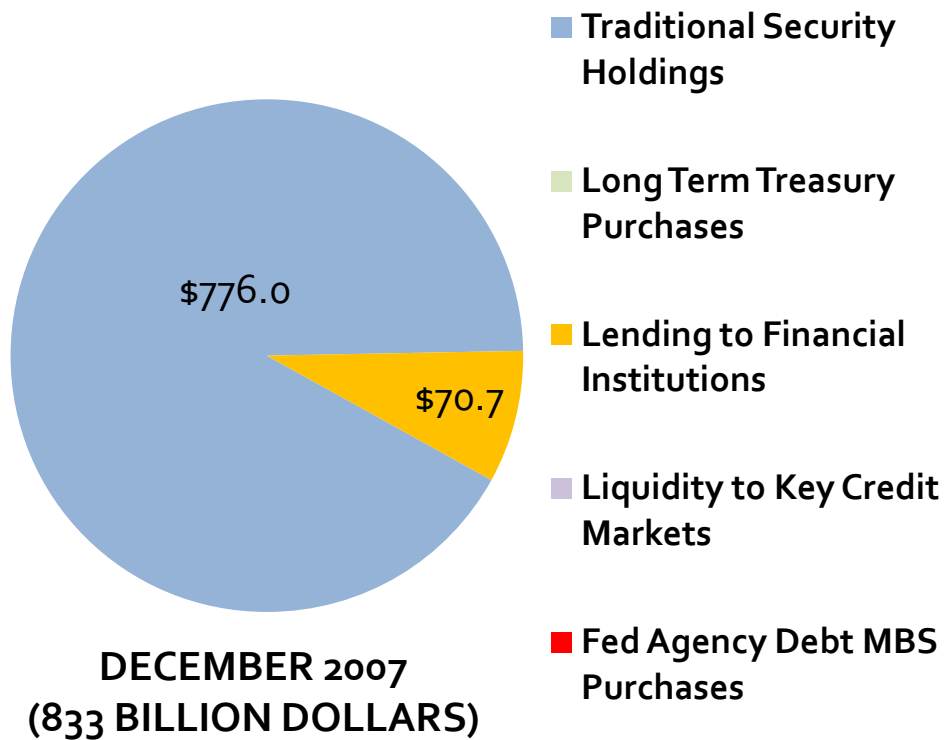
4) Money may NOT be Cheap.

- Due to the zero bound, the Fed Funds rate can only go up.
- Interest rate risk for banks and businesses.
- Do not forget about credit standards and collateral requirements.



The Federal Reserve will shrink its balance sheet.

Federal Reserve Balance Sheet: Assets

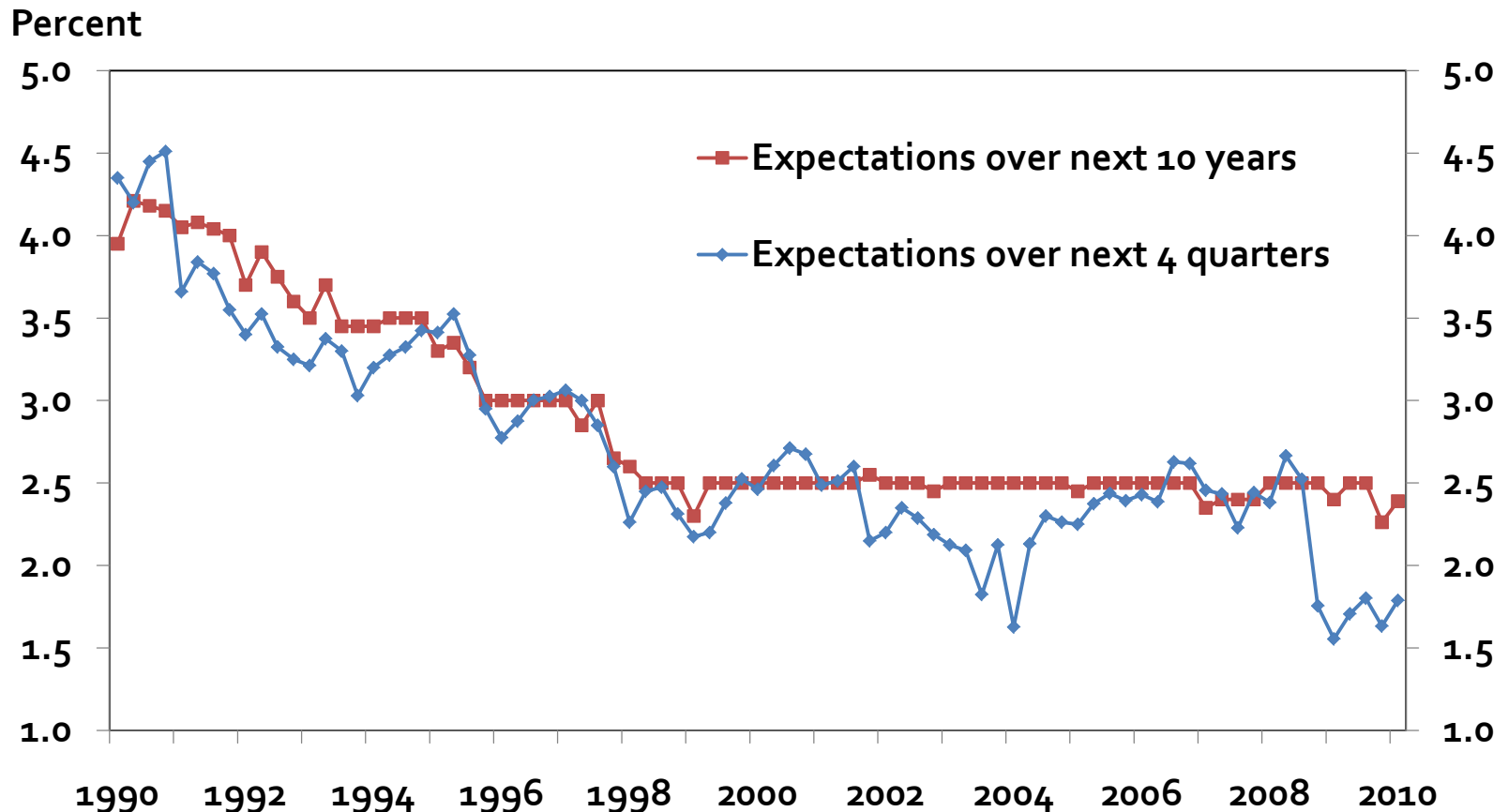


Source: Federal Reserve Board of Governors



Inflation expectations remain low.

U.S. Inflation Expectations



Source: Survey of Professional Forecasters



5) Another Wave of Consolidation.

- From 1997 to 2007, the number of farms ...
 - With less than 50 acres increased 15.9 percent
 - With 50 to 2000 acres decreased 9.5 percent
 - With 2000 acres or more increased 8.0 percent
- Further consolidation shaped by the following ...
 - Business closures (primarily livestock) open opportunities for survivors.
 - Higher fixed costs of production.
 - Regulatory costs also boost fixed costs.
 - With tighter standards, equity/collateral needs rise.
- Economies of scale and scope will tend to dominate.



The Competitiveness of Agriculture

- Technology: U.S. agriculture adopts technology
 - 1850: 85 hours of labor needed to produce 100 bushels of corn.
 - 2000's: less than 2 hours of labor needed to produce 100 bushels of corn.



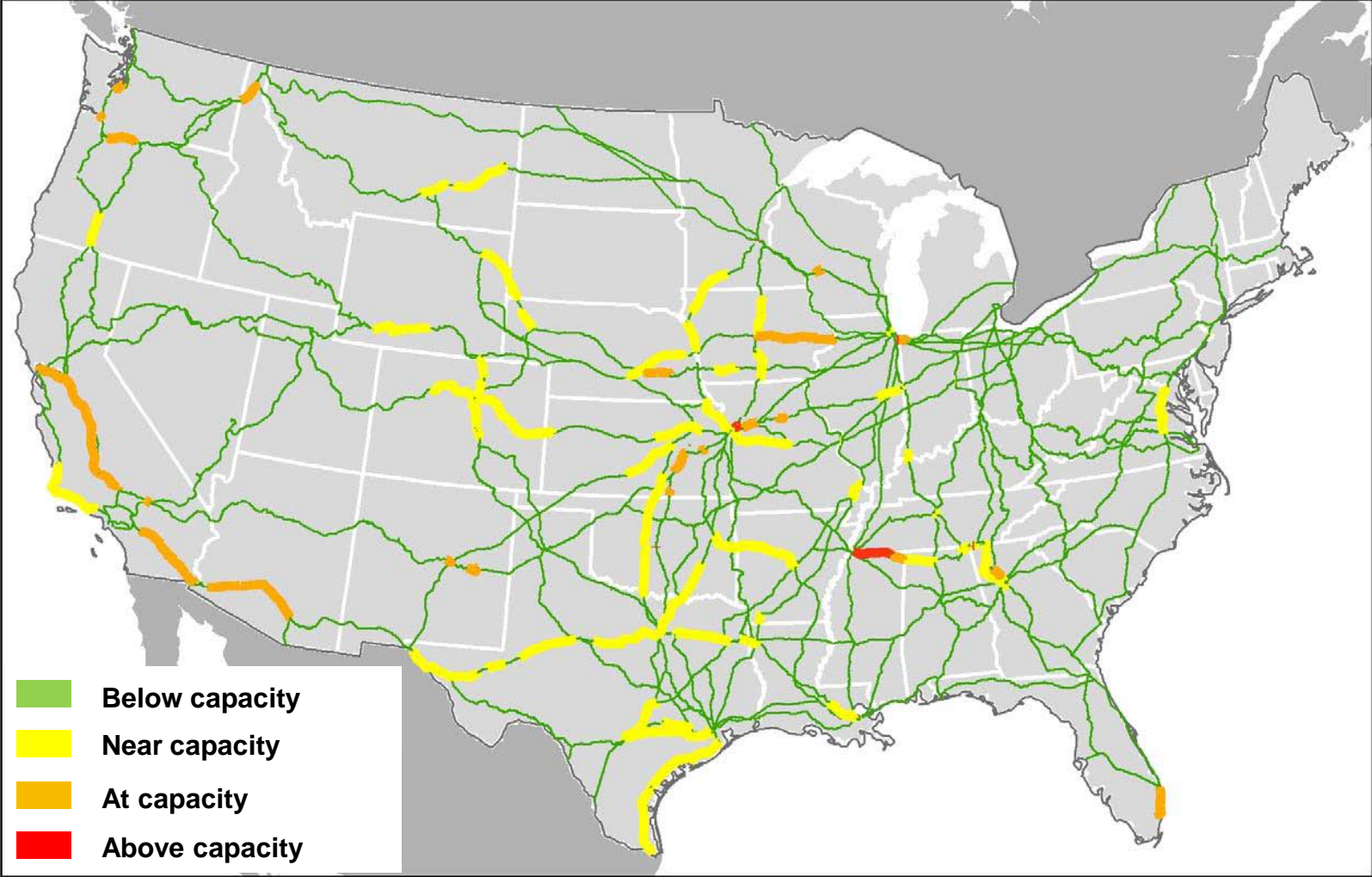
The Competitiveness of Agriculture

- Technology: U.S. agriculture adopts technology.
- Infrastructure: a focus on broadband and communication, but what about traditional infrastructure (roads, rail, and water)?



Railroad Capacity

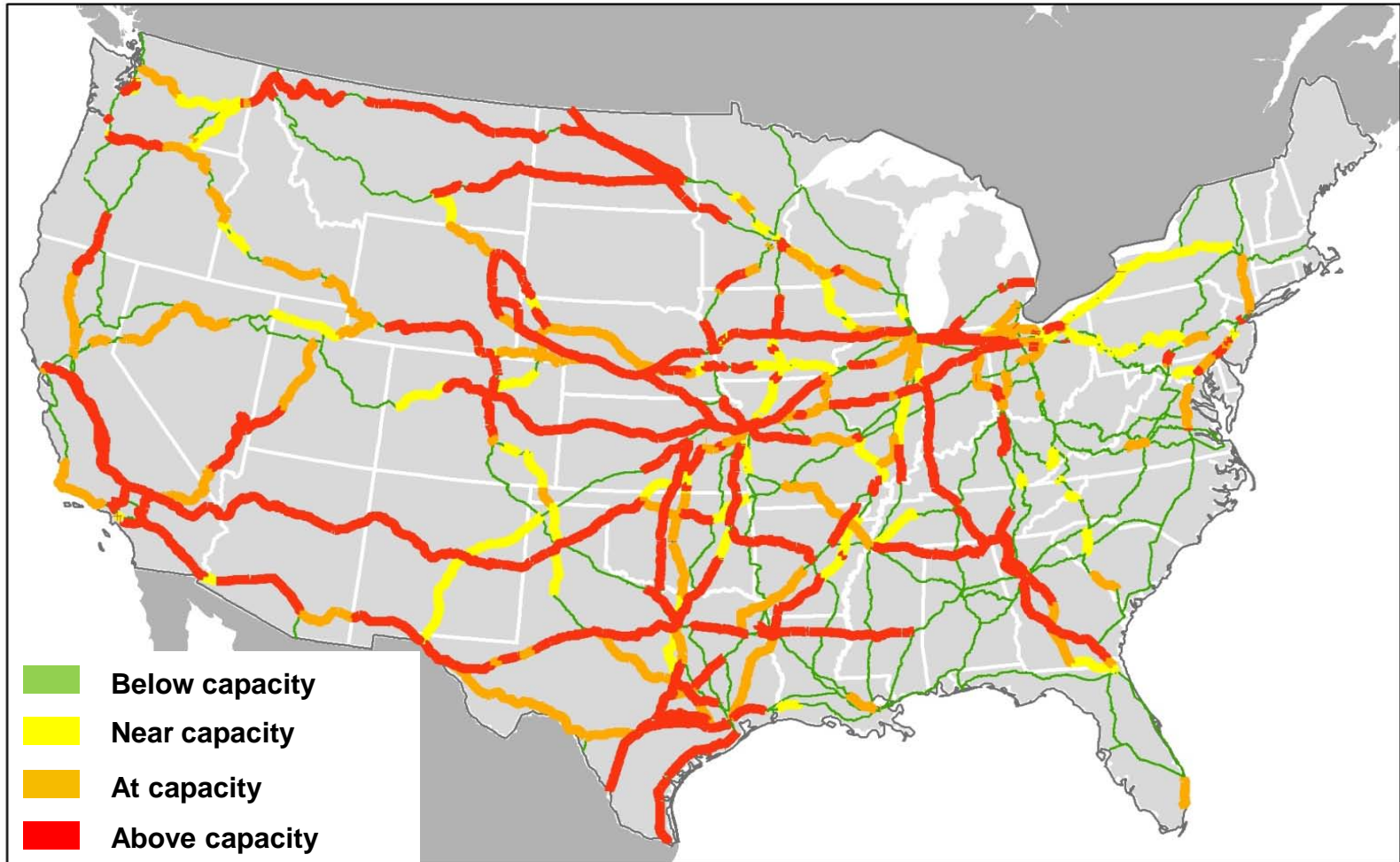
2007



Source: Dept. of Transportation



Projected Railroad Capacity 2035 without improvements



Source: Dept. of Transportation



What has Brazil been doing over the past decade?

Soybean Production Costs in U.S., Brazil and Argentina, 1998 (Dollars per bushel)

	U.S. Heartland	Mato Grasso , Brazil	Argentina
Variable costs	\$1.71	\$3.17	\$1.90
Fixed costs	\$3.40	\$0.72	\$2.02
Total production costs	\$5.11	\$3.89	\$3.92
Internal transportation and marketing	\$0.43	\$1.34	\$0.81
Freight Cost	\$0.38	\$0.57	\$0.49
Total costs	\$5.92	\$5.80	\$5.22

Source: USDA



The Competitiveness of Agriculture

- Technology: U.S. agriculture adopts technology
- Infrastructure: a focus on broadband and communication, but what about traditional infrastructure (roads, rail, and water)?
- Capital: Despite current situation, U.S. capital markets are the envy of the world.
 - Who is the “safe haven” financial market?
 - Debt capital flows to rural America.
 - A better flow of equity capital to rural communities is needed.



The Competitiveness of Agriculture

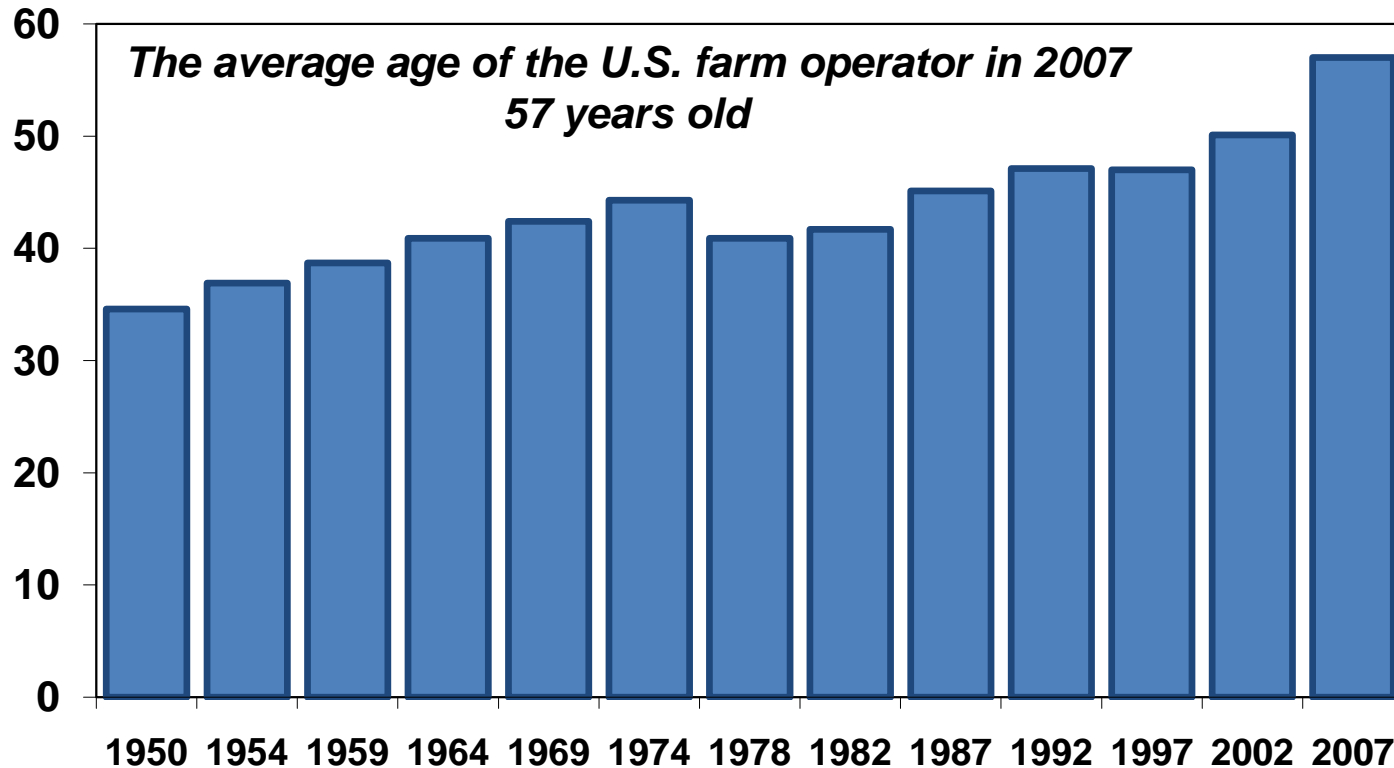
- Technology: U.S. agriculture adopts technology.
- Infrastructure: a focus on broadband and communication, but what about traditional infrastructure (roads, rail, and water)?
- Capital: Despite current situation, U.S. capital markets are the envy of the world.
- Labor: a quantity of high-quality workers are needed.
 - What entices people to return to rural America and agriculture?
 - What skills lead to success?



Where Will Agriculture's Next Generation of Leaders Emerge?

Age of U.S. Farmers

Percent 55 or older



Source: USDA, ERS



The Competitiveness of Agriculture

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- Infrastructure: a focus on broadband and communication, but what about traditional infrastructure (roads, rail, and water)?
- Capital: Despite current situation, U.S. capital markets envy of the world.
- Labor: a quantity of high-quality workers are needed.
- Entrepreneurship: Necessity is the Mother of Invention.



How Does Knowing the Customer Affect What You Produce?



Japanese Watermelon

Cost:

**Square Watermelon:
\$82**

**Regular Watermelon
\$15 to \$25**

Source: BBC, 2001

Sold on a limited basis due to cost ... the Consumer is King



Conclusions


- *Recovery opens new horizons for U.S. agriculture.*
- *High hopes for prosperity are not certain* in an environment of consolidation where money is not cheap, government action is high, and a fickle consumer is king.
- *U.S. agriculture can compete* by tapping the pioneering spirit of our forefathers, where entrepreneurial investments in technology, infrastructure, capital, and labor are key.





Farming, Finance,
AND THE *Global Marketplace*

JUNE 8-9, 2010
Federal Reserve Bank of Kansas City
Kansas City, Missouri



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