Causes and Consequences of Commodity and Food Price Increases

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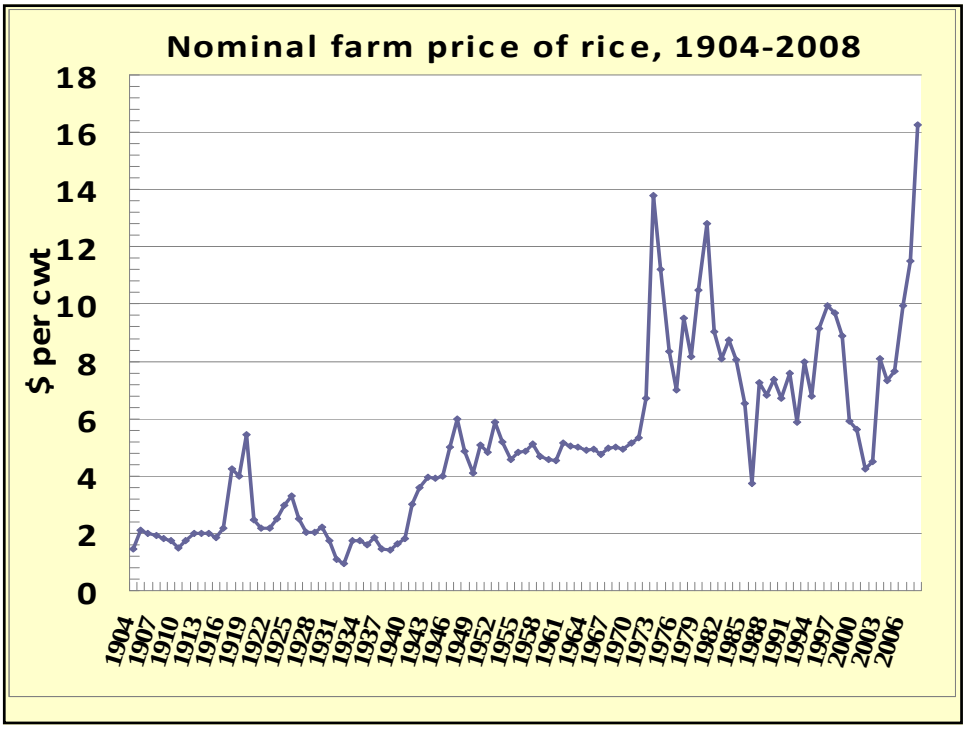
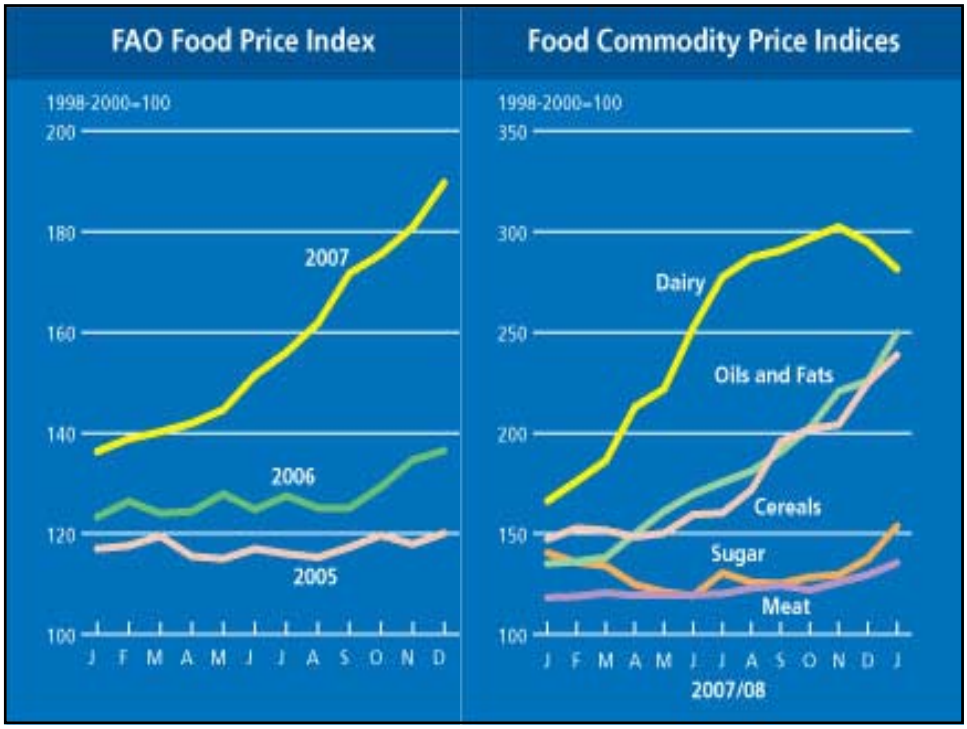
Facts and some consequences

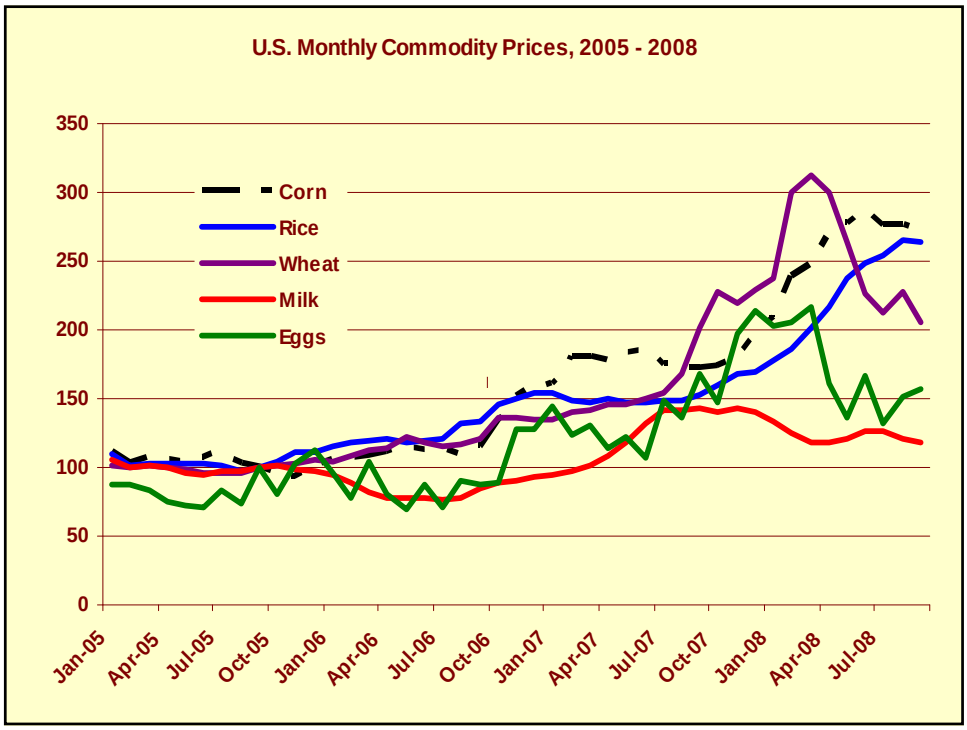
- Food commodity prices have jumped over the past two or three years,
- Over a longer horizon real (inflation adjusted) prices show increases that are not out of line with previous experience and indeed are smaller fluctuations than in previous decades.
- The increase in many farm prices in the past two or three years are reflected in substantial U.S. retail price increase for those items.
- However, many food items have seen little or no price increases.

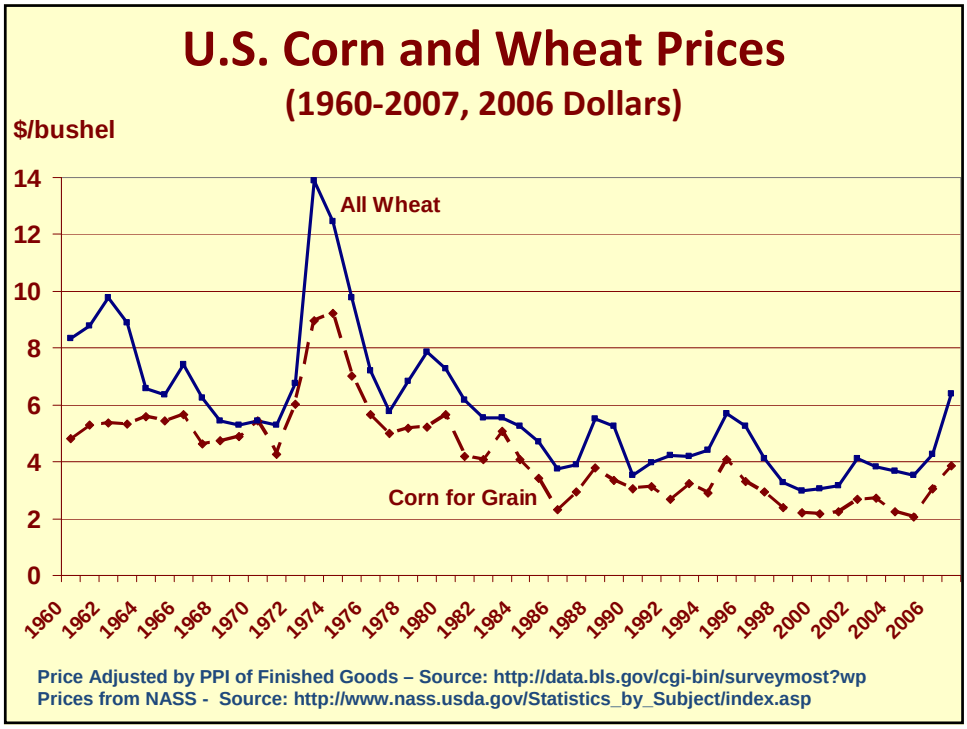
Outline and main points (continued)

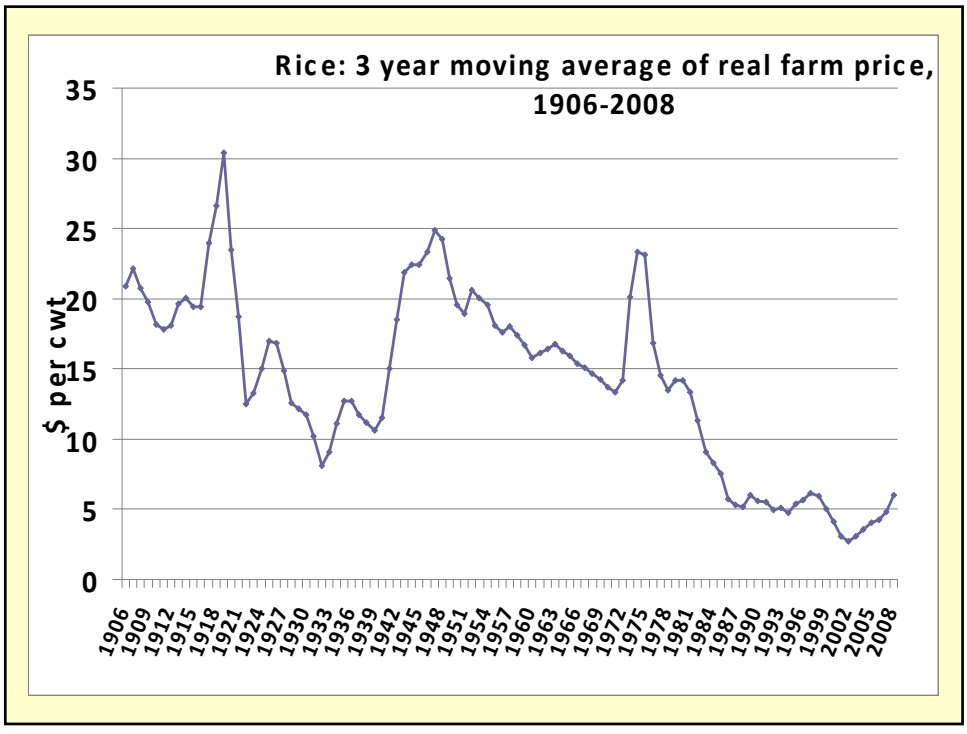
- **U.S. farm subsidy rates have declined, not because of a policy shift, Congress did not let that happen in 2008. Rather high prices mean subsidy to offset market prices are no longer relevant.**
- **High farm prices have moderated in the past months and especially the last few weeks. Especially for corn, but also for other commodities and the financial calamity and oil price collapse is reflected in lower farm prices.**
- **BUT, commodity prices are still projected to remain about double the prices of just two years ago, so concerns for the worlds poor remains**

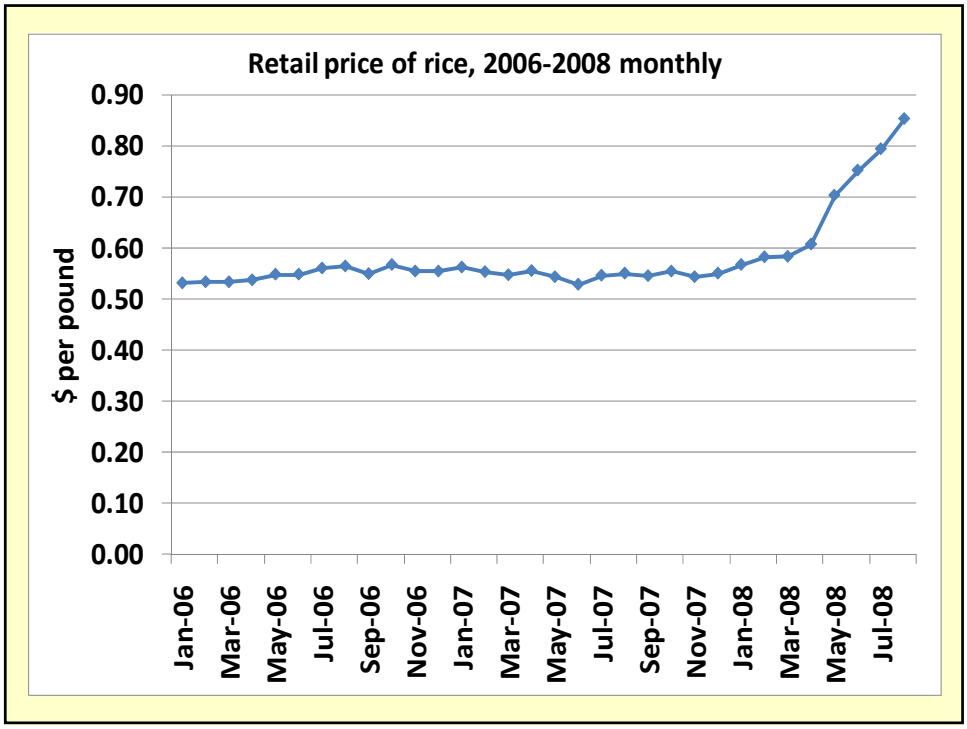


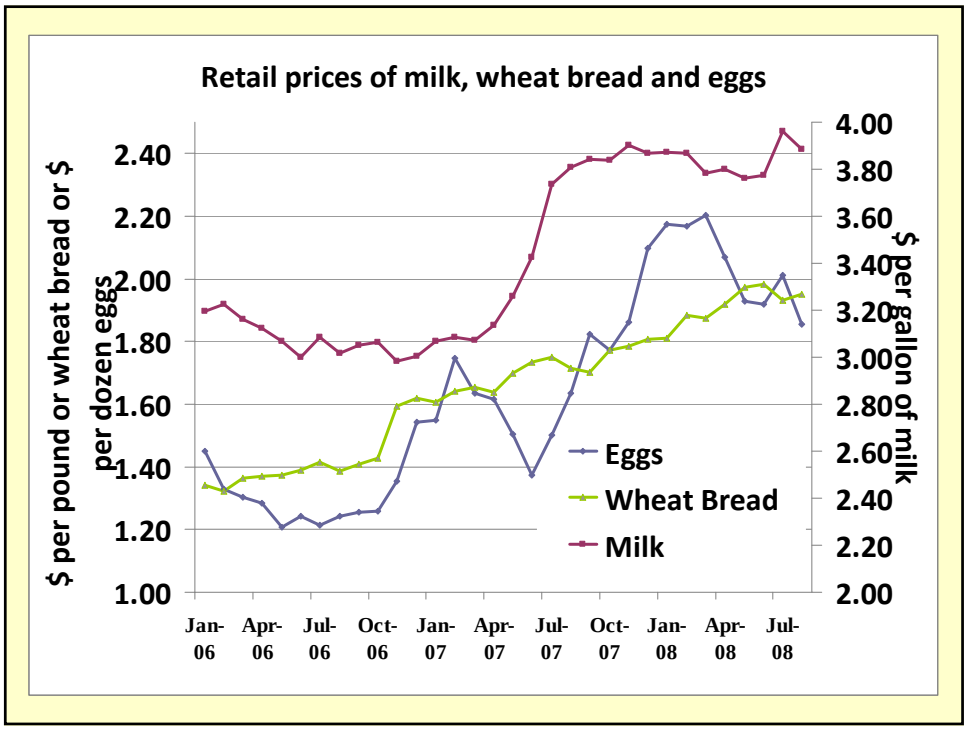

FAO Food Price Index
1998-2000=100
200
180
160
140
120
100
2007
2006
2005
J F M A M J J A S O N D
Food Commodity Price Indices
1998-2000=100
350
300
250
200
150
100
Dairy
Oils and Fats
Cereals
Sugar
Meat
J F M A M J J A S O N D J
2007/08

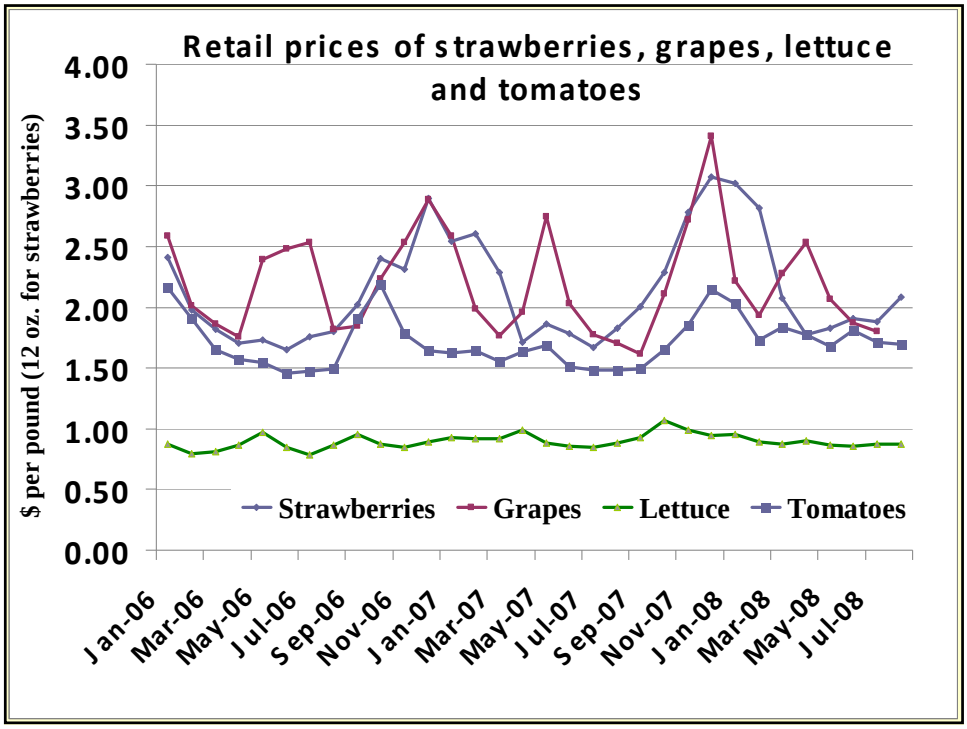

U.S. Monthly Commodity Prices, 2005 - 2008
350
300
250
200
150
100
50
0
Corn
Rice
Wheat
Milk
Eggs
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08

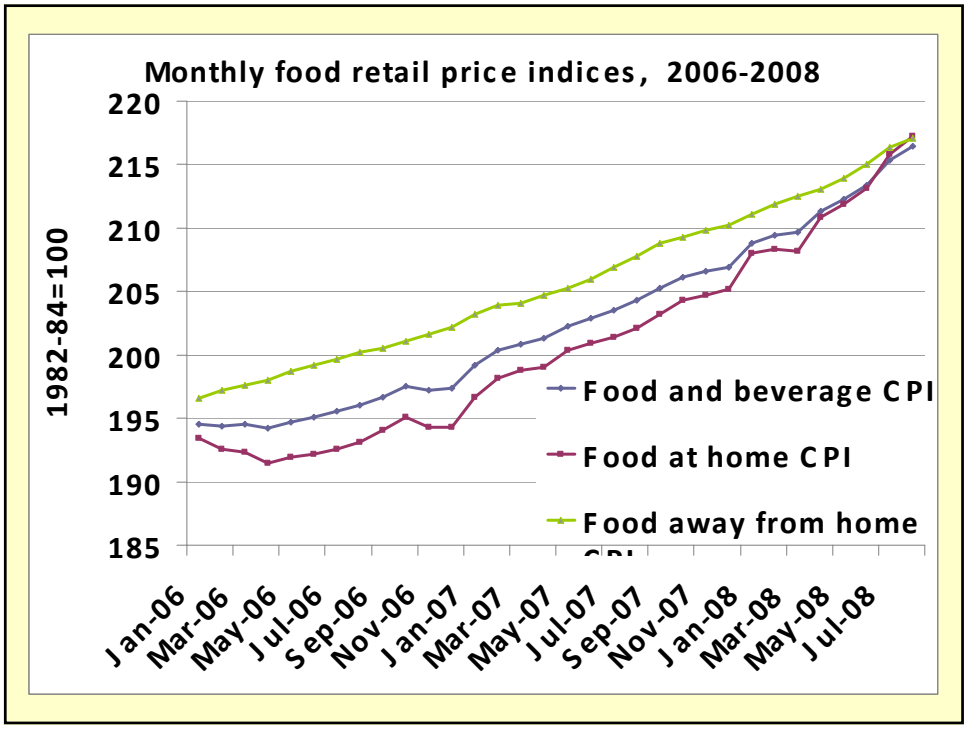

U.S. Corn and Wheat Prices
(1960-2007, 2006 Dollars)
$/bushel
14
12
10
8
6
4
2
0
All Wheat
Corn for Grain
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Price Adjusted by PPI of Finished Goods – Source: http://data.bls.gov/cgi-bin/surveymost?wp
Prices from NASS - Source: http://www.nass.usda.gov/Statistics_by_Subject/index.asp


Rice: 3 year moving average of real farm price,
1906-2008
$ per cwt
35
30
25
20
15
10
5
0
1906
1909
1912
1915
1918
1921
1924
1927
1930
1933
1936
1939
1942
1945
1948
1951
1954
1957
1960
1963
1966
1969
1972
1975
1978
1981
1984
1987
1990
1993
1996
1999
2002
2005
2008


Retail price of rice, 2006-2008 monthly
$ per pound
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Jan-06
Mar-06
May-06
Jul-06
Sep-06
Nov-06
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08


Retail prices of milk, wheat bread and eggs
$ per pound or wheat bread or $ per dozen eggs
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
$ per gallon of milk
4.00
3.80
3.60
3.40
3.20
3.00
2.80
2.60
2.40
2.20
2.00
Eggs
Wheat Bread
Milk
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08


Retail prices of strawberries, grapes, lettuce and tomatoes
$ per pound (12 oz. for strawberries)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Strawberries
Grapes
Lettuce
Tomatoes
Jan-06
Mar-06
May-06
Jul-06
Sep-06
Nov-06
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08


Monthly food retail price indices, 2006-2008
1982-84=100
220
215
210
205
200
195
190
185
Food and beverage CPI
Food at home CPI
Food away from home
Jan-06
Mar-06
May-06
Jul-06
Sep-06
Nov-06
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08

What are the suspected drivers of higher prices?

- Weather problems reducing supplies
- Growing demand for farm commodities from Asia
- Reduced long term productivity growth
- Energy prices affecting costs
- Ethanol demand driving corn and related commodities
- Food price policies, especially in poor countries
  - Export controls to insulate sellers from high prices
  - Surge import buying to "lock-in" supplies
- Very low stocks that have magnified the impact of "normal" shifts in supply and demand
- Low value of the dollar and other macroeconomic factors
- Mistaken Speculation

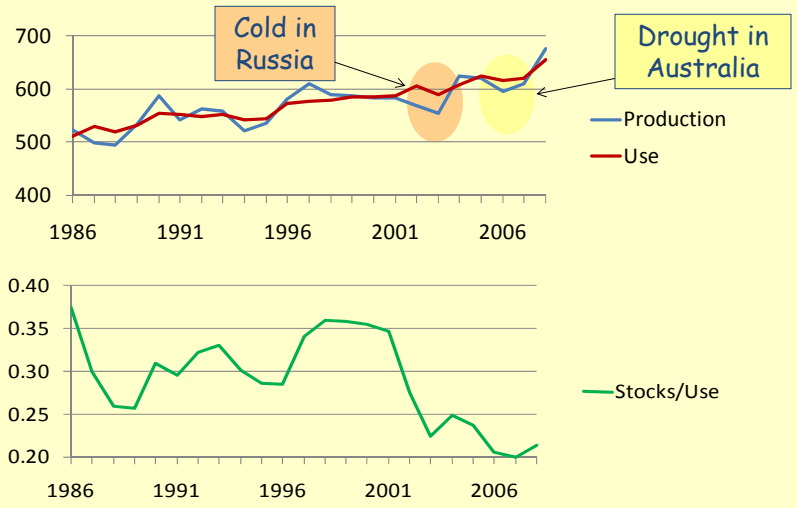
Weather

- **Some weather problems in Australia reduced dairy and wheat production and contributed to extreme prices for those commodities, but other commodities have experiences favorable yields.**

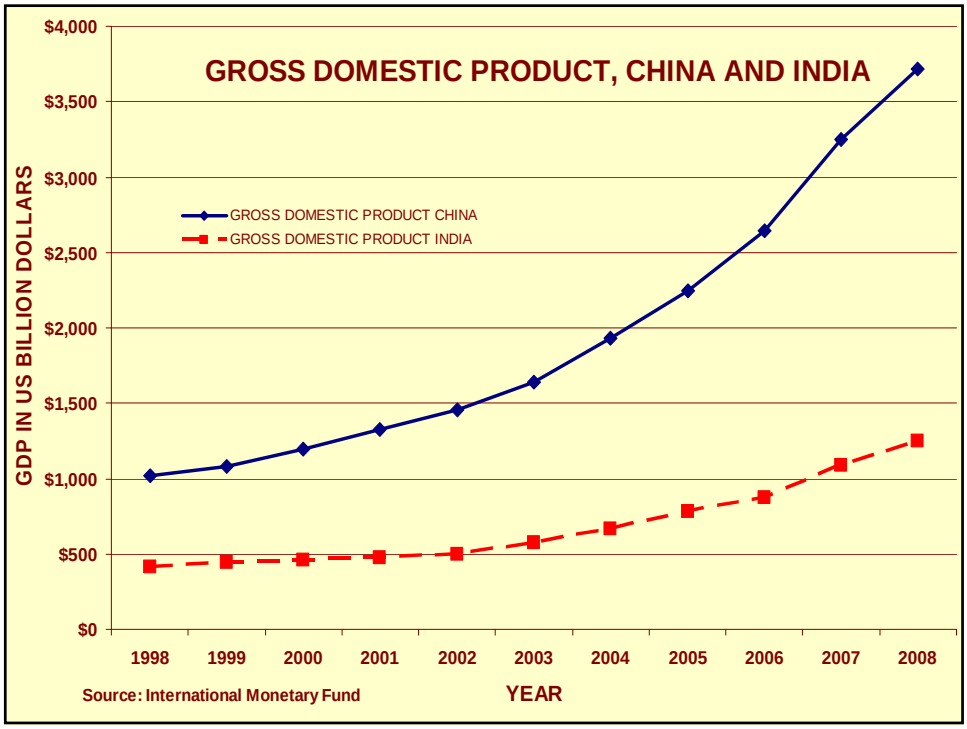
Bottom line, little of the current run up in prices can be attributed directly to short run weather shocks.

- **But, very low stocks have made markets vulnerable to small shifts causing big price jumps (Bryan Wright)**
- **Very low stock from rice and wheat.**

Global Wheat Production Shortfalls



From Carter, Rausser and Smith and USDA



Gradual steady growth in demand cannot account for dramatic jumps in prices

Both China and India have seem rapid increases in per capita incomes and increases in grain use

Both have also seen rapid productivity growth and in the case of India a shift to become a major exporter of grain.

Energy Prices and Farm Costs

- **Energy is less than 20% of costs of field crops**
- **Energy comprises a major components of:**
  - **Pumping irrigation water**
  - **On-farm equipment usage for cultivation and harvest**
  - **Hauling crops to markets**
  - **Fertilizer**
- **Off farm energy use in drying, processing and hauling depresses farm commodity prices but raise consumer prices**

A long list of countries limited exports

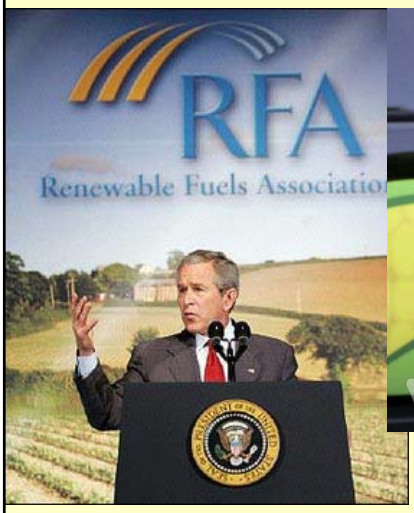
- **India,**
- **Thailand**
- **Vietnam**

Others entered the import market with large purchases

- **The Philippines and others**

- **The rationales for governments was to avoid urban consumer disruptions and assure political stability**
- **Many countries, especially China, insulated consumers and producers from higher prices and thus exported variability.**

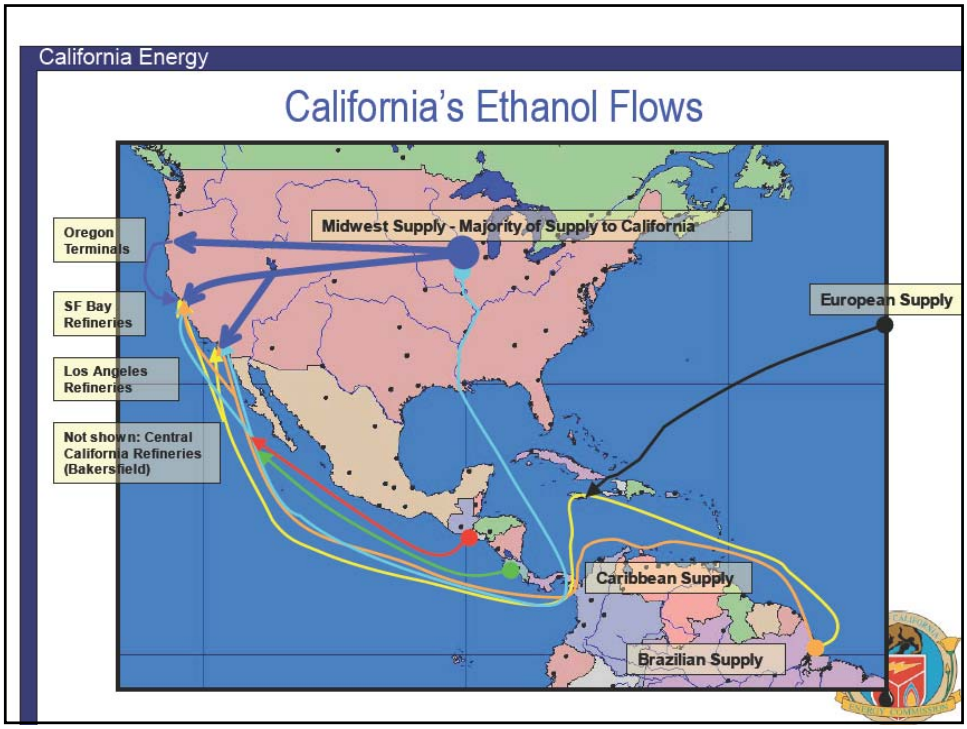
Policy clout matters and that is something that the US Ethanol industry has in abundance in Washington and Sacramento



Government policy drives biofuels economics

Government aids biofuels on both the demand side and the supply side.

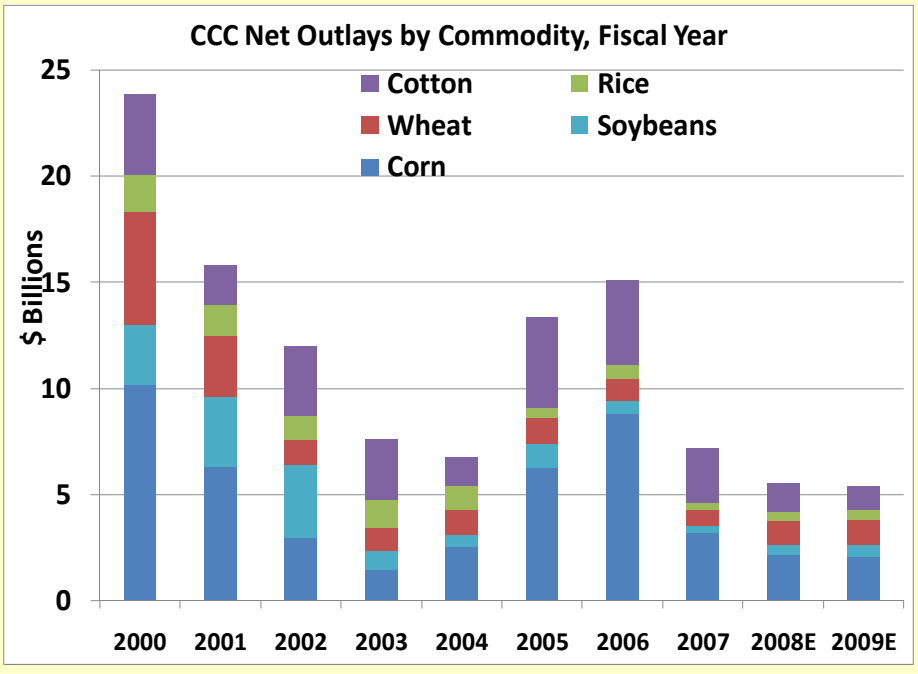
- **Demand side relies on Federal Programs**
  - **Blender tax credit and state user subsidies (about $.55/gallon**
  - **Mandates moving towards 12 billion gallons for corn-based ethanol in 2012**
  - **Environmental regulations… Clean Air Act Amendments (California effectively mandates a 5.7% blend mandate)**
  - **New demand subsidies and mandates coming in California?**
- **Supply subsidy for ethanol is in the Farm Bill, energy bill and state subsidy programs, but these are small compared to demand side subsidy**
- **Import duties on imported ethanol (about $0.54/gallon)**



Corn use for Ethanol

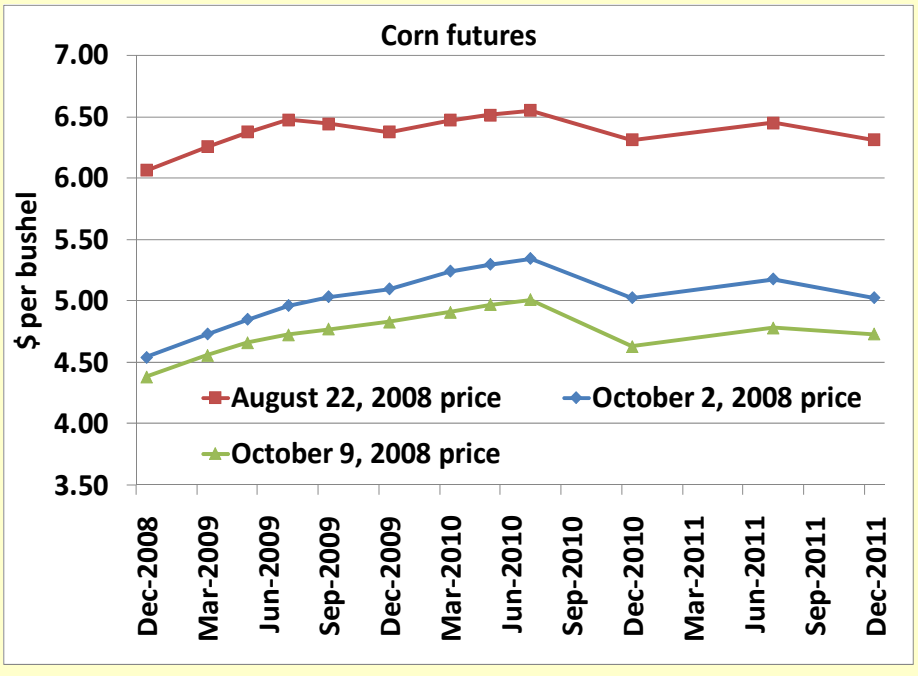
- **Production of ethanol is projected to be about nine billion gallons in 2008. At three gallons per bushel this amounts to three billion bushels of corn or almost 25 percent of the 2007 crop of about 13 billion bushels (up from about 11 billion bushels in 2006).**
- **Corn use will expand under current and emerging ethanol production capacity implied by the mandates from the energy act of December 2007**
- **The mandates expanding to 15 billion gallons is about 5 billion bushels of corn, enough to keep corn prices high until yields expand substantially.**

One welcome consequence of high commodity prices is a reduced reliance on subsidy programs in the United States and Europe



Peak prices drifted down after big jumps in the spring.

Futures market prices suggest a quite different outlook from just a few weeks ago.



Concluding remarks

- Is the food price boom over?
- We are not back near the commodity prices experienced from 2000 to 2006.
  - Corn prices remain double and rice prices more than double the prices in 2005.
- There was no food price crisis for consumers in the United States and producers gained.
- The U.S. story should not divert our attention from the real hardships experienced by the poorest of food consumers in poor countries in the current situation.

Concluding remarks

- In the long term,: has "Malthus" returned after being wrong for 200 years?
  - The long term trends leads to a strong sense that supply growth will continue
  - Population growth is likely to end in just another two generations at about 9 billion
  - If we can achieve rapid reductions in poverty for billions, that will likely mean rapid demand growth as animal protein replaced grain-based calories
  - Productivity growth depends on the spread of science-based agriculture and the development of new productivity enhancing tools.
  - But, investments have slowed dramatically and that is a serious concern (Alston and Pardey)