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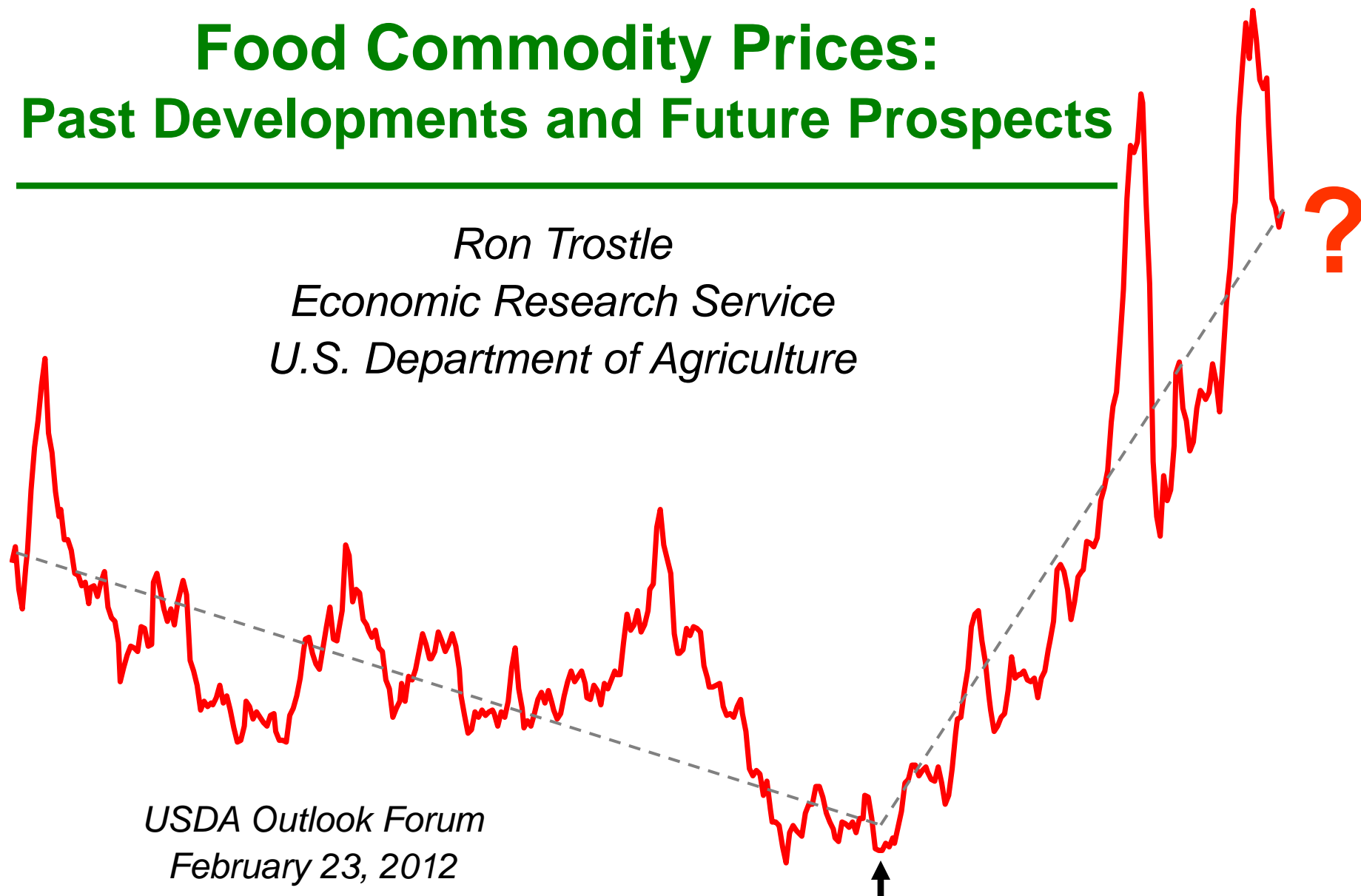
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# Food Commodity Prices: Past Developments and Future Prospects

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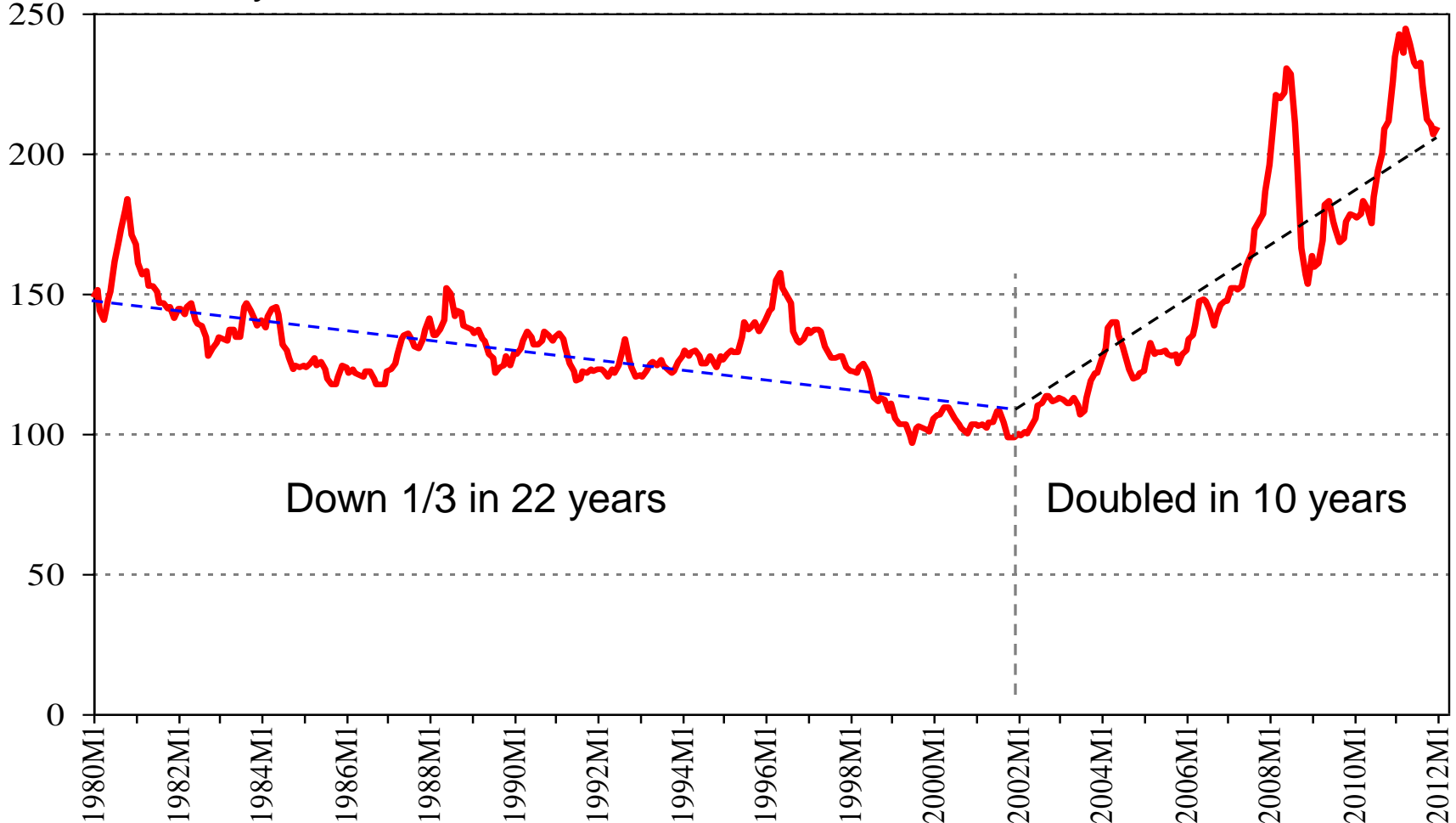
*Ron Trostle  
Economic Research Service  
U.S. Department of Agriculture*



*USDA Outlook Forum  
February 23, 2012*

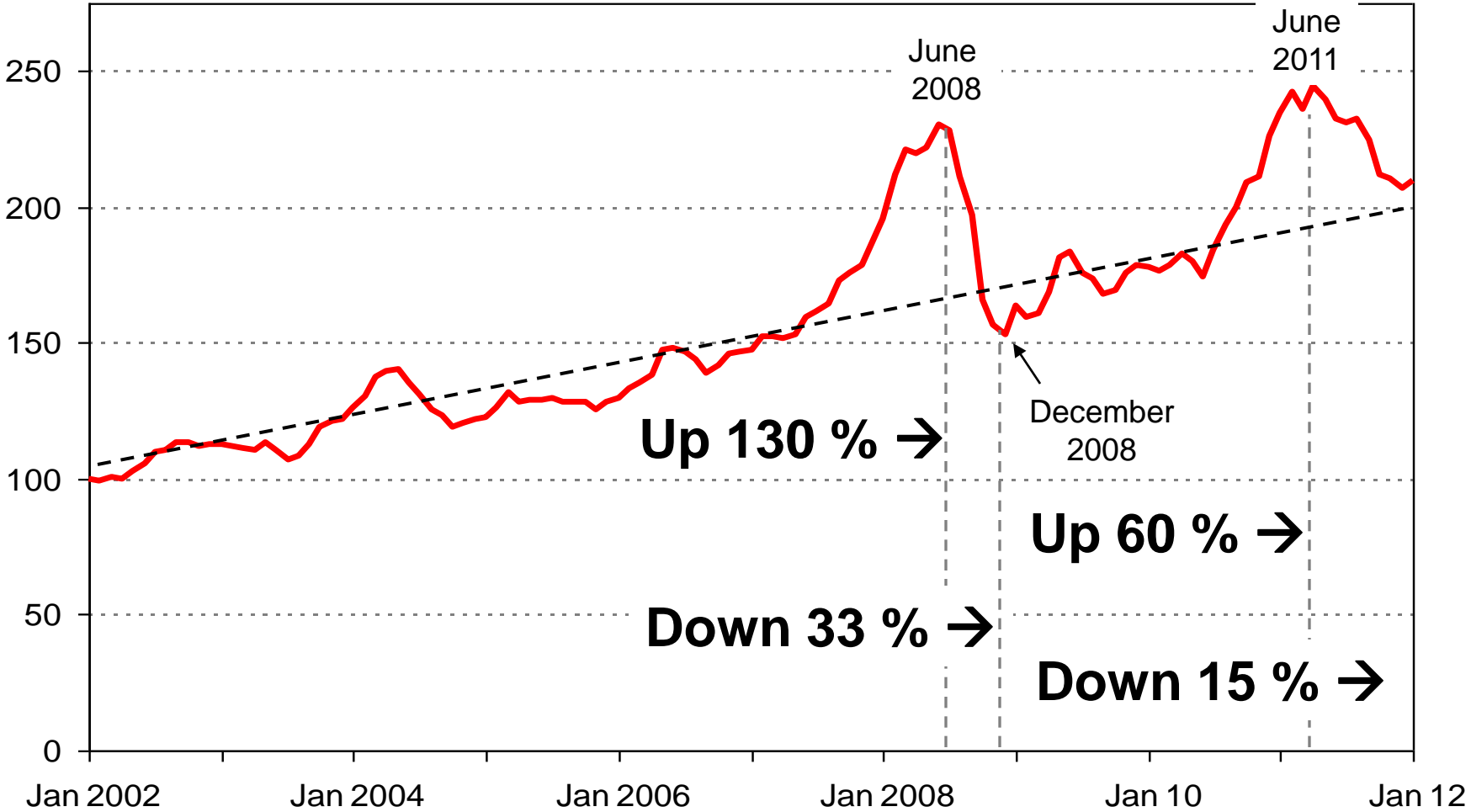
# Food commodity prices since January 1980: Reversal of a 22-year downward trend

Index: January 2002 = 100



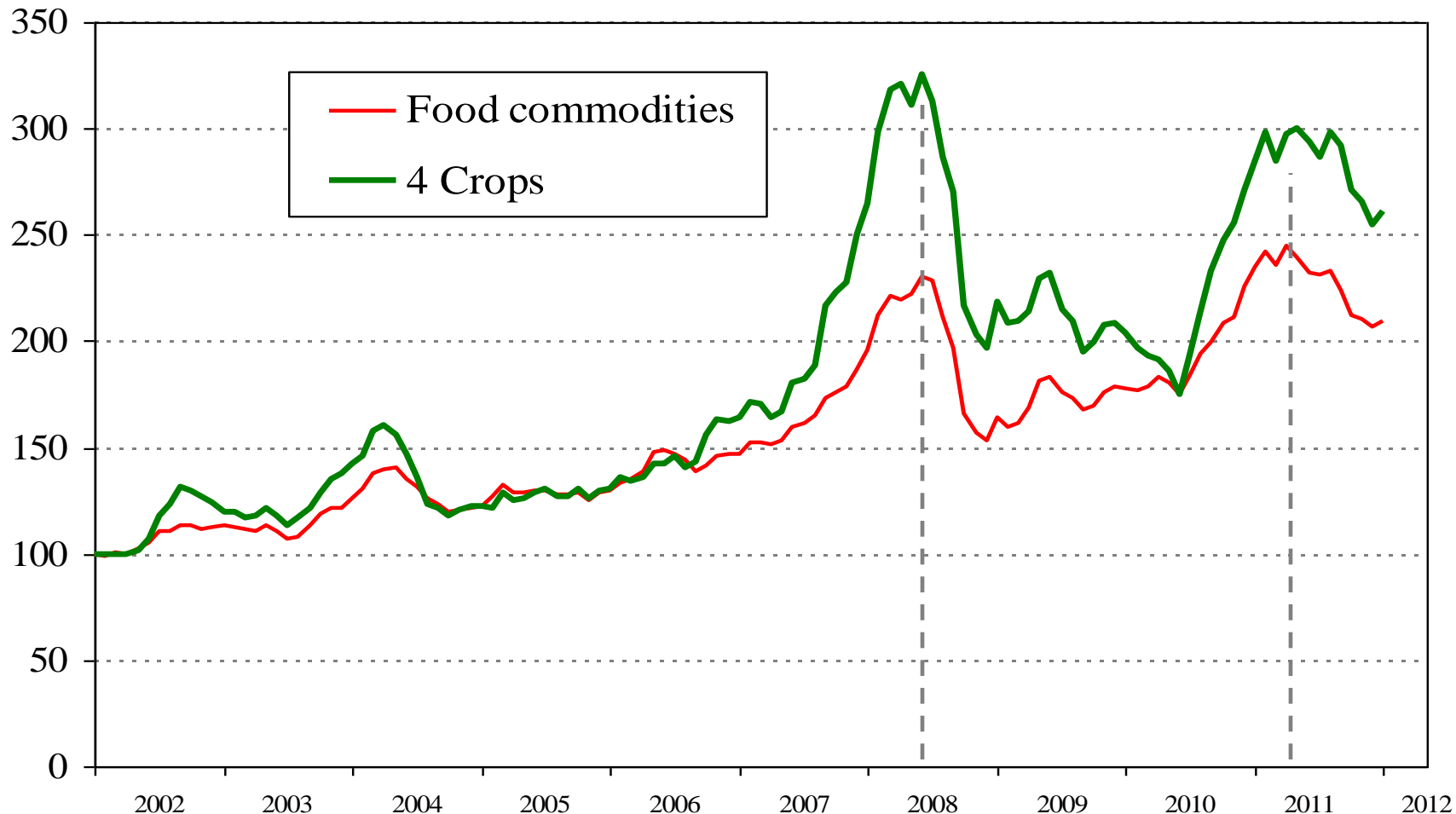
# Food-commodity prices since January 2002: an upward trend and two spikes

Index: January 2002 = 100



# Price indices: Food commodities and 4 crops<sup>1</sup>

Index: January 2002 = 100

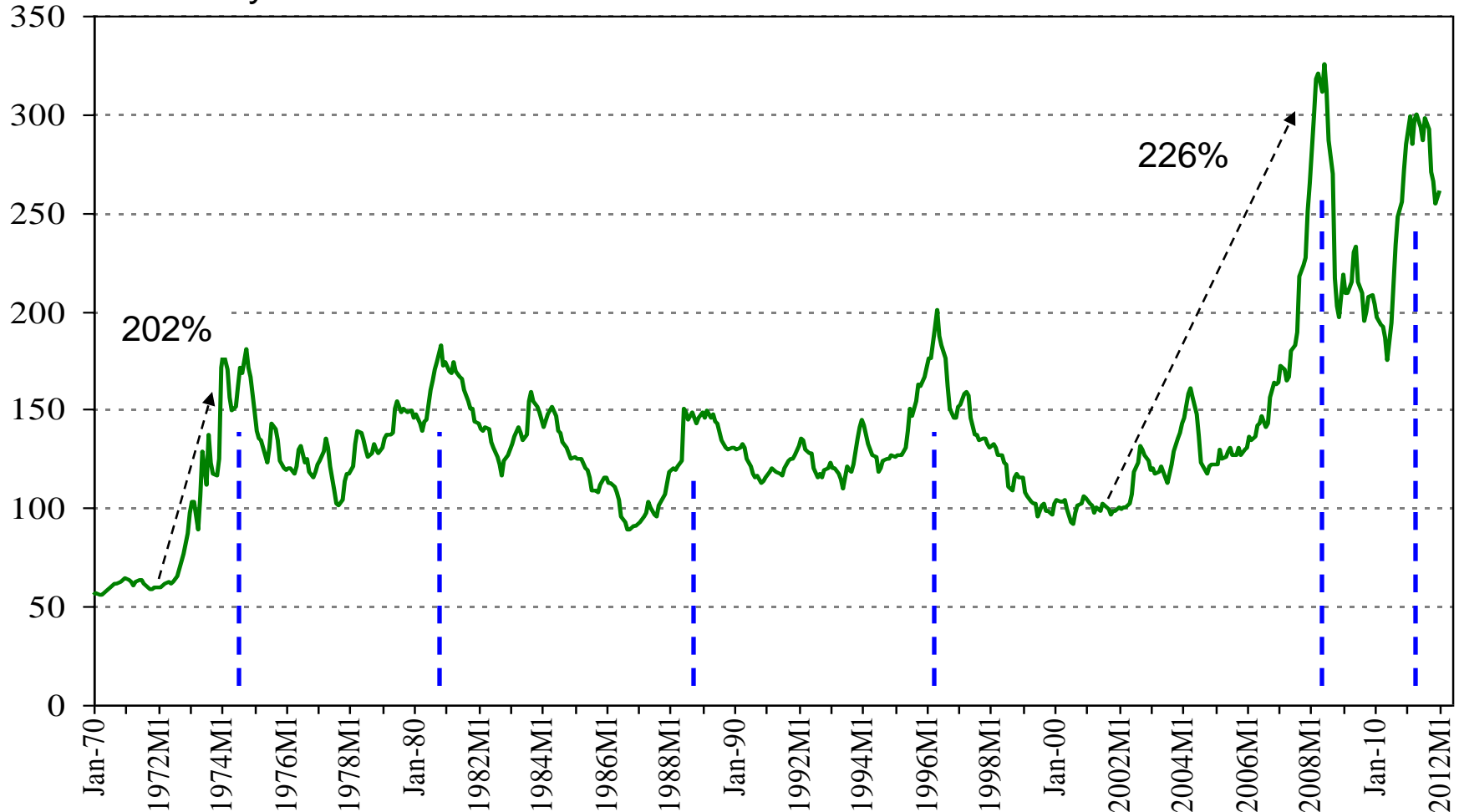


<sup>1</sup>Crops: index of IMF wheat, rice, corn, & soybean prices, weighted by trade shares.

# 6 price spikes since 1970

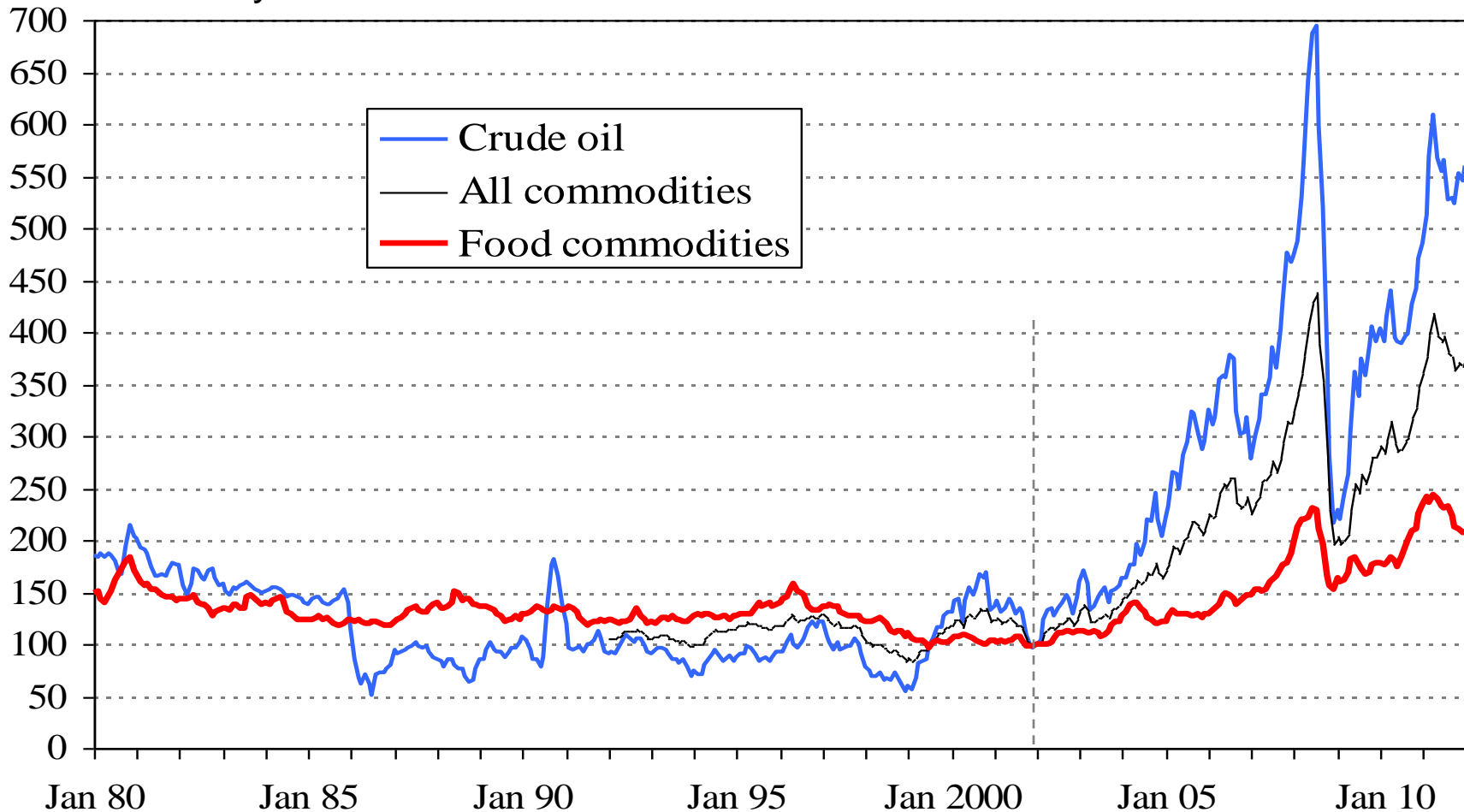
Weighted average of 4 crops (wheat, soybeans, corn & rice) 1/

Index: January 2002 = 100



# Non-food commodity prices have risen even more

Index: January 2002 = 100



Source: International Monetary Fund: International Financial Statistics

# Factors contributing to higher food commodity prices

## Economy wide

## Ag sector

### Long-term trends

>	Economic growth
>	Increasing population
>	Cost of energy

>	Meat & dairy consumption
>	Global biofuel production
>	Productivity growth
>	Natural resource constraints

### Short-term disruptions

>	Exchange rate (LT & ST)
>	Oil price

>	Weather → production
>	Stock-to-use ratio
>	Exporters' policy response
>	Importers' policy response



# Global supply and demand pushed up prices

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Long-term trends & short-term shocks contributed in different ways:

- Long-term trends in supply and demand have led to gradually tightening world markets since late 1990s
- – and to upward trending prices since 2002.

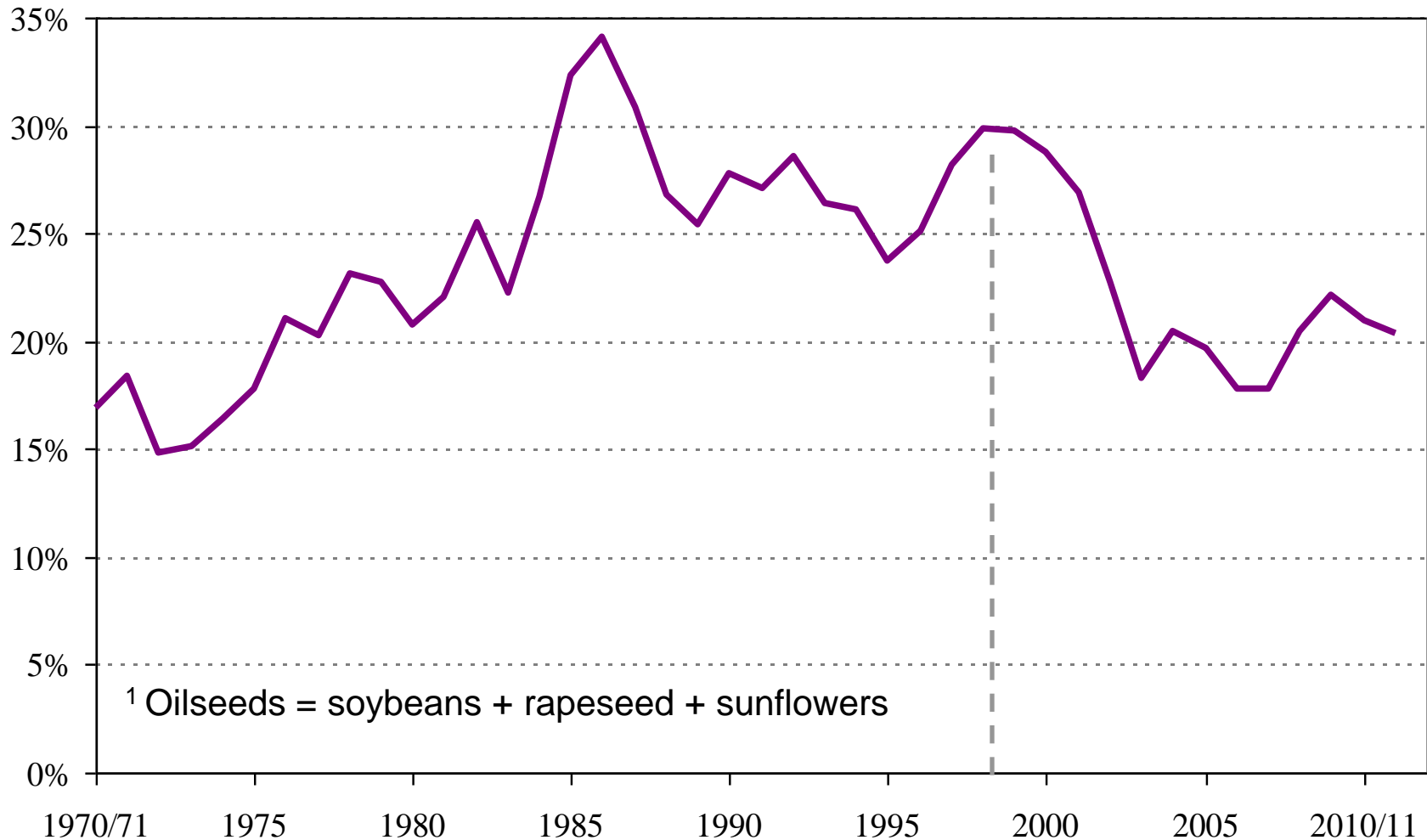
The resulting reduced global stocks and stocks-to-use ratios set the stage for:

- Short-term shocks & disruptions to further restrict world food commodity supplies leading to policy responses that raised short term demand—
- – and led to price spikes in 2007/08 and 2010/11.

# Total world grain & oilseeds<sup>1</sup>

## Stocks-to-use ratio

Stocks / Use



# Evolution of long-term trends contributing to higher prices

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- Developing country economic and population growth led to increased food demand
  - Growing middle class, increased urbanization, diet diversification
- Slower growth in ag productivity
- Depreciating U.S. dollar
- Higher crude oil prices
- Biofuel production: USA, EU, BRA, ARG, CAN, et.al.
- Increased demand for biofuel feedstocks
- Above factors led to an upward trend in food commodity prices, but did not directly cause the price spikes

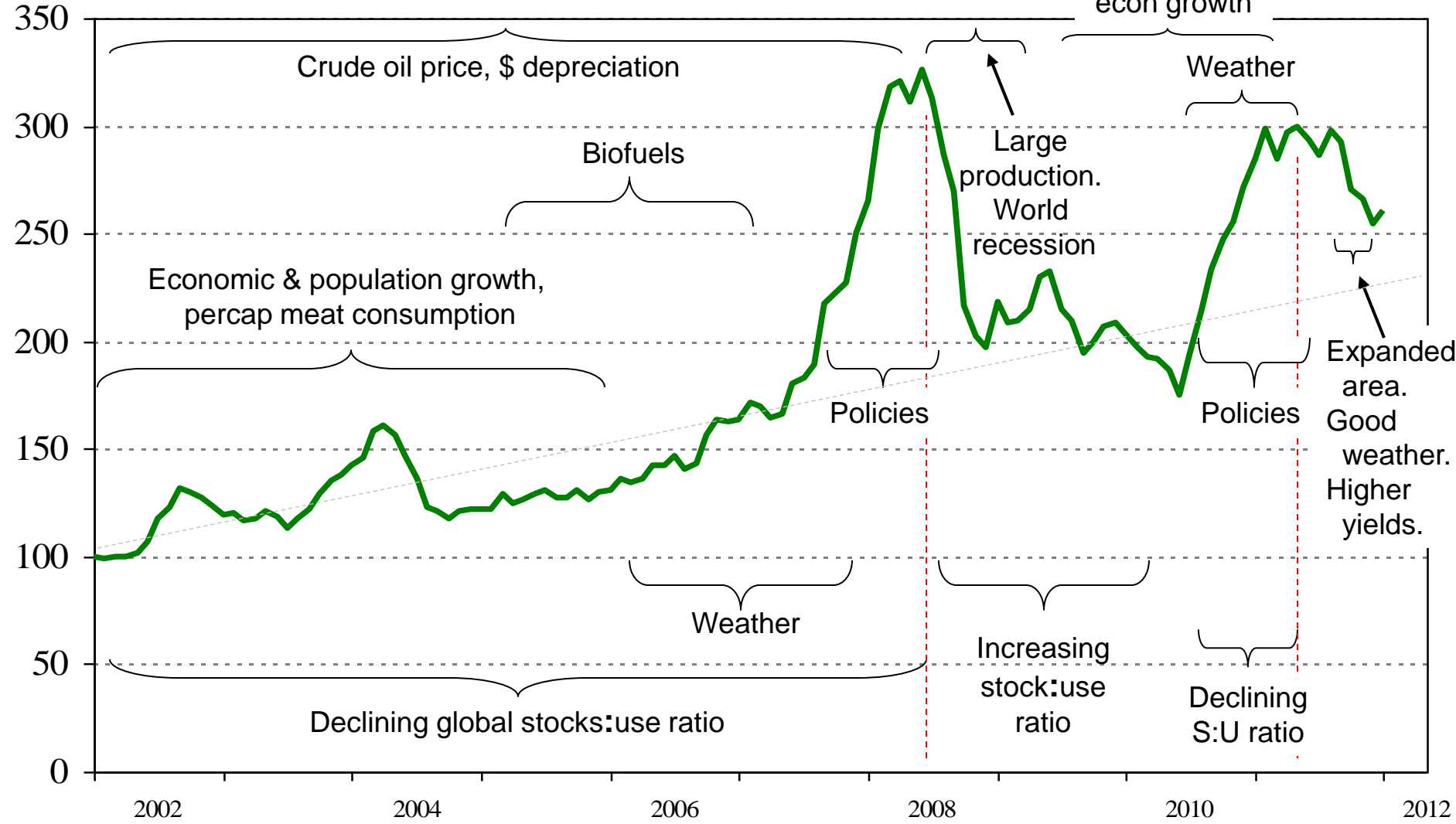
# Evolution of short term shocks that resulted in the price spikes (2007/08 & 2010/11)

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- Adverse weather reduced world crop production – and further reduced world stocks and stocks-to-use ratios
- Sharp changes in macroeconomic factors
  - dollar dropped quickly – then recovered quickly
  - Sharp spike in crude oil prices (up, then down)
- Some exporting countries restricted shipments (export quotas and export bans), further reducing importer's access to food commodities
- Anxious importers facilitated consumption (lowered tariffs, raised food subsidies), and increased forward contracting of their import needs. These actions increased short-term demand.

# Primary factors affecting crop prices<sup>1</sup>

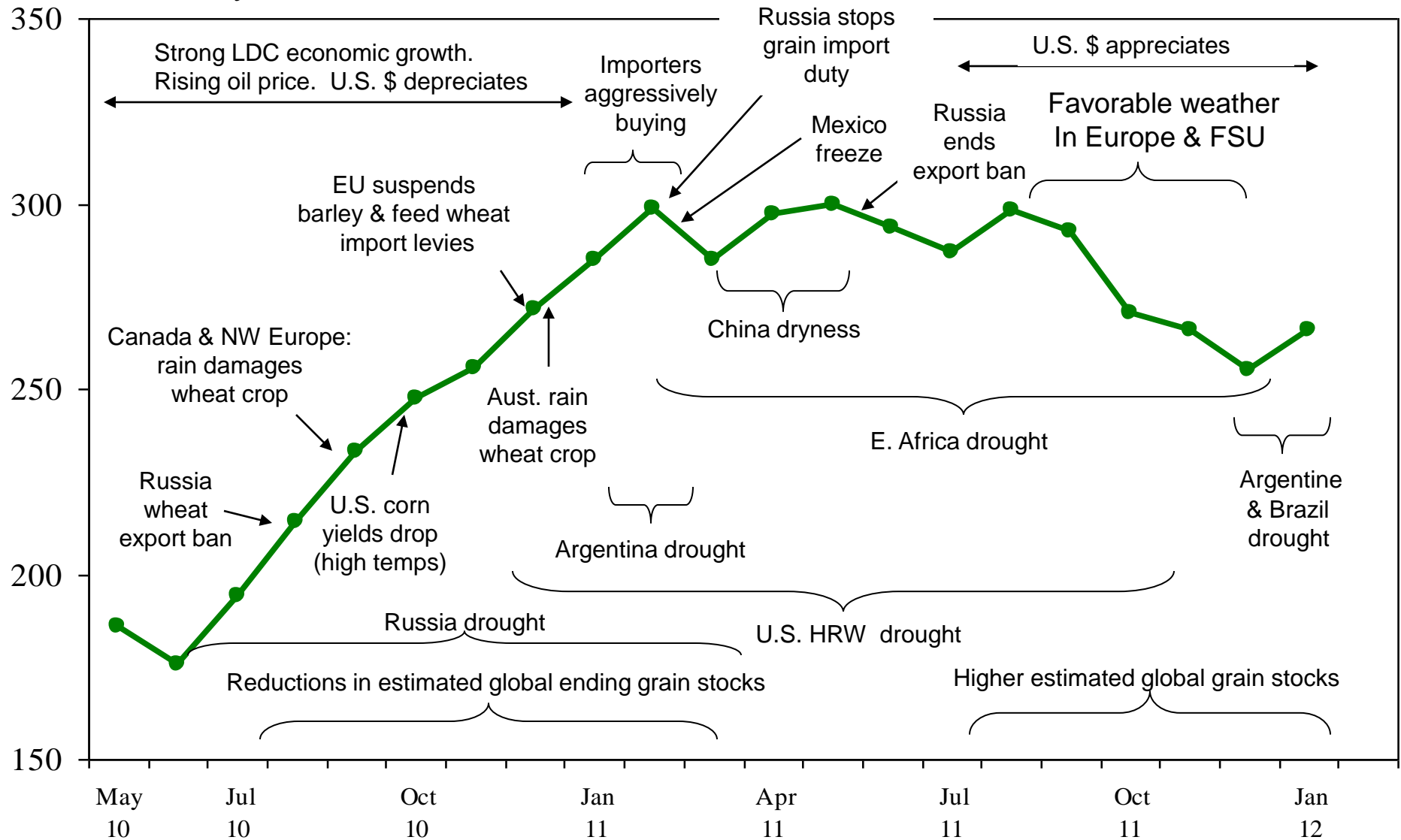
Index: January 2002 = 100



<sup>1</sup>14-crop monthly price index: Wheat, rice, corn, & soybean prices; based on IMF price and trade share data.

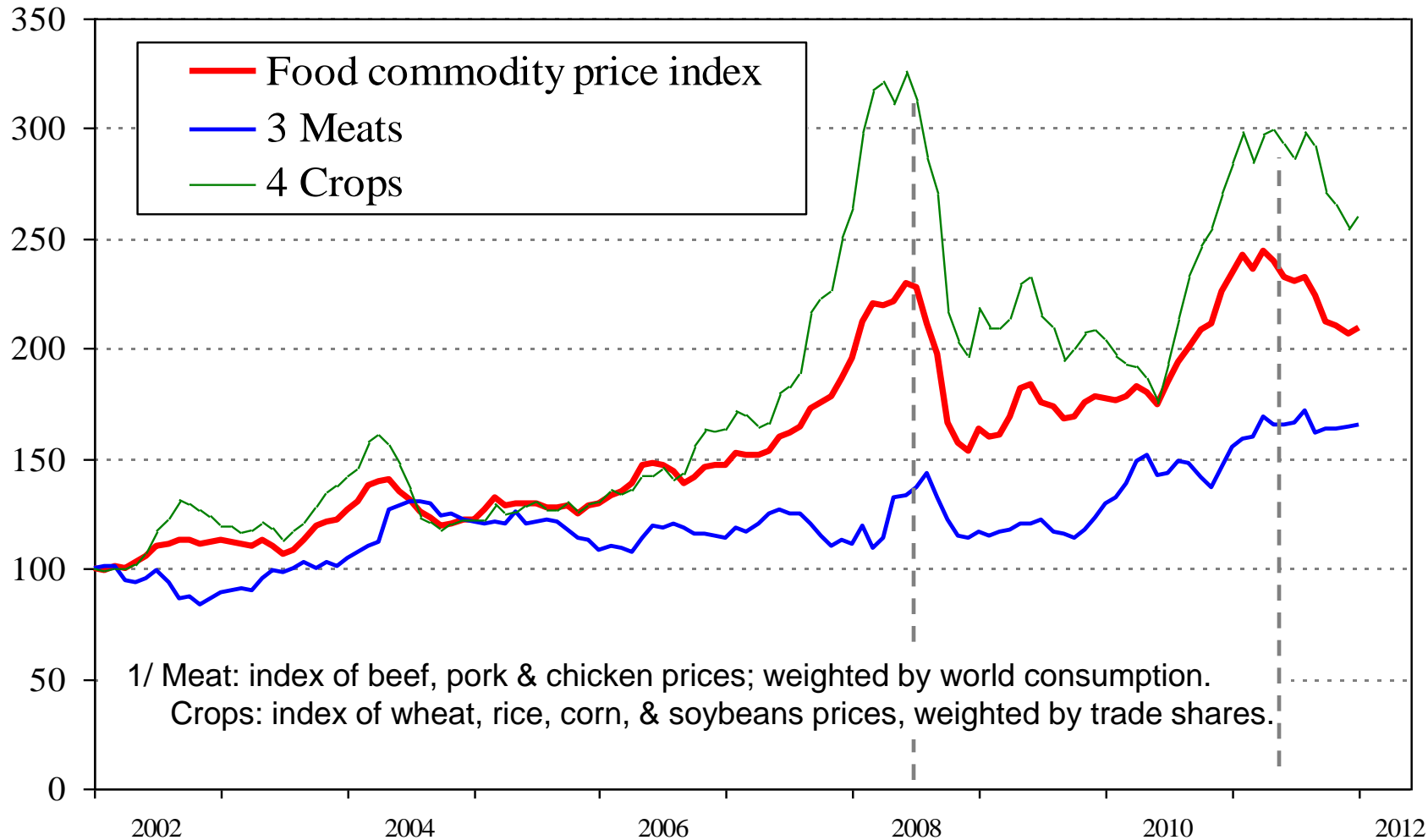
# Primary factors affecting crop prices<sup>1</sup> (June 2010 – Jan 2012)

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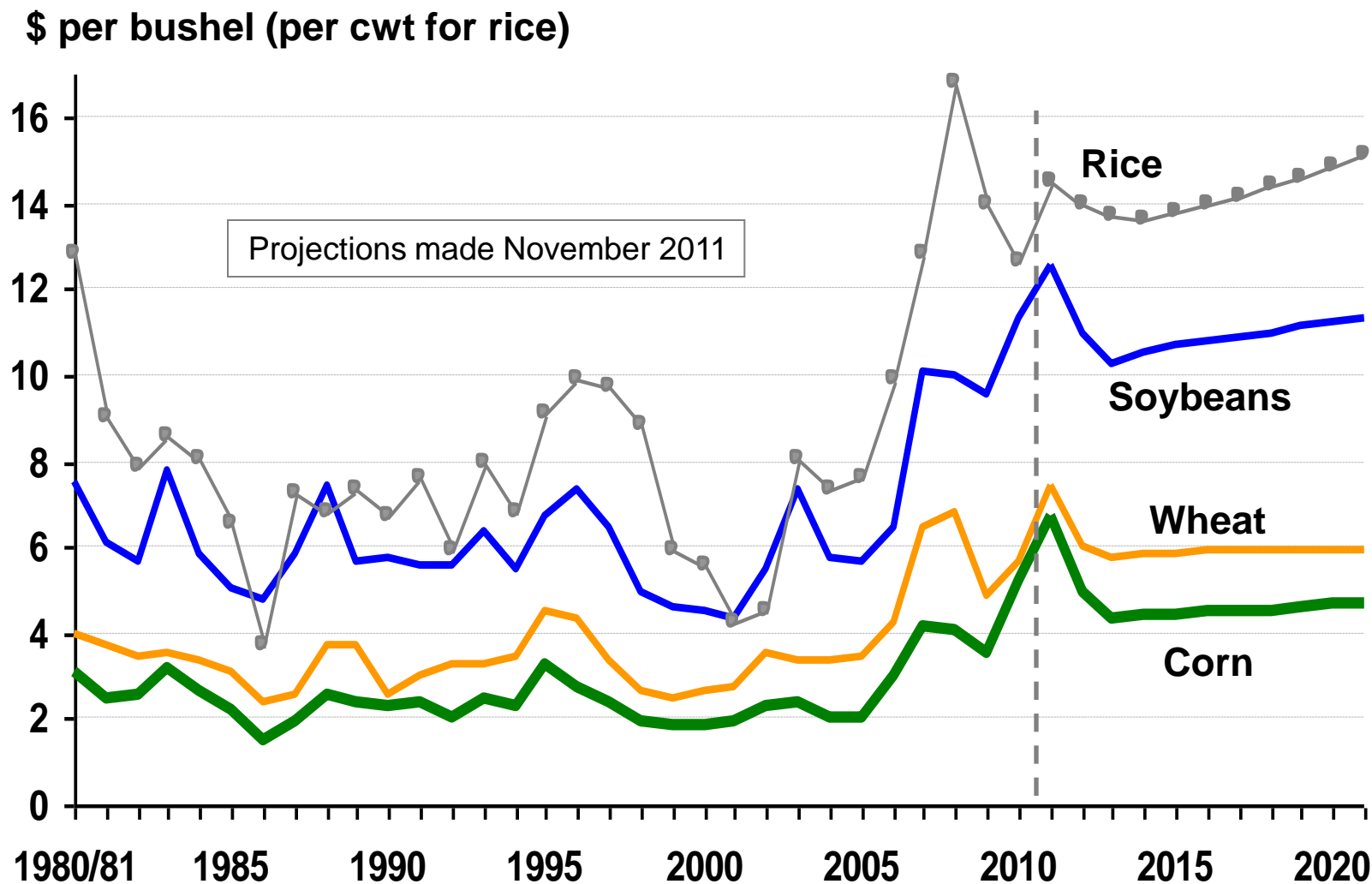


# Livestock prices have become a significant factor 1/

Index: January 2002 = 100



# Future prospects: Corn, wheat, rice, and soybean prices projected to remain historically high

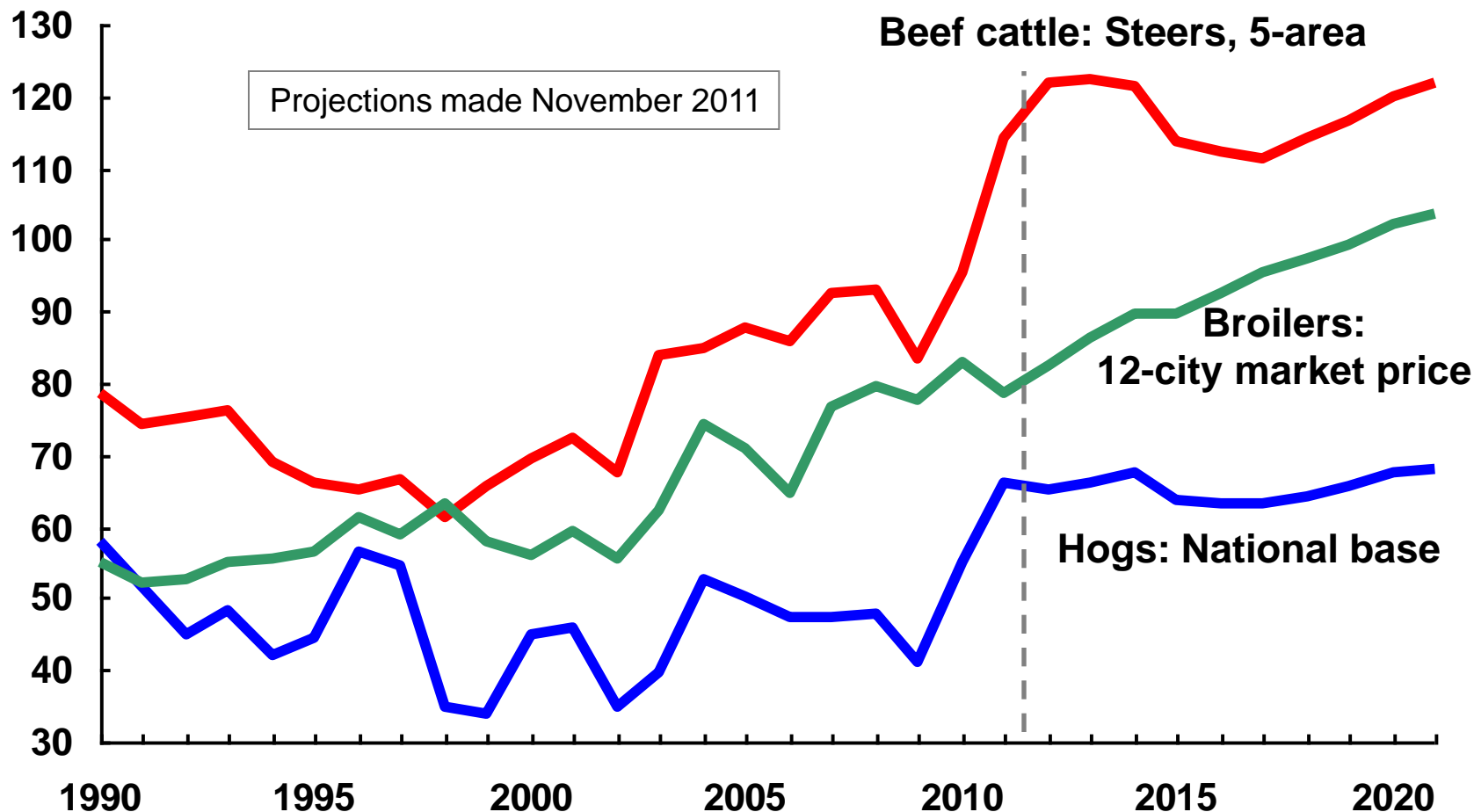


Source: *USDA Agricultural Projections to 2021*, February 2012.



# Future prospects: Livestock prices

\$ per hundredweight, nominal, U.S. markets



Source: *USDA Agricultural Projections to 2021*, February 2012.

# Near-term factors that may influence future ag prices

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- Weather
- Stock levels (Supply & demand balances; stocks policies; self-sufficiency policies)
- Policy changes by food commodity exporters & importers
- Exchange rates (Esp. for commodities denominated in dollars)
- Energy & other non ag prices / Ag production costs
- Extent of global economic recovery
- Import demand: Who will be the importers? (Role of foreign exchange reserves)

# Longer-term factors expected to influence future ag prices

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- Biofuels production (Influence of oil prices; Role of policies)
- Food consumption patterns (Continued income-driven increase in per capita meat consumption?)
- Technology advancements
  - Continued slowing of growth in productivity?
  - R&D investments.
  - Role/acceptance of GMO products.
- Natural resource constraints
  - Land: Ability to expand cultivated area; productive capacity of new land
  - Water: Ability to continue rate of growth in irrigated areas
- Climate change
  - Impact of temperature, precip, and seasonal changes in cropping patterns & productivity. Variability.

# Conclusions

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- Expect prices to fall from recent peak, but to remain historically high
  - Global economic recovery and renewed growth in demand for crops, animal products, and energy
  - Some additional growth in global biofuels output
  - Slower productivity growth
  - Declining value of the dollar
- World ag production can keep pace with demand
  - In short-run: Production can respond to higher prices within 4 months to 2 years – if the weather cooperates.
  - Over next 10 years, global production growth rates projected to be sufficient
  - Longer-term brings increased uncertainty?

# Related reports and contact

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## **Why Have Food Commodity Prices Risen Again?**

<http://www.ers.usda.gov/publications/WRS1103/>

## **USDA Agricultural Projections to 2021**

<http://www.ers.usda.gov/publications/oce121/>

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