What's Driving Ag and Food Prices?

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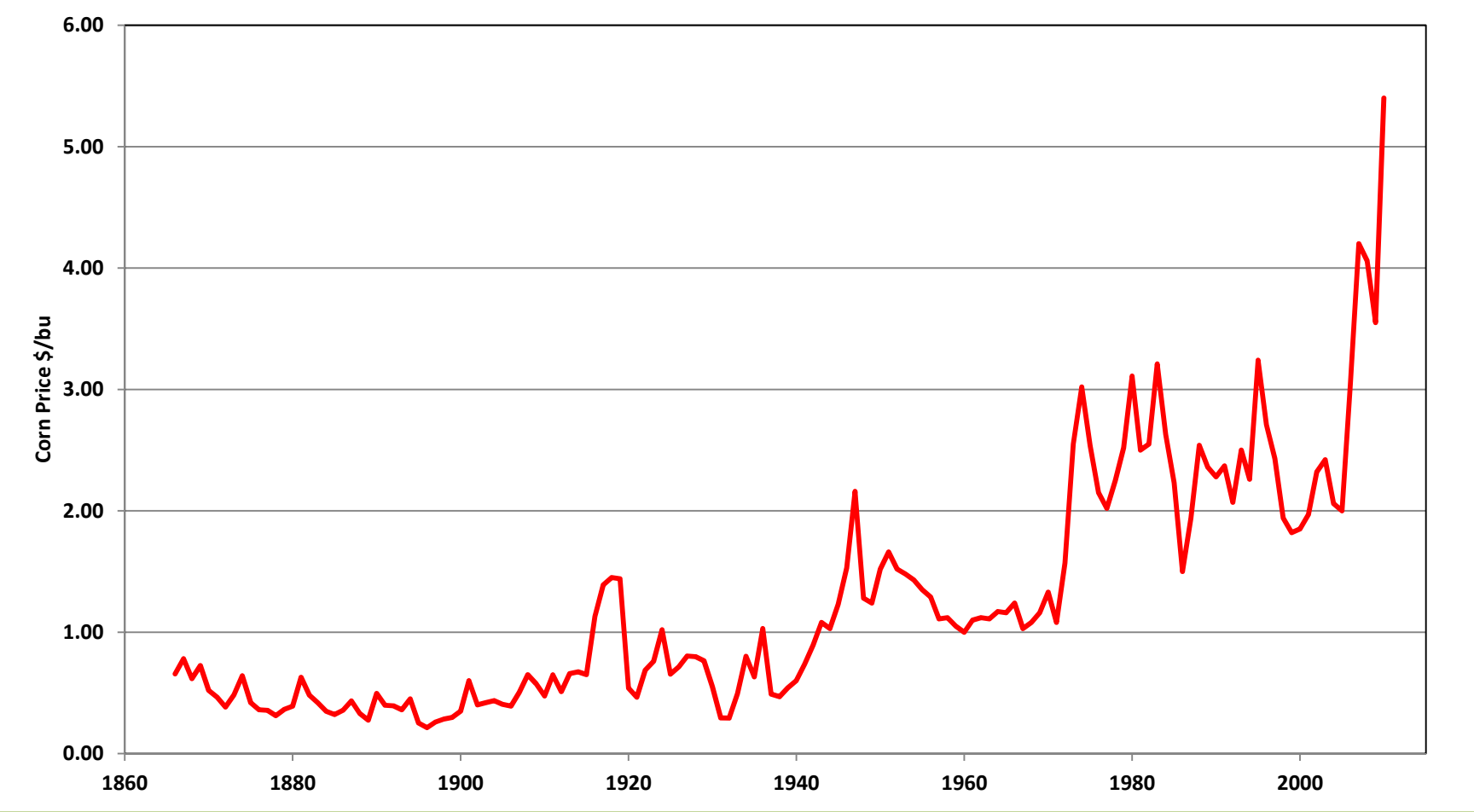
Presentation Overview

- What are the trends in Agricultural Prices?
  - Current prices are at record highs in many crops
- What are the trends in Food Prices?
  - Current prices are at record highs
- What are the main causes of these trends?
  - Economic growth in developing nations (China, India, Brazil) and overall global population growth

Corn Prices are at Record High Levels

(USDA annual average price)



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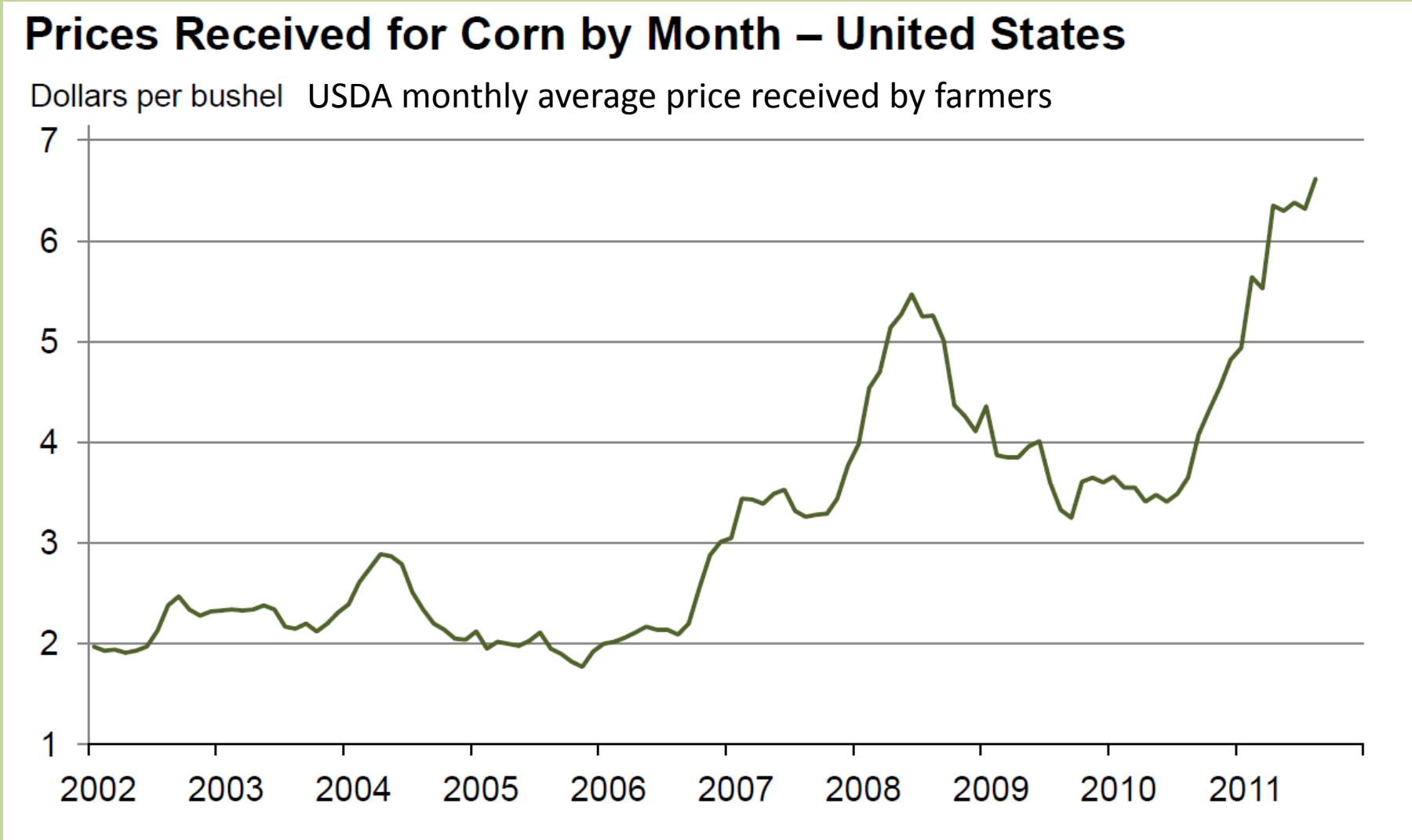
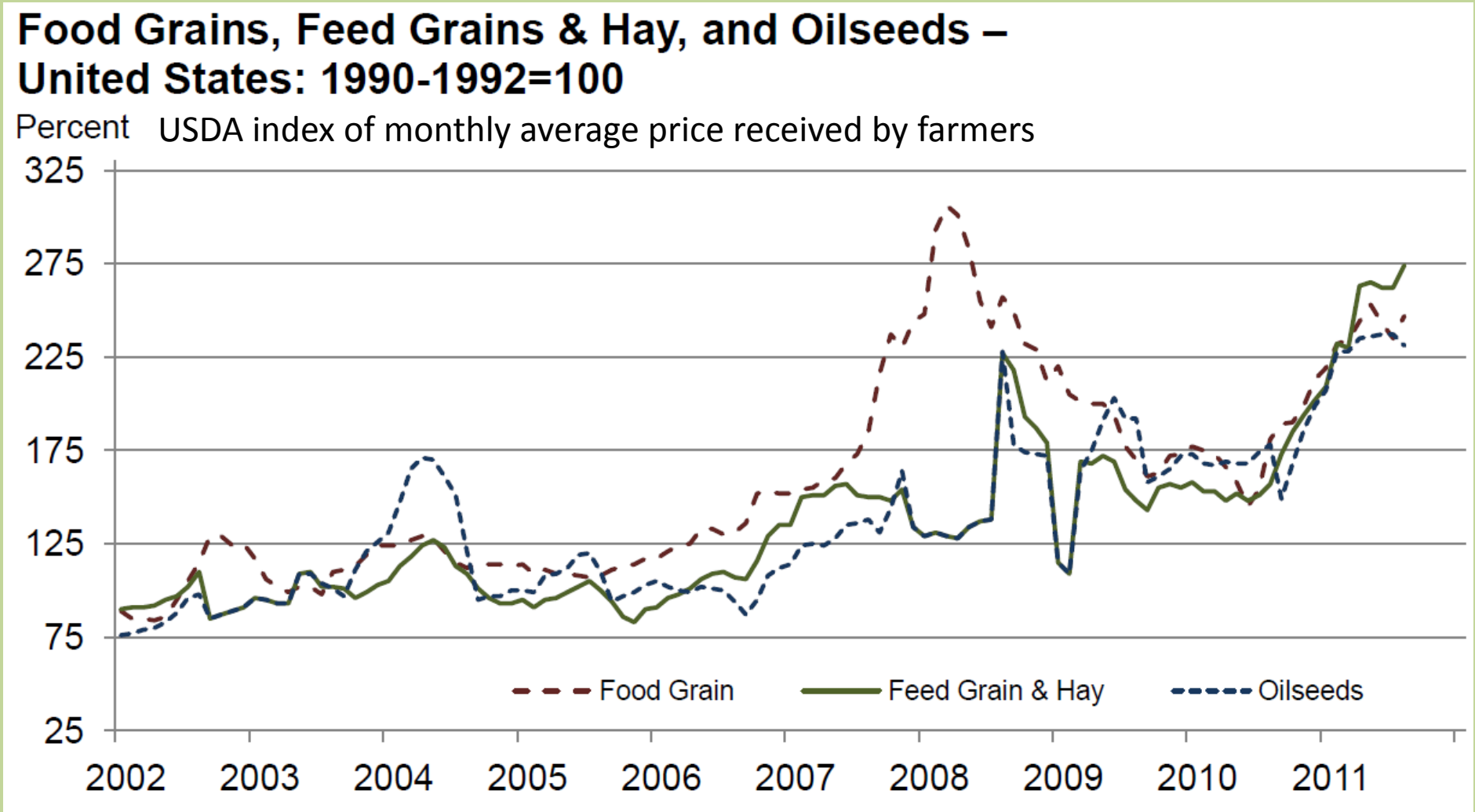
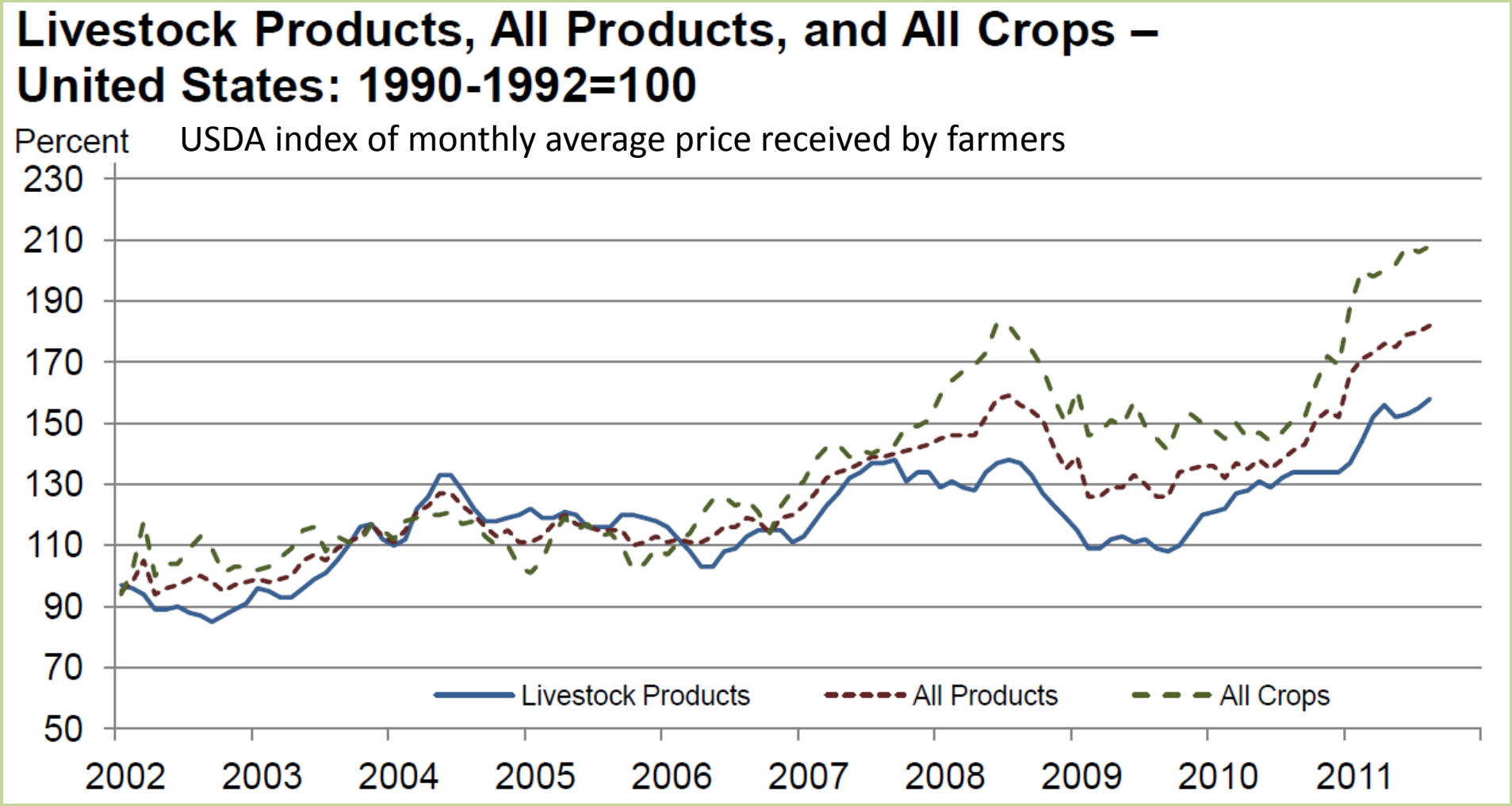


Across the Board, High Prices for Most Crops



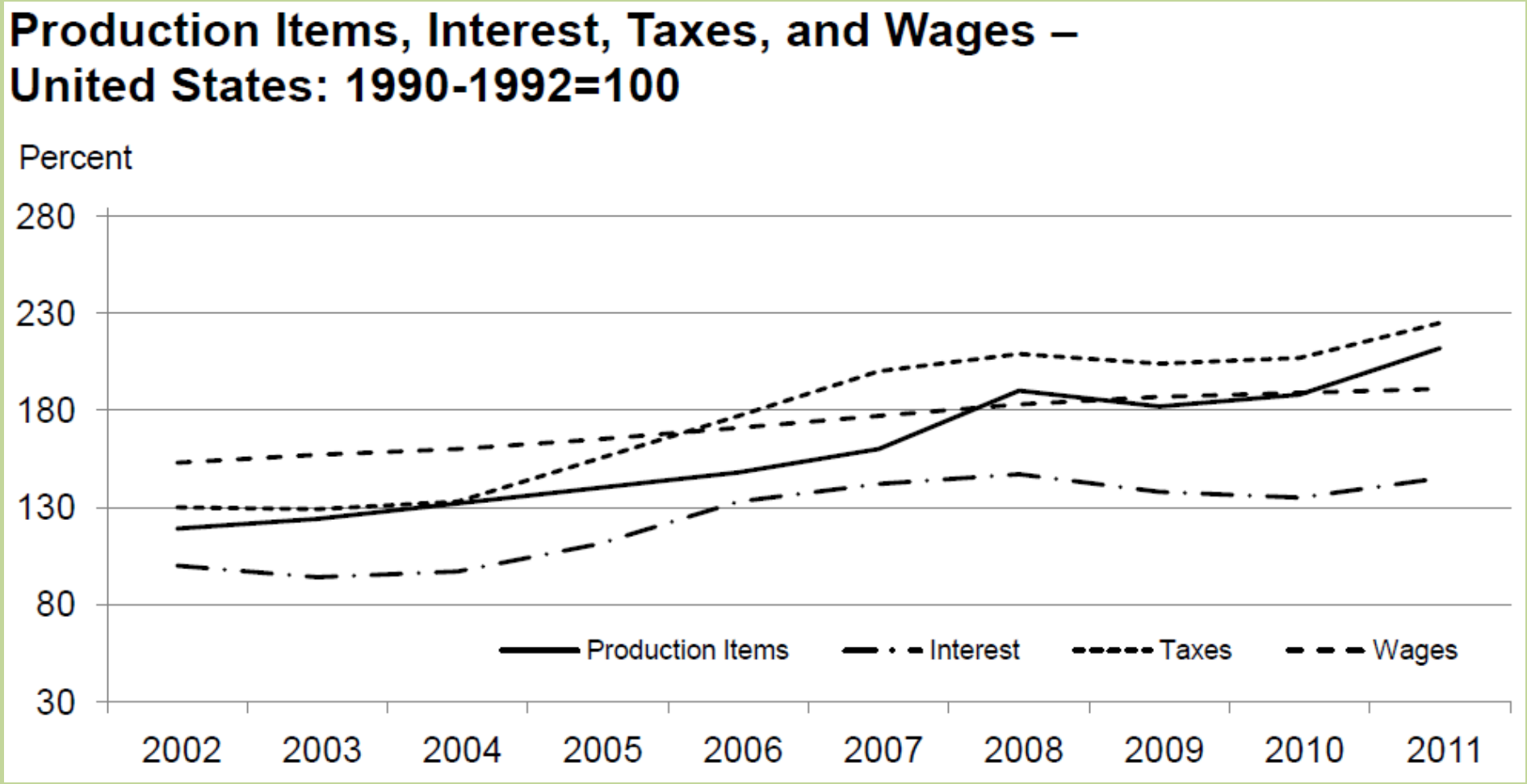
Crops Lead the Way, but Prices for Livestock have also Risen



Main Point

- Ag prices are at historically record high levels
- However, costs have also risen:
- The cost of the inputs bought to produce these commodities
  - Energy, fertilizer, labor, land, machines, etc.
- USDA creates input price indexes: Average of input prices paid, with more weight on the inputs farmers buy more of

USDA Producer Price Index for Select Categories of Production Items



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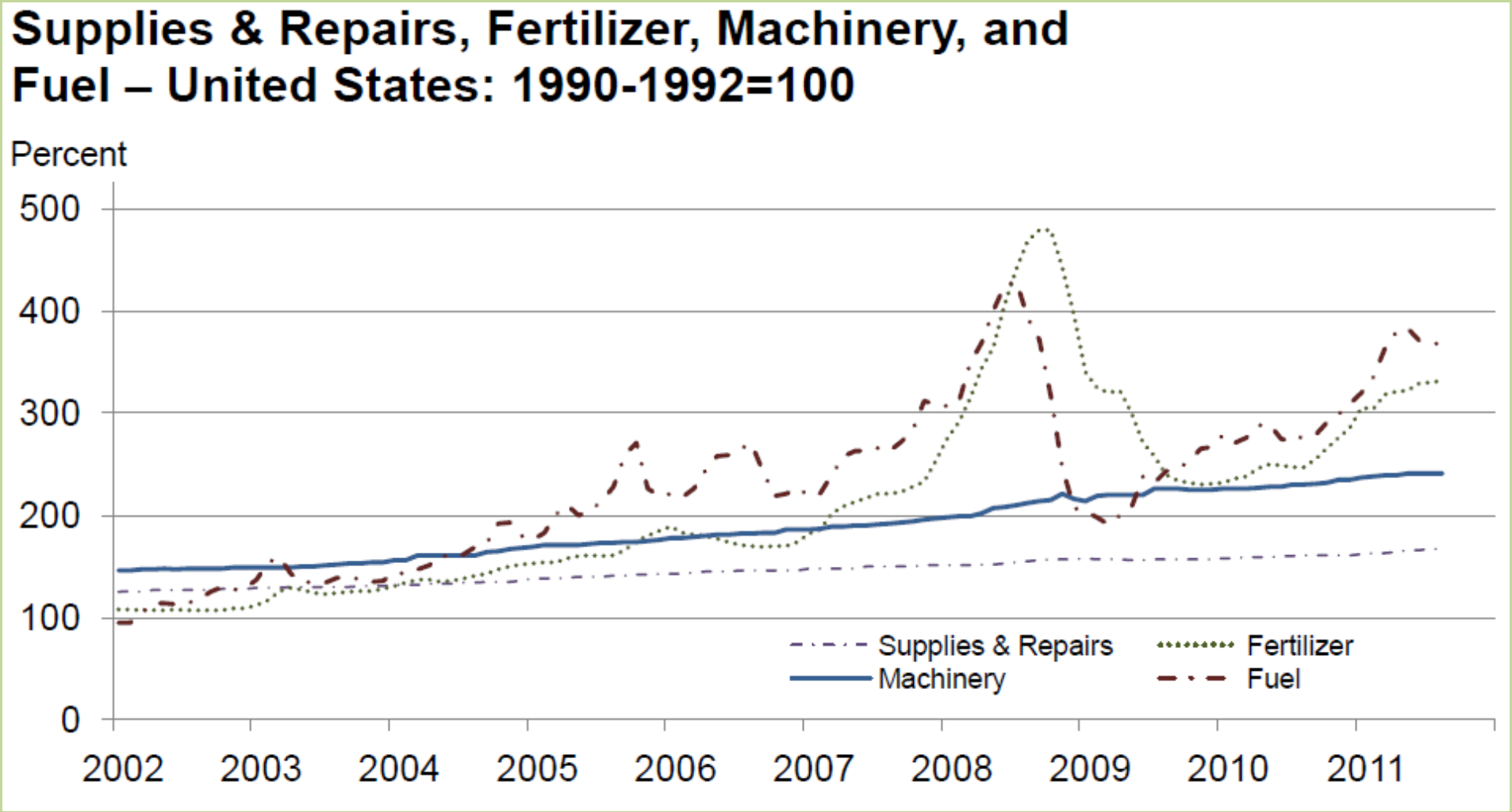
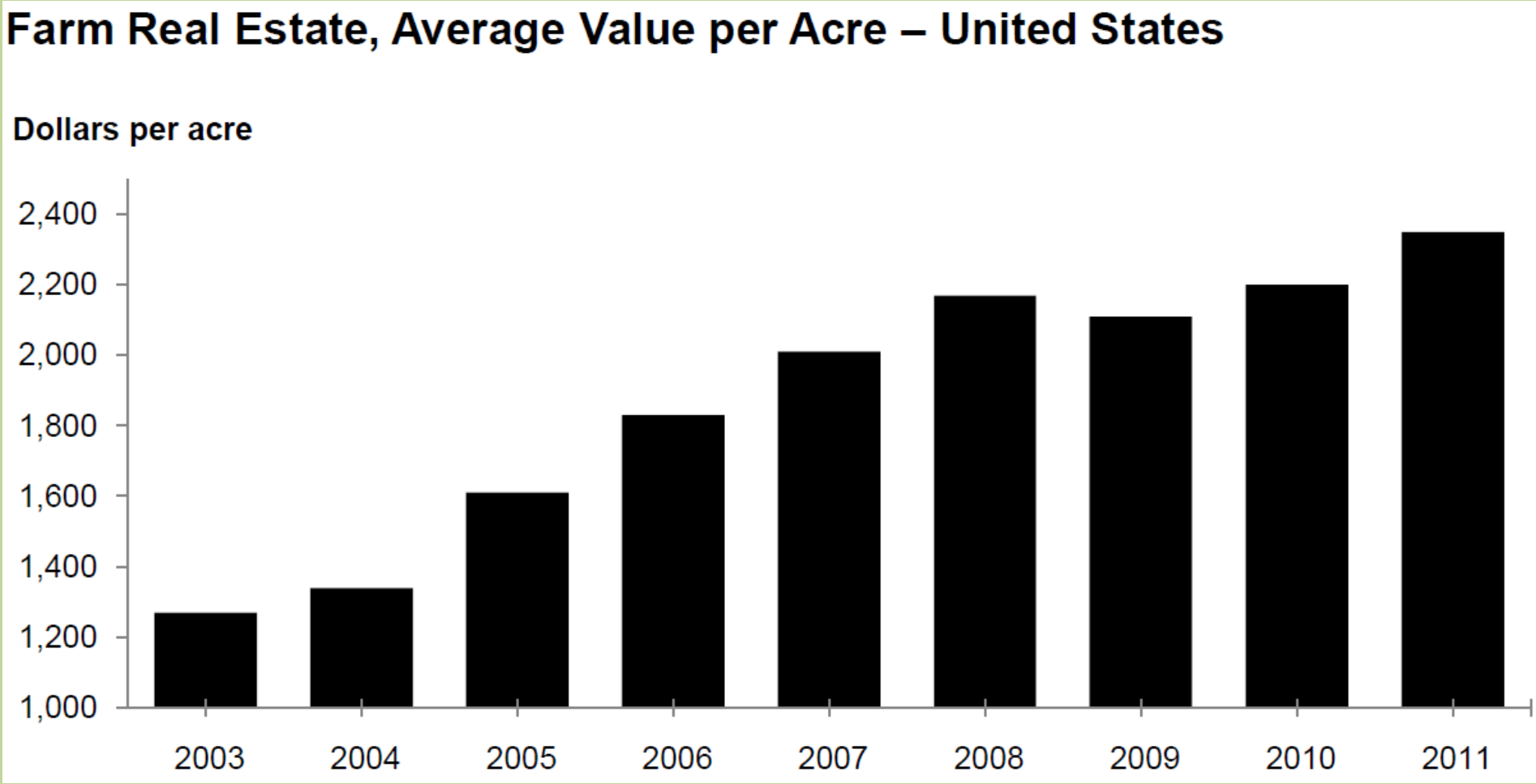
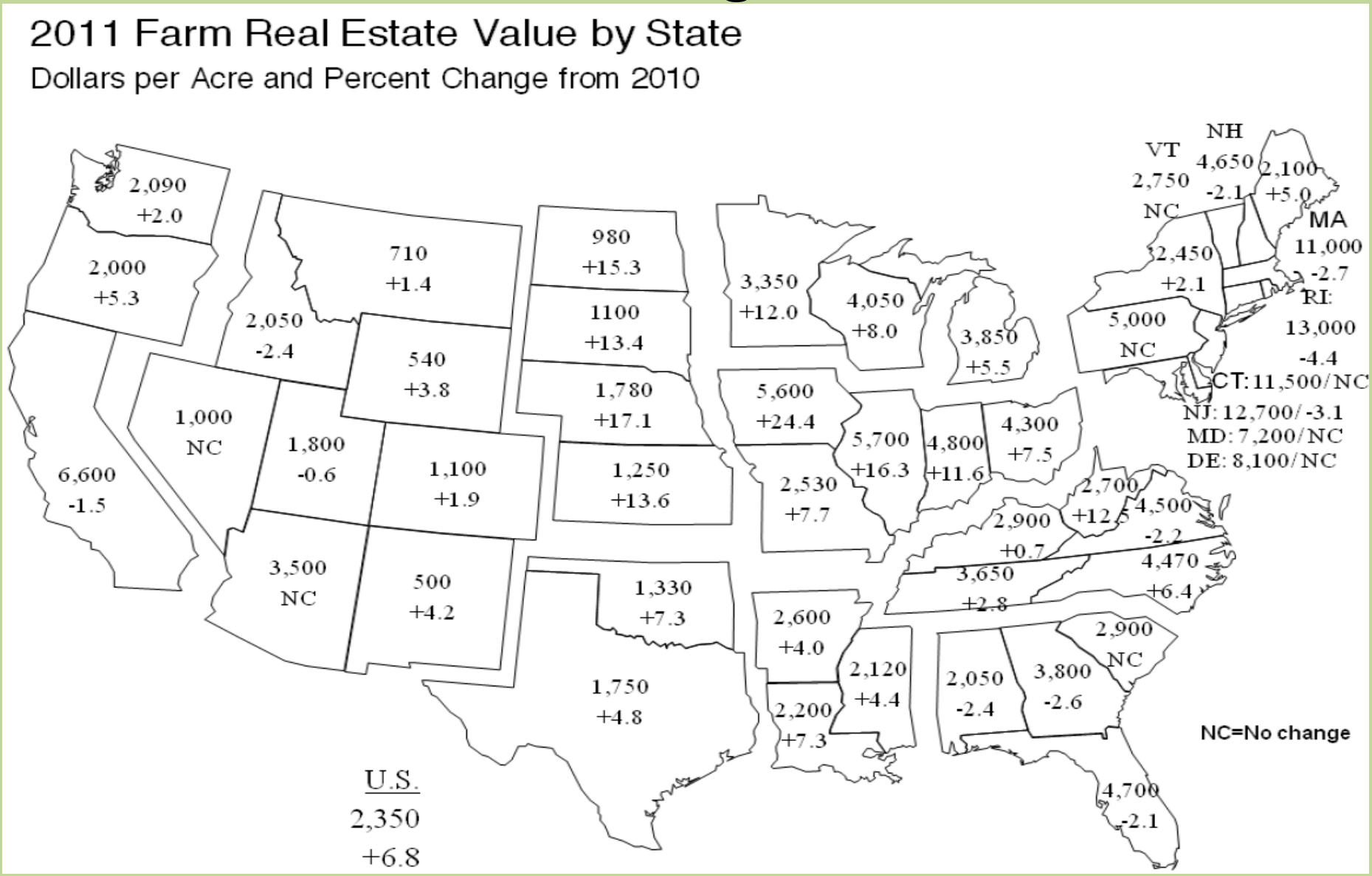


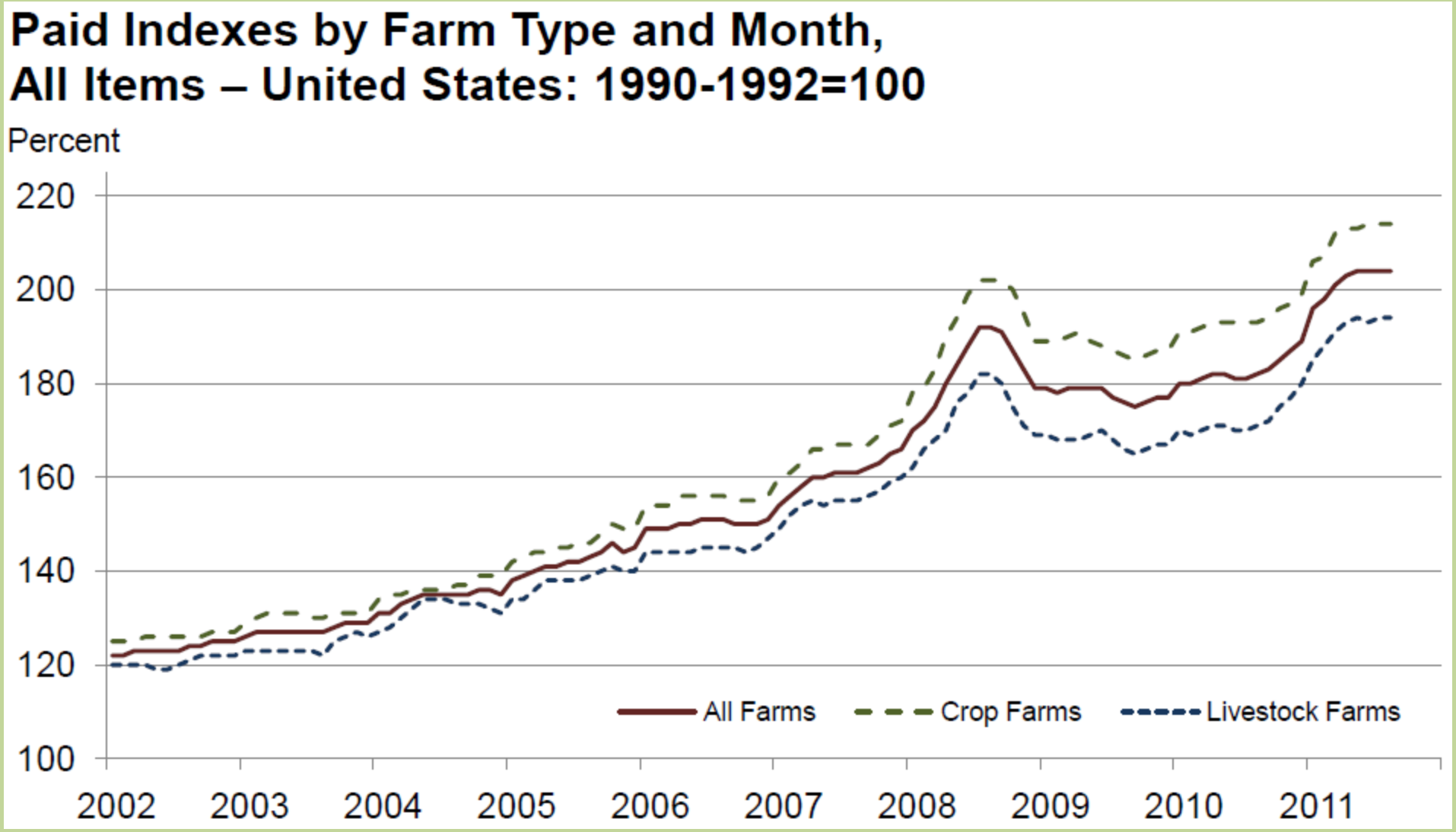
Land Prices have also Increased



Wisconsin Land Values are following National and Regional Trends



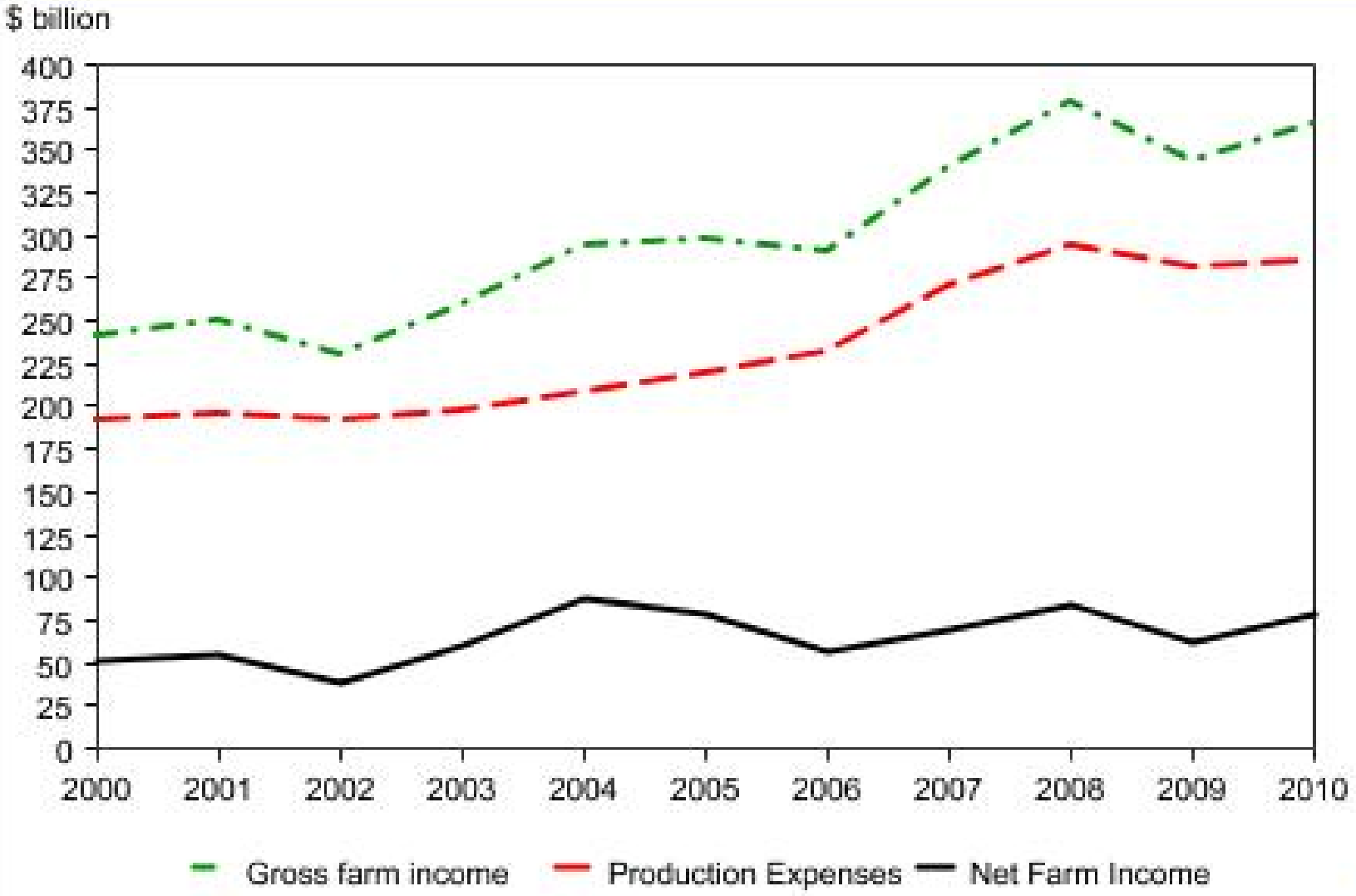
Cost Increases Hitting Crop Farmers Harder than Livestock Farmers



What's the Effect on Farm Income?

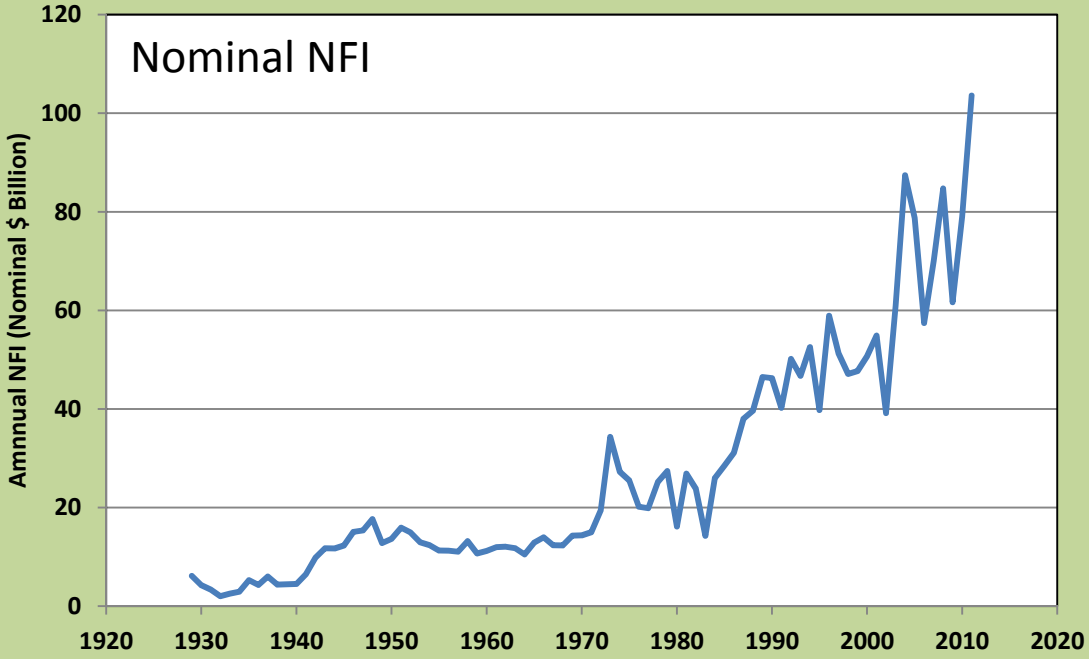
- Higher Output Prices, Higher Costs: so what's the effect on Net Farm Income?
- USDA estimates Net Farm Income for the whole US agricultural sector
  - Revenues minus costs of production
  - For National Income Accounts (GDP)

Gross farm income, production expenses, and net farm income, 2000-2010



Source: Economic Research Service, USDA.

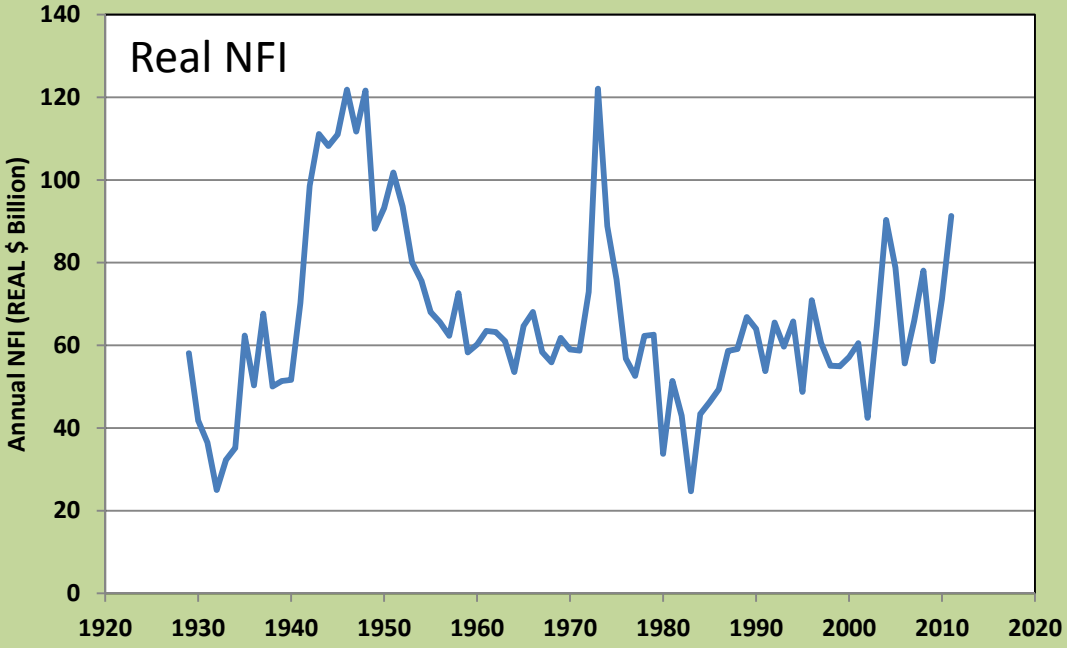
ERS

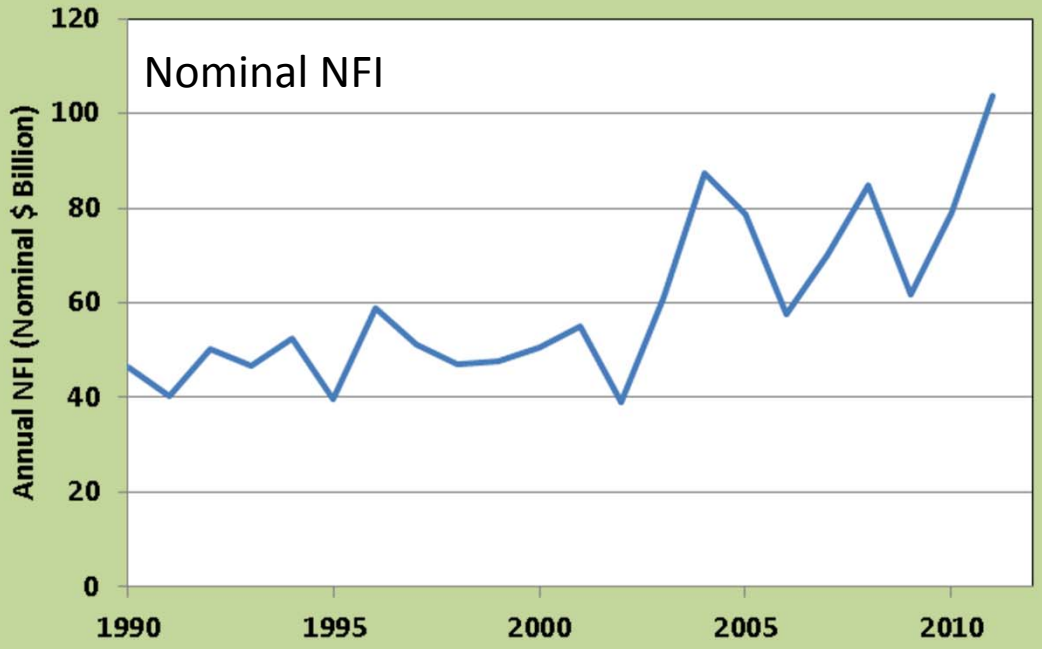


Nominal and Real Net Farm Income

Last decade looks good historically

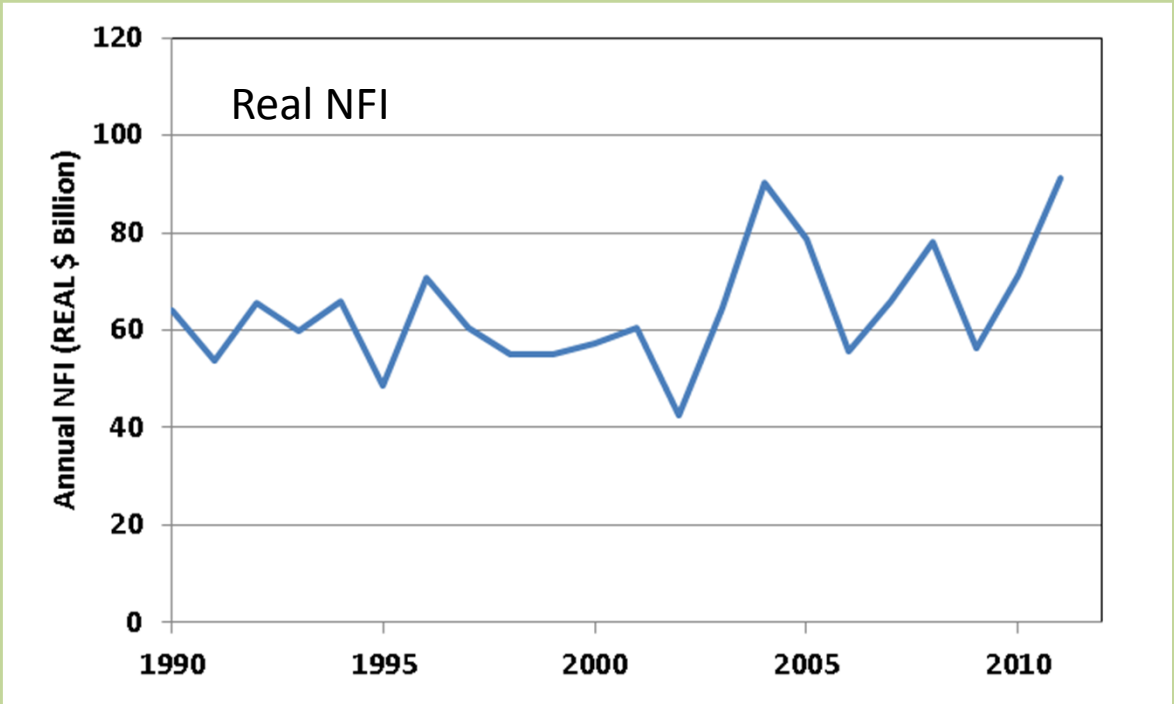
Notice the recent large swings





Nominal and Real NFI over the last decade

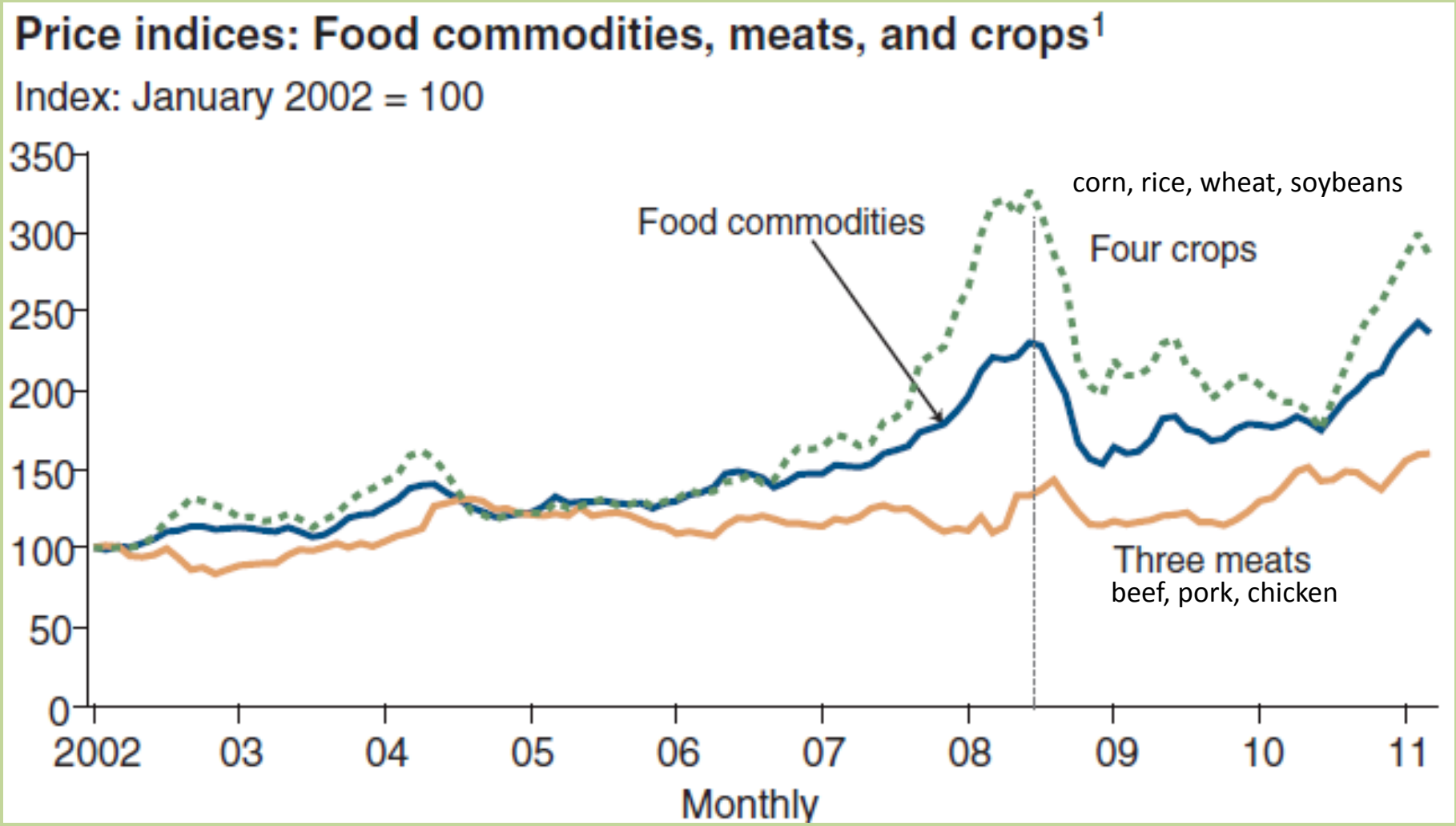
Notice the large swings: Increased volatility is the new normal



Main Point

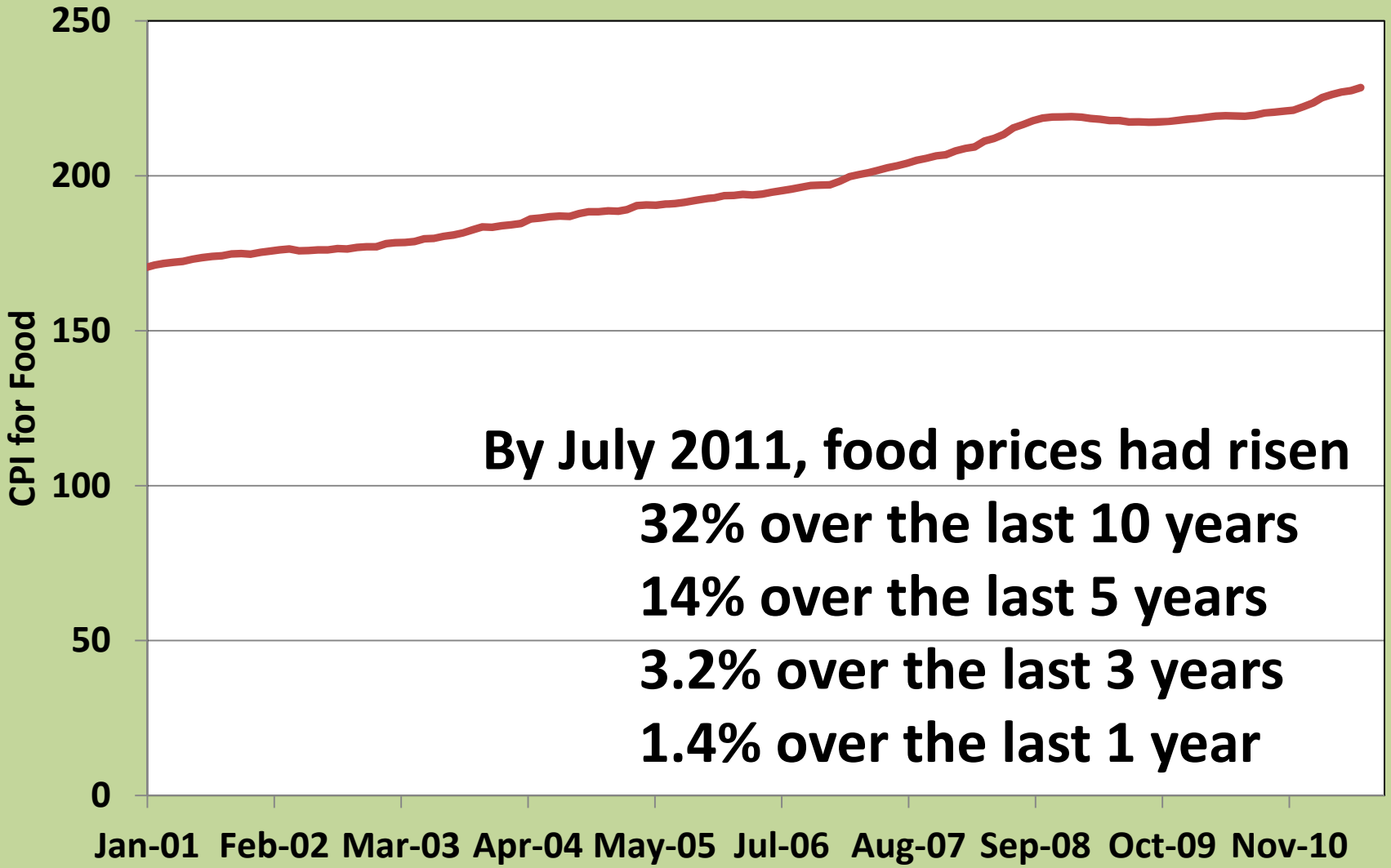
- With higher commodity prices and higher costs, farmers on average still seem to be doing ok
  - Will it last???
- Big difference: a lot more volatility in prices and income
  - Managing volatility more important today than was in the past

What about Food Prices?
Globally, they tracked grain prices

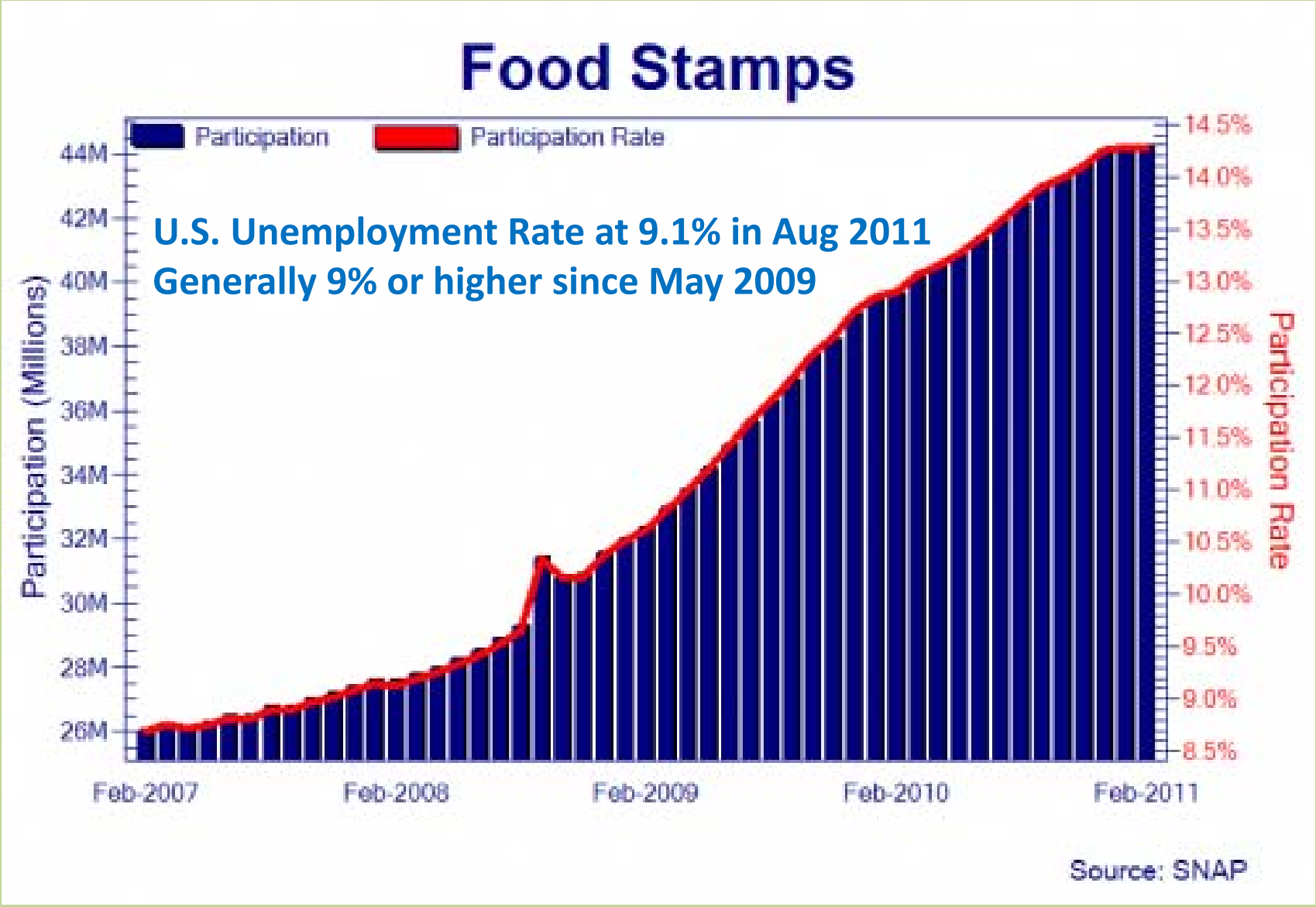


What about U.S. Food Prices?

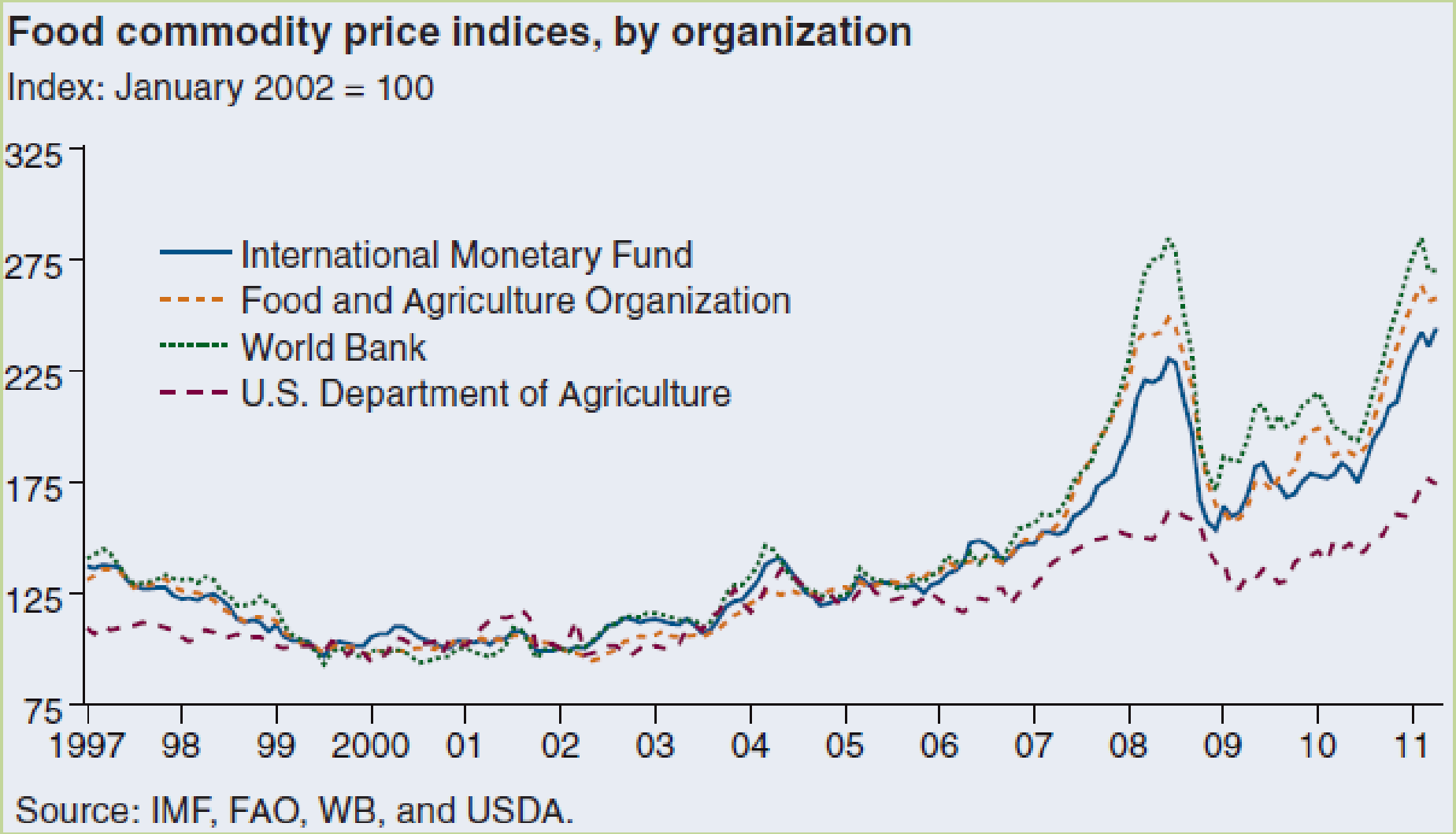
US BLS Food CPI Jan 2001 to July 2011 (1982-1984 = 100)



Food Stamp Recipients at Record Highs

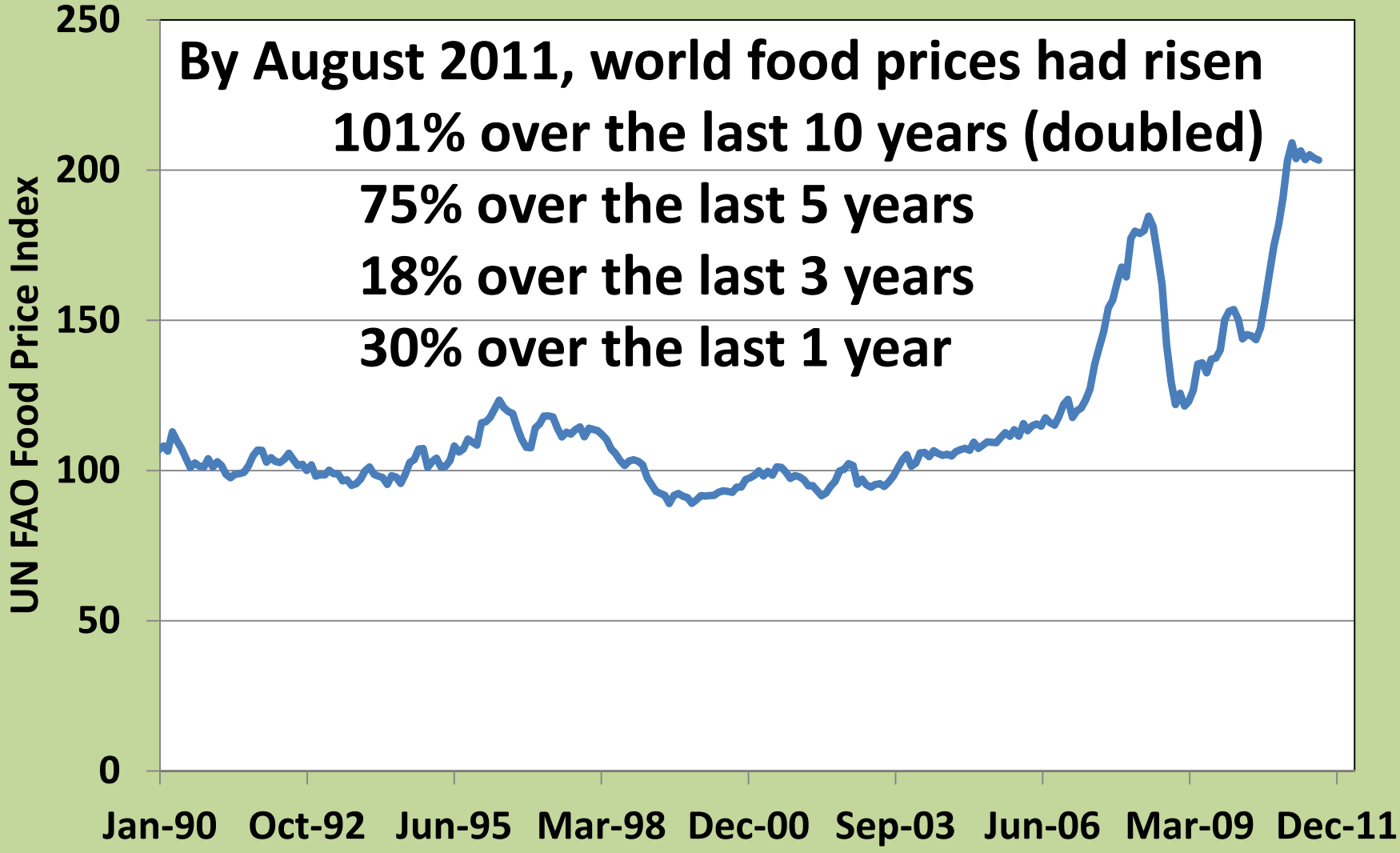


World food prices are at an all time high



UN FAO Food Price Index

(2002-2004 = 100)



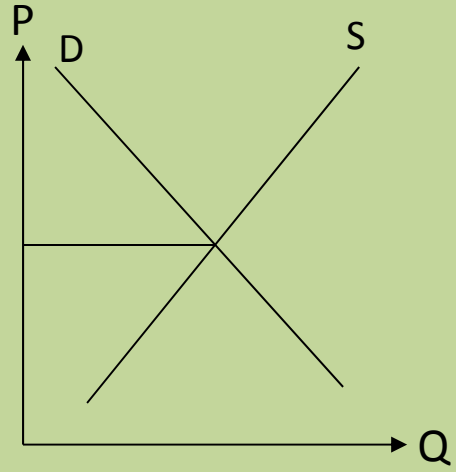
Main Point

- Food prices are rising all over the world
- Globally, food prices over the last year are the highest they have ever been
- Higher commodity prices have been transmitted to consumers
- US consumers better off compared to what's happening in other nations
  - Nevertheless, food stamp participation at record highs in the U.S.

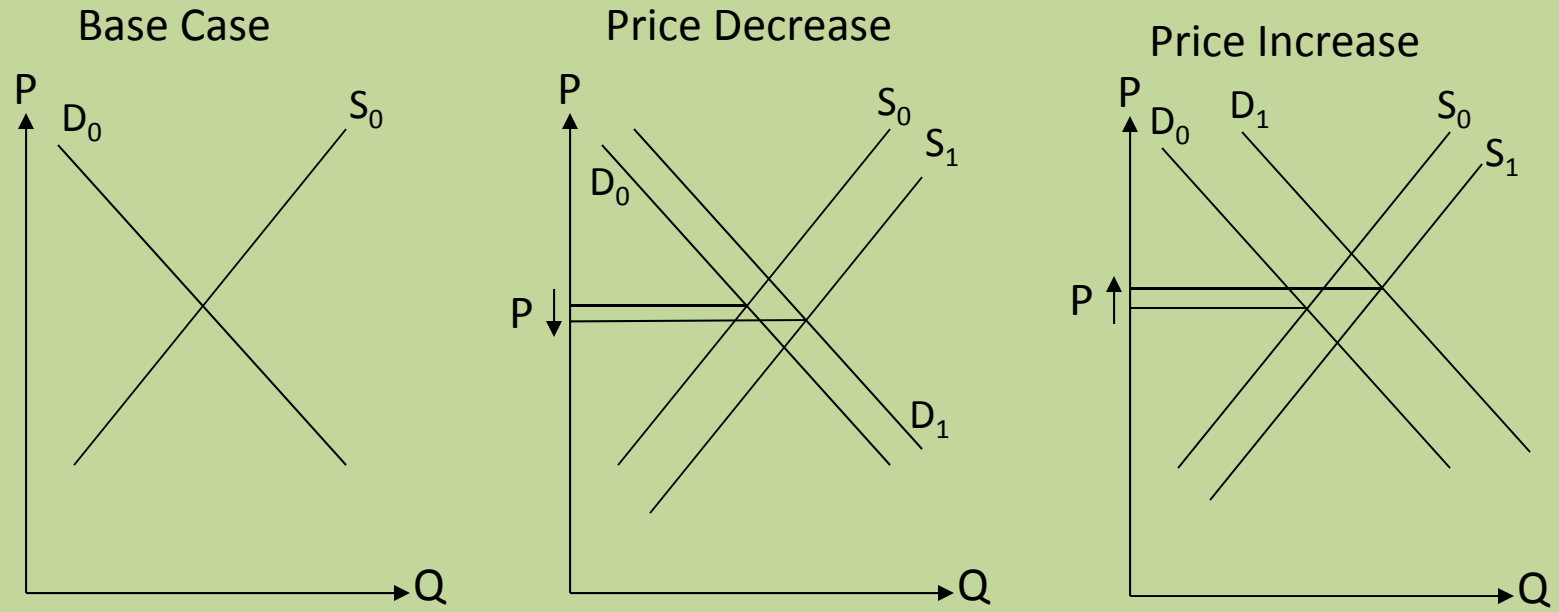
What's going on???

What's Driving Ag and Food Prices?

- Prices are determined by Supply and Demand
- Better question to ask then
- What's driving Supply and Demand?
- What has changed in last few years?



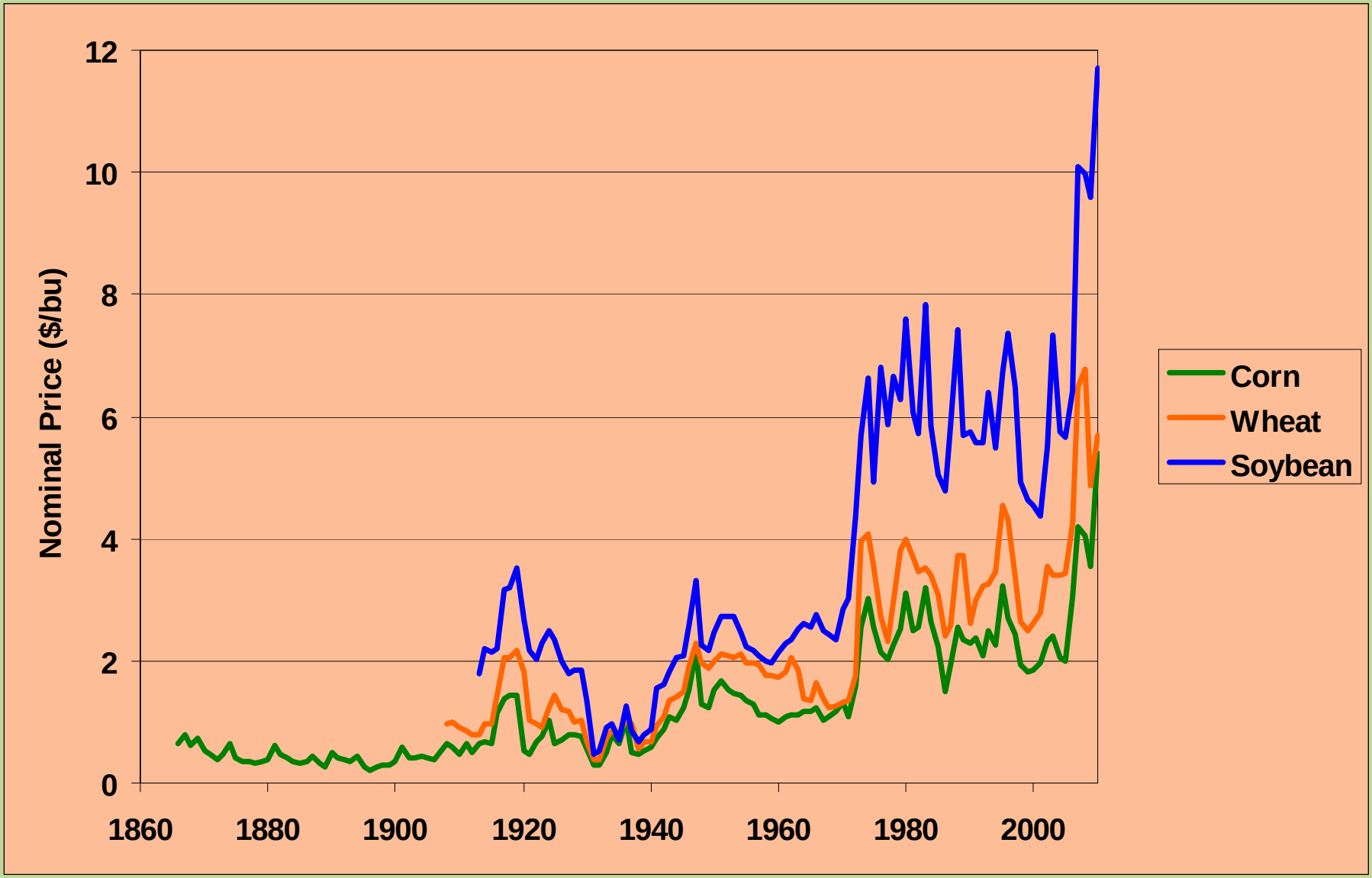
Both Supply and Demand have been increasing in U.S. agriculture, which can lead to price increase or decrease



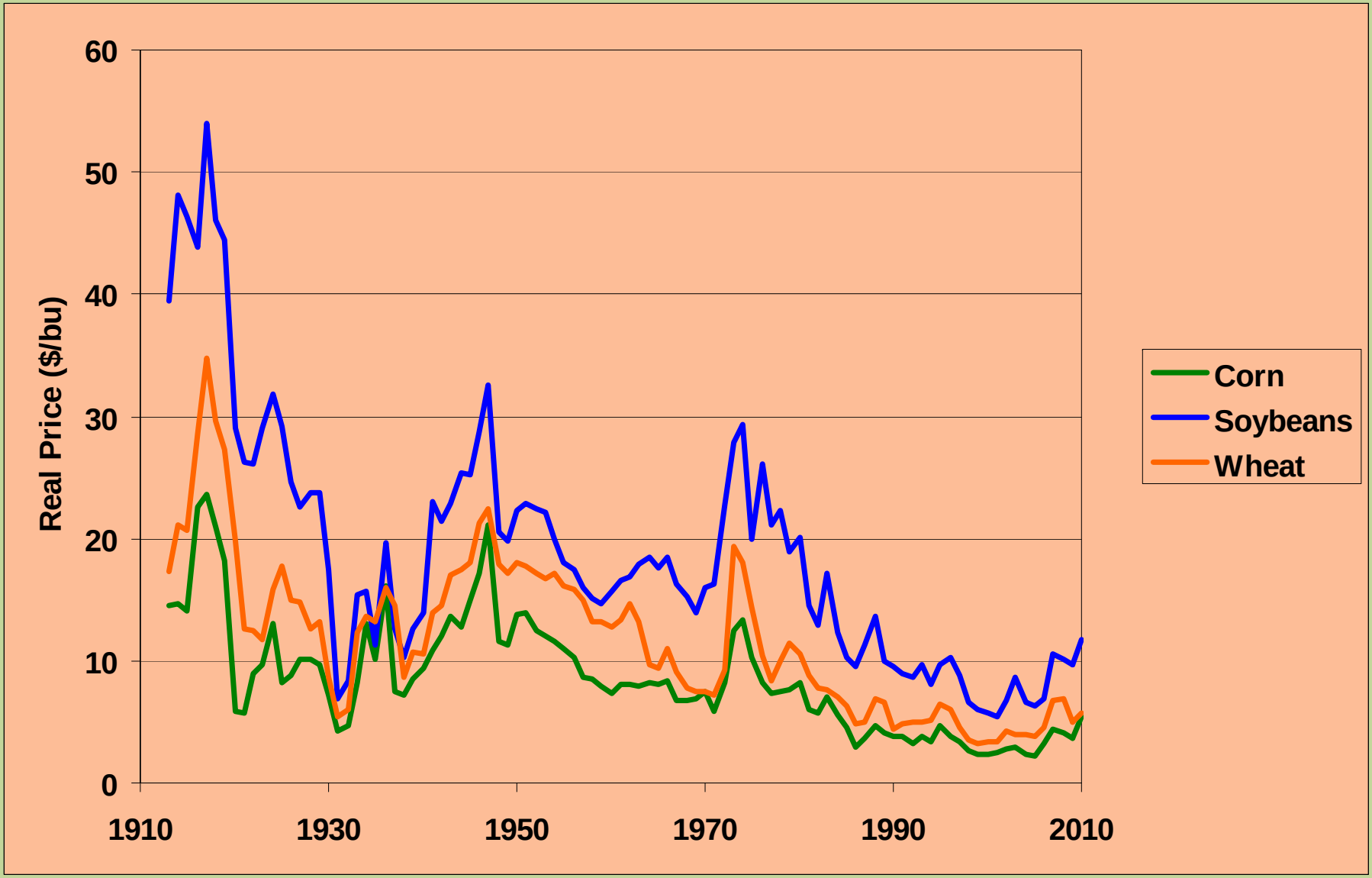
Prices depend on whether Supply or Demand increases the most

Traditionally in U.S., over supply and low prices have been the problem

Nominal Grain Prices ($/bu)



Real Grain Prices ($2010)

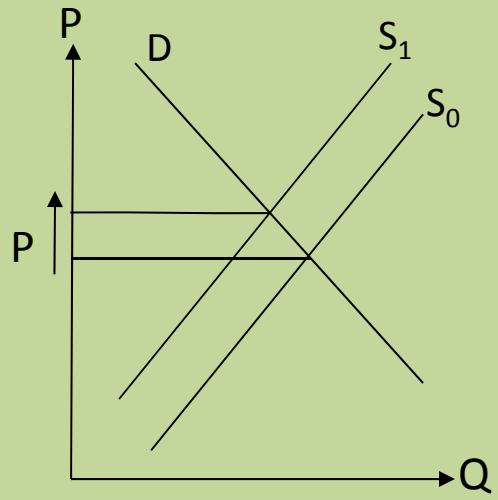


Supply Side Changes

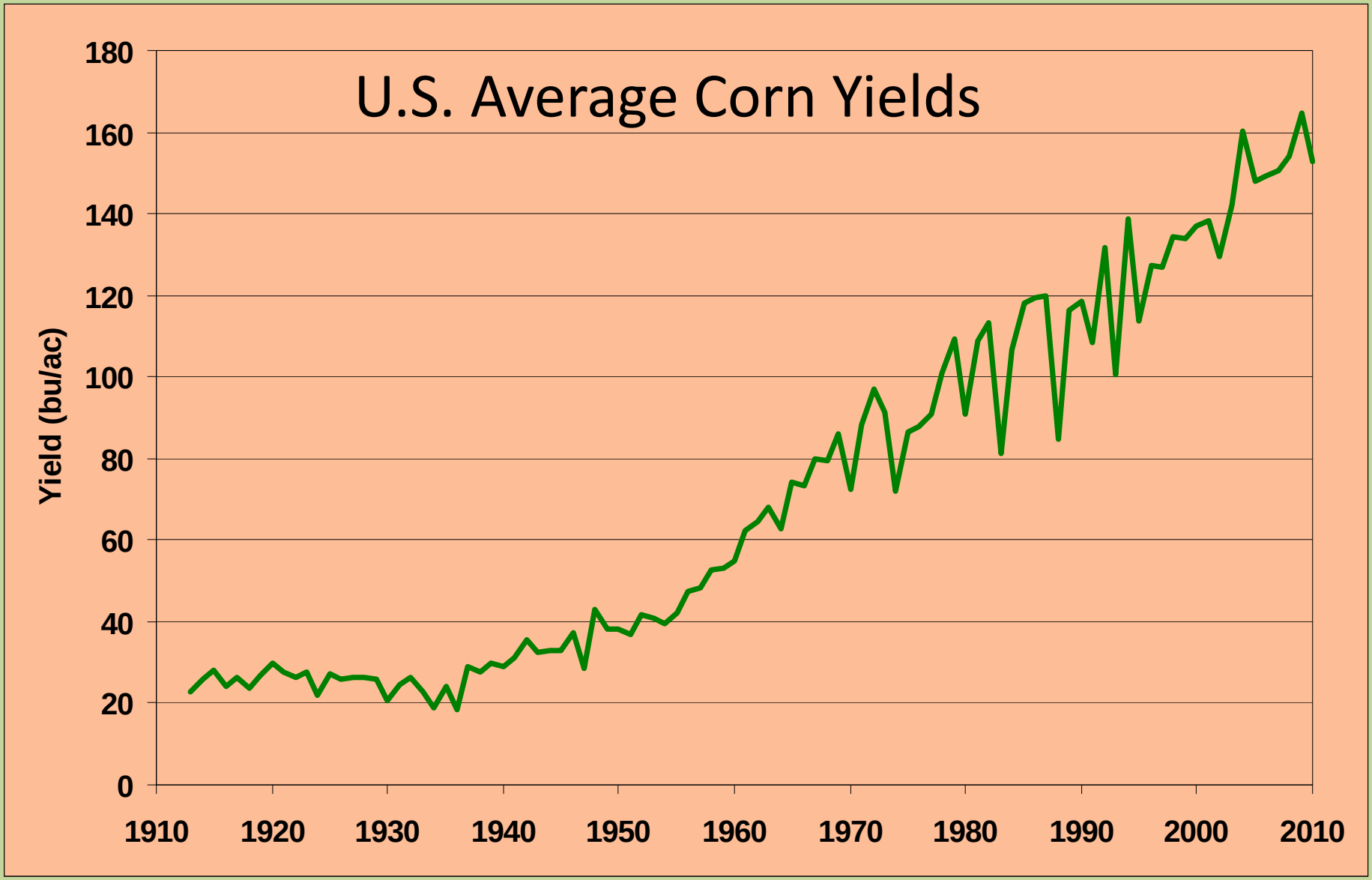
- Costs have Increased: energy prices have risen and are driving up costs for many ag inputs, which reduces supply
  - What's driving up energy prices?
- Some argue that ag technological advances have slowed down, reducing supply growth
  - Spending on public ag research has been decreasing since 1980s

Higher Costs

- Higher costs reduce supply and increase prices
- If input costs are now higher, fewer farmers than before are willing to supply the ag commodity at any given price, so less supply and higher market prices
- Farmers pass some of the cost increase on to consumers

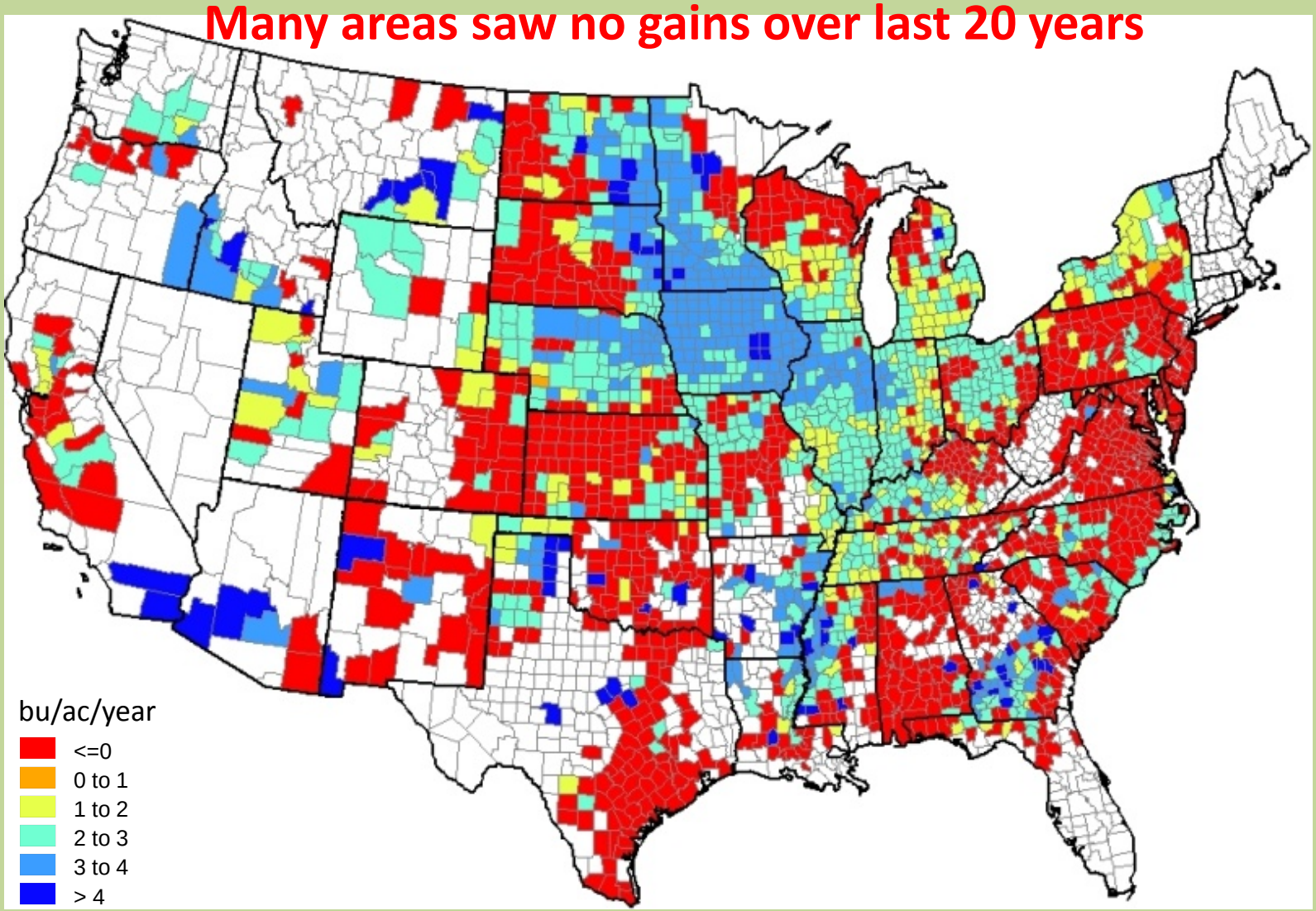


Has the rate of technological change slowed



Rate of Increase for County Average Corn Yields 1990 to 2009

Many areas saw no gains over last 20 years



Demand Side Changes

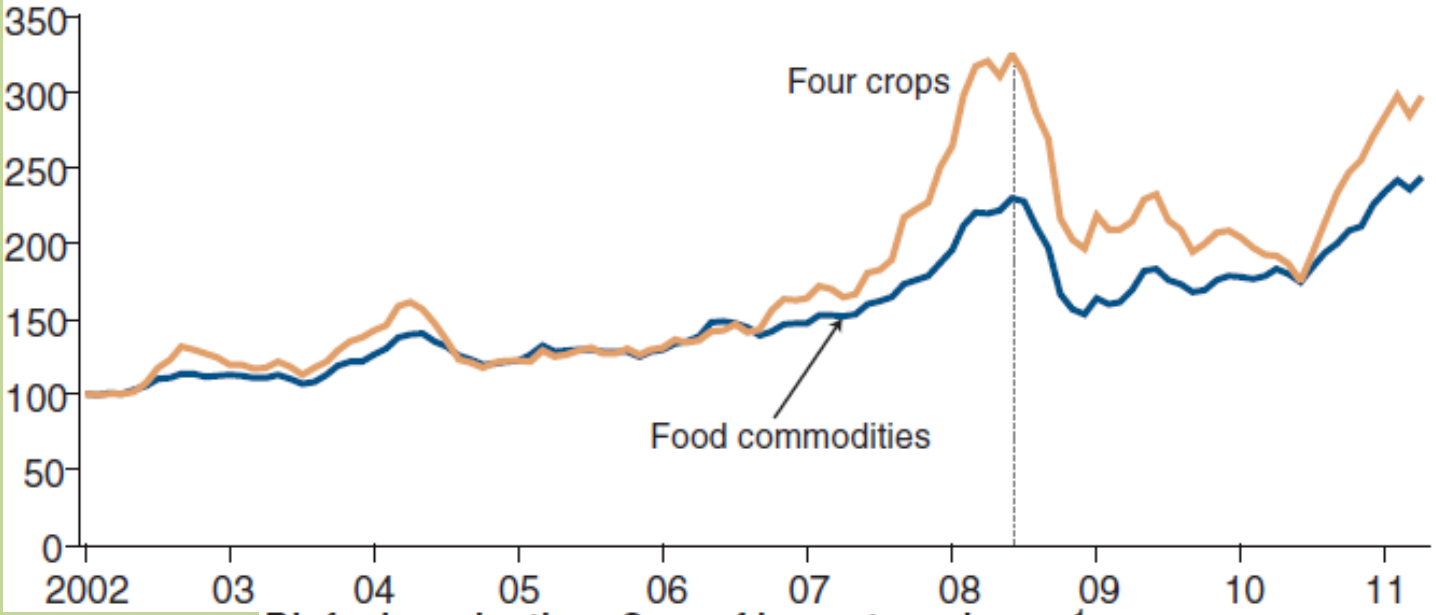
- Biofuels (corn ethanol and biodiesel)
- Economic growth in developing nations has increased their buying power and they demand more meat and higher quality food
  - China, India, Brazil
- Population growth has increased global food demand, and so increased food and crop prices
  - Especially, Africa, South America, and Asia

Biofuels

- Have had some effect on grain prices, but general consensus is that it is smaller than the other effects
- Livestock demand for grain is single largest use and much of the biofuel “left-overs” are still used for livestock feed (distiller’s grain)
- 30% corn price drop in late 2008 as biofuel production was increasing
- Corn prices rose in 2008 less than wheat and rice prices, though wheat & rice not used for ethanol

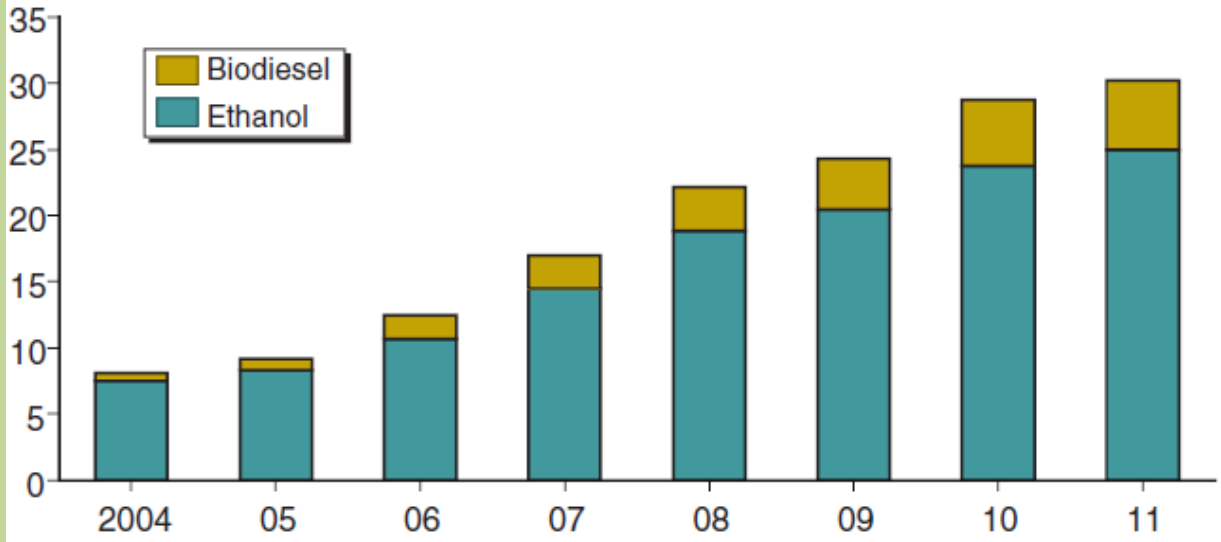
Price indices for food commodities and four crops[1]

Index: January 2002 = 100



Biofuel production: Sum of largest producers[1]

Billion gallons

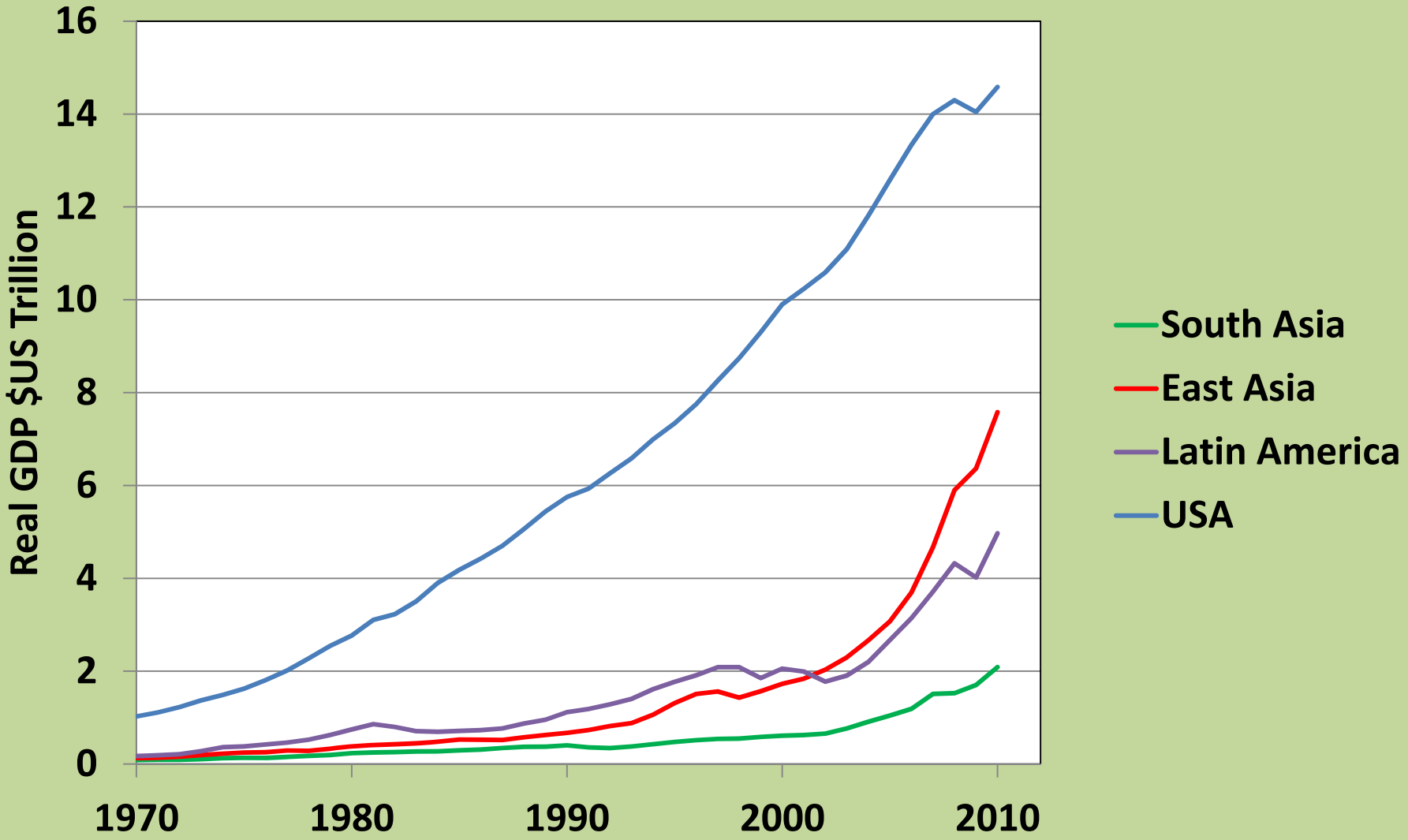


[1]The six largest producers (United States, Brazil, EU, China, Canada, and Argentina)

Economic Growth has continued in Asia and Latin America

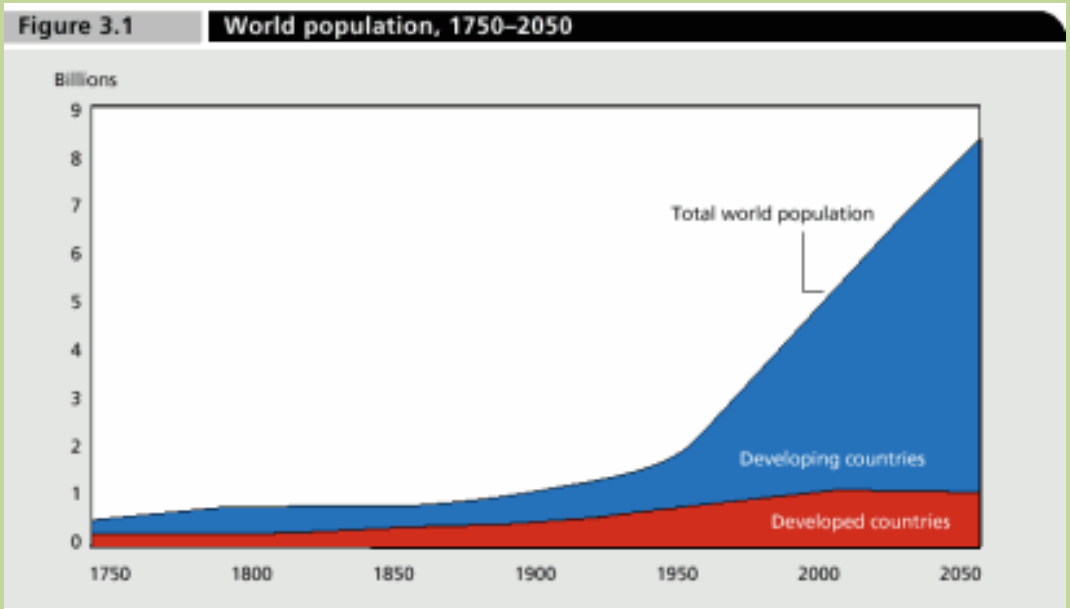
- The "Great Recession" did not hit China and India or Latin America as hard as U.S.
- Their buying power has grown tremendously and they are demanding more meat and more and better food with their higher incomes
  - China was world's 2nd largest economy in 2010
  - USA: $14.8 trillion, China: $5.9 trillion
- World's per capita meat consumption is increasing, meaning more grain needed

Growth in Real GDP

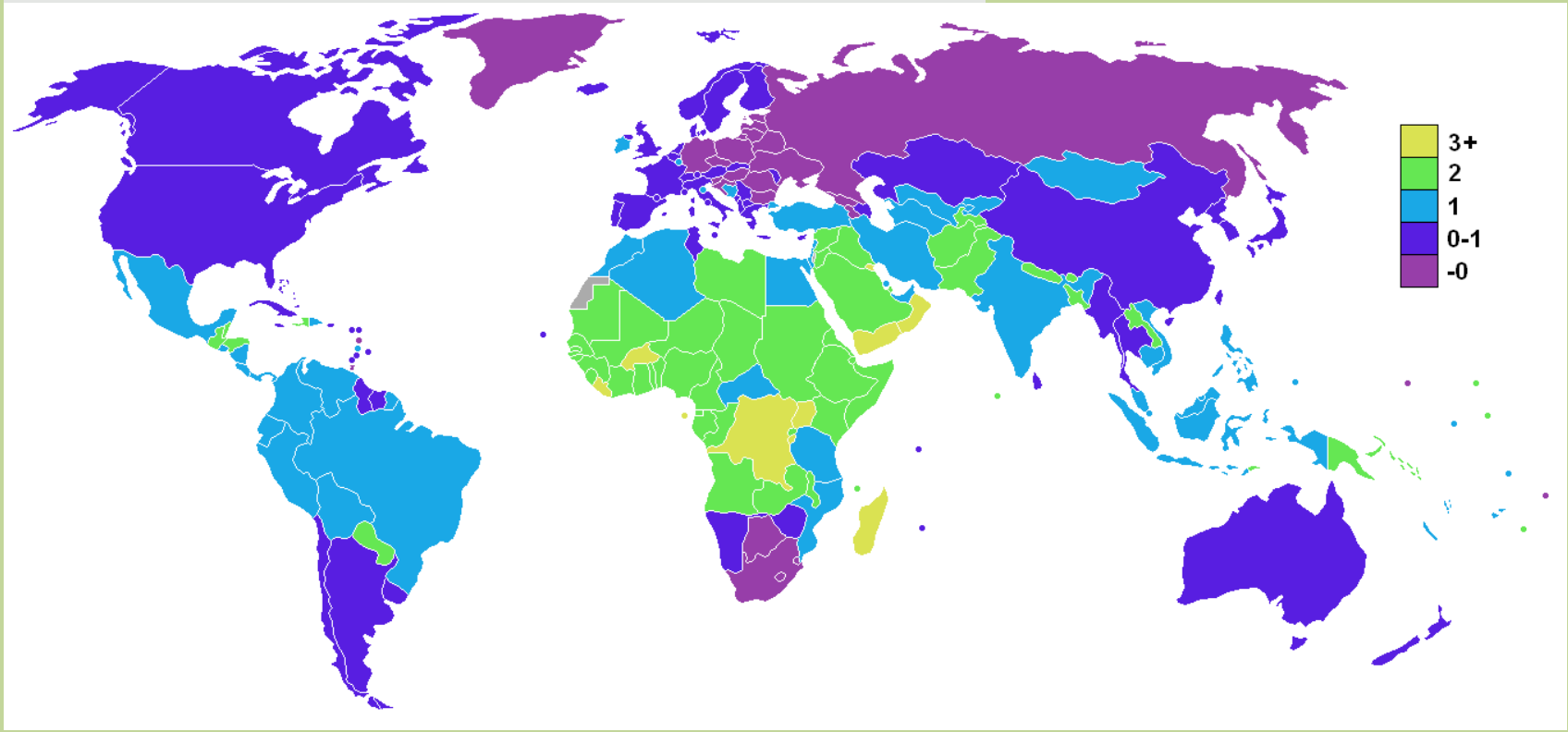


Population Growth

- More people means more food needed
- World population continues to grow, especially in less developed nations
  - Africa and Mid-East/Central Asia
  - Slower in Asia and Latin America



World population was 6.96 billion on July 1, 2011 and growing!
(U.S. Census Bureau)



Where is this additional food going to come from?

- Convert more land to crops?
  - Running out of places to convert
  - Soil erosion and water availability becoming a concern
- Technological progress?
  - Need more productivity from the land we use
  - Already talked about concerns in this
- Improve post-harvest storage and distribution

Summary/Conclusions

- Ag and food prices are at historical highs
- What's driving these higher prices?
- Recently, sustained demand increases are exceeding supply increases over the long term
  - Economic growth and population growth, biofuels, higher energy costs, slower agricultural technological progress

Questions/Comments?

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