



**What's Driving
Food Prices?**



Global Commodity Price Changes: March 2009 Update

Philip C. Abbott

Christopher Hurt

Wallace E. Tyner

PURDUE
UNIVERSITY



What's Driving
Food Prices?

Commodity Price Drivers: What Happened?

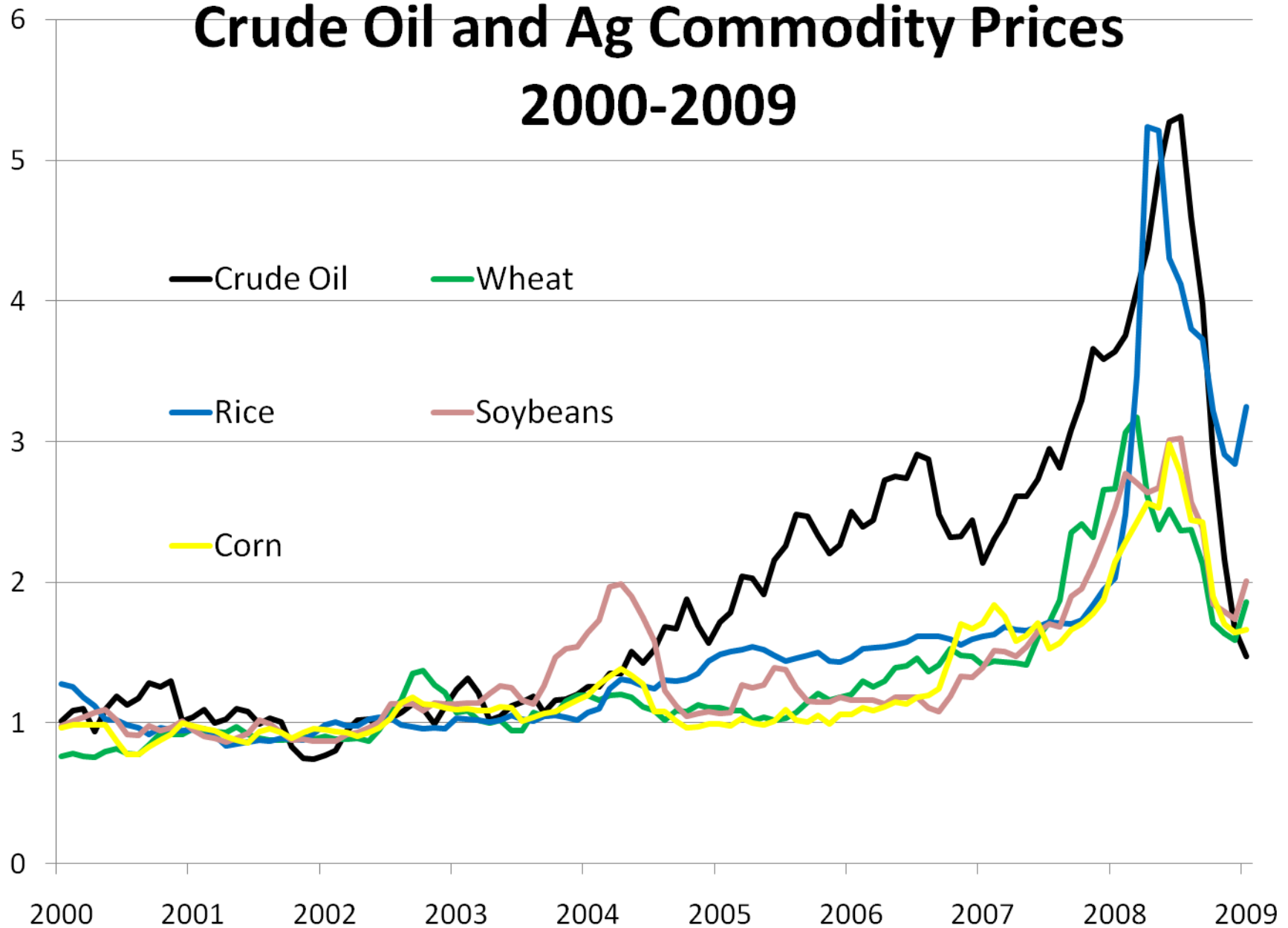
- In doing this study we reviewed 30 other studies on the topic
- We tried to let the data tell the story
- Today, we will highlight what matters and what is not so important
- The original study was released in July 2008 -- The Price Peak
- Today's update contains data through January 2009 and demonstrates the price reversals



Introduction

- The major themes remain the same---But
have shifted 180 degrees:
 - Supply and utilization shifted from surplus to shortage (price boom). Weak world demand and better than expected yields averted the shortages.
 - A weak dollar and strong macro economics drove prices higher. A stronger dollar and weak world economy are leading prices lower.
 - Energy and agricultural markets became directly linked....both on the price upside and downside.

Crude Oil and Ag Commodity Prices 2000-2009



Supply and Utilization

- *Growing food demand and dietary transition to more animal protein in developing countries resulted in global consumption increasing faster than production. Many previous studies focus on China and India.*
 - We moved from surplus in the 80s and 90s to shortage in recent years.
 - the supply shocks in 2007 were on top of very low stocks-to-use ratios that emerged over the past four to eight years depending on commodity.
 - India and China are not significant traders of most agricultural commodities. The fact that consumption has been growing at a good pace in China and India is not a major factor in determining world commodity prices because they trade little.
 - Supplies now, are not nearly as short as expected



Global Production Shortfalls

- *Weather and crop disease issues in 2006-2007 made an already difficult situation worse.*
 - The shocks had large price impacts because the stocks-to-use ratio was already very low. Under normal circumstances, these shocks would have had a minor impact on prices.
 - The reactions of many traders to isolate their domestic markets made the situation much worse. This is particularly the case for rice, which is so thinly traded.

Stocks-to-Use Ratio for Total Grains in the World (1960/61-2008/09)







Global Food Price Impacts

- Food price increases and the depreciating dollar led to stronger inflationary pressure elsewhere in the world than in the United States.
- In the United States, food expenditures are only 10% of consumption expenditures, and expenditures on cereals are a small fraction of food expenditures. In Bangladesh and Sri Lanka, where food riots have occurred, food share of consumer expenditure is above 60%, and it is high in many developing countries.
- Food inflation and general inflation was higher in countries that consume greater shares of their budgets as staple foods.
- Now the issue is lack of income....not food inflation

Developing Country Responses

- Border measures to stabilize domestic prices
- Tariffs reduced, import subsidies
- Export taxes, export bans
- Food price inflation, food riots
- Targeted domestic food and fertilizer subsidies
- Poverty increases, especially in urban areas
- Supply response muted by lack of transmission of higher global prices to developing country farmers

Current Events -Supply-Utilization

- High prices brought adjustments in both supply and use
- Slowing world income growth reduced usage from previous expectations
- Total grains, wheat and rice at record world output, corn and soybeans close
- Total world grain production up 5% this year
- Stocks expected to be restored to more normal levels for most grains, oilseeds
- Expectations of extremely low stocks diminished

WORLD Production and Utilization

Changes 08/09 vs. 07/08

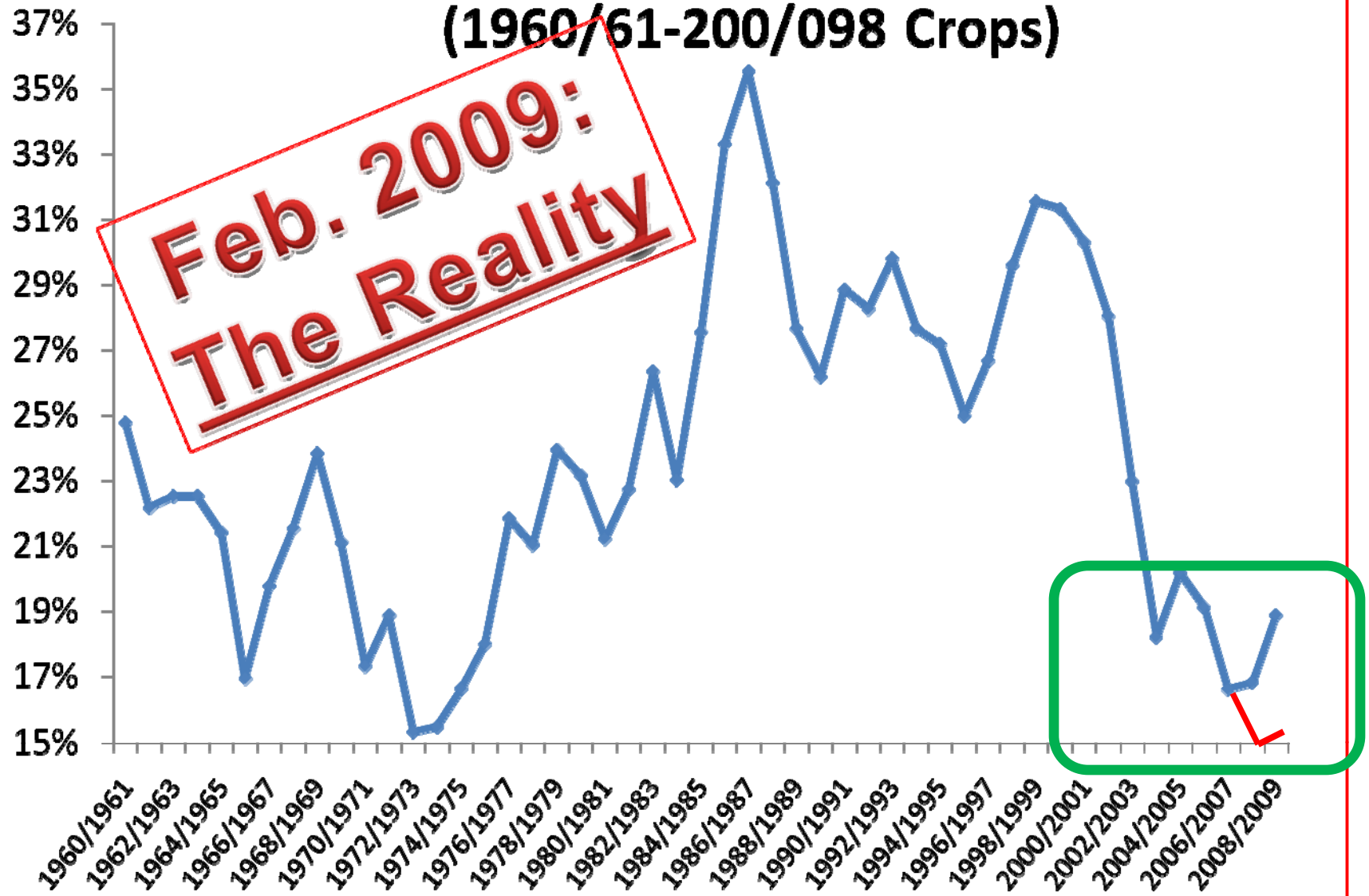
	<i>Area</i>	<i>Yield</i>	<i>Production</i>	<i>Total Use</i>
Corn	-2.0%	2.0%	-0.1%	1.4%
Wheat	2.7%	8.9%	11.9%	5.8%
Rice	1.0%	0.7%	1.8%	1.7%
Total Grains	0.2%	4.9%	5.0%	3.0%
Soybeans	5.6%	-1.9%	5.6%	0.6%

Source: USDA.



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Total World Grains: Stocks to Use (1960/61-200/098 Crops)



Speculation in Commodity Markets

- The two questions are whether the increased speculative activity increased price volatility, and if it increased the overall level of prices.
- **Volatility did increase**, in part due to the increased volume being traded.
- There is more limited evidence from existing research that the **level** of commodity prices, beyond short periods, is affected by the increased amount of speculative activity.

Dollar Depreciation/Appreciation



US\$ Depreciation

- Most other studies grossly understate the importance of the link between the exchange rate and commodity prices.
 - The analysis presented here clearly shows the historic links and how they have differed from one period to another depending on what else was going on in the global economy.
 - The US trade deficit is an important driver of US\$ depreciation .
 - Oil, agricultural commodities, and most other commodities are priced in US\$, but are purchased in the local currency.



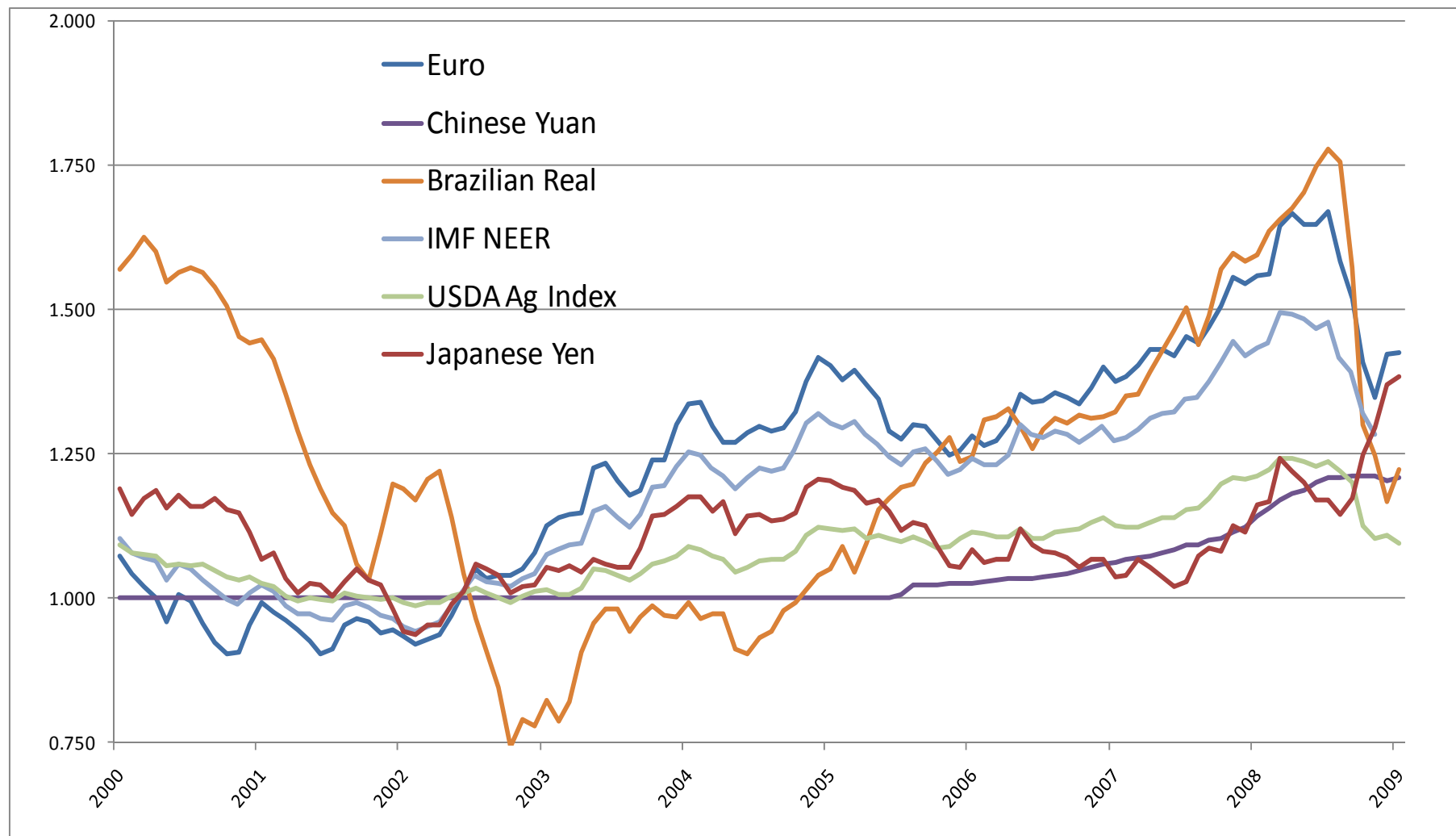
Dollar Depreciation / Appreciation

- Extraordinary changes in exchange rates
- Dollar depreciated 67% since 2002 (to July, 2008 45% to July, 2007, against €)
 - 22% July 2007 to July 2008
- More bilateral exchange rates changed in 2007/08
- China, Brazil – important special cases



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Exchange rates

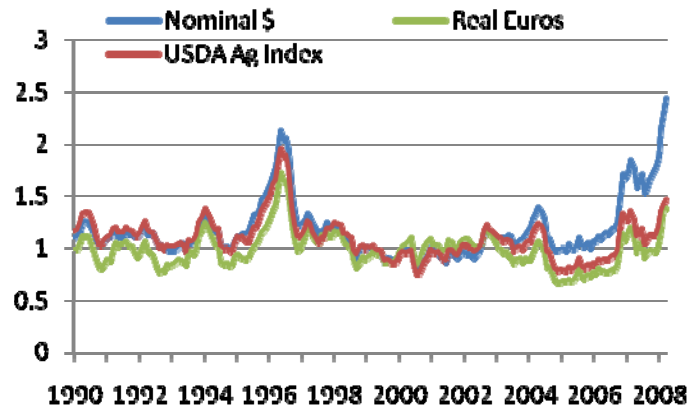


US\$ Depreciation

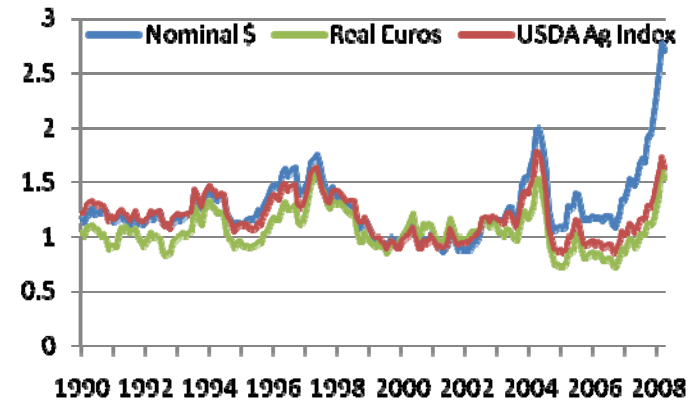
- For the period 2002 to 2008 nominal dollar percent increases for corn, soybeans and its products, wheat, and rice, as well as crude oil and gold are typically more than three times equivalent changes in other, deflated currencies.
- Exchange rates (or whatever they are a symptom of) played a key role in the price run-ups.
- For the 1994 to 1997 period, results are strikingly different. Price changes in the three currency measures are nearly the same. This is strong evidence that price run-ups in the mid-1990s were largely driven by supply-utilization factors, with exchange rates playing almost no role.

Agricultural Commodity Price Indices in Various Currencies, 1990-2008

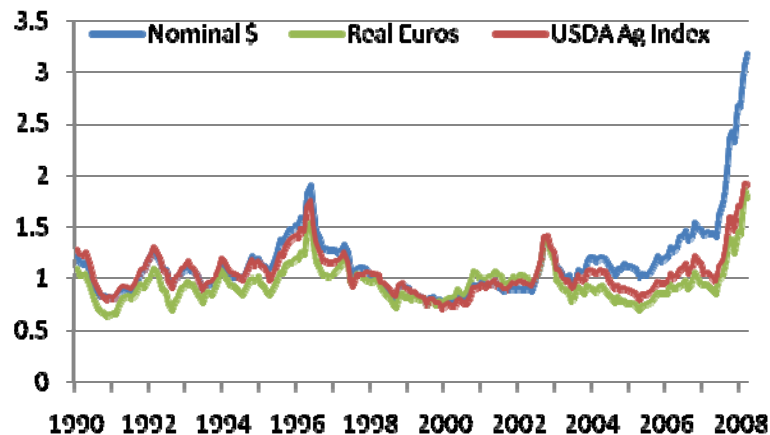
Corn Prices



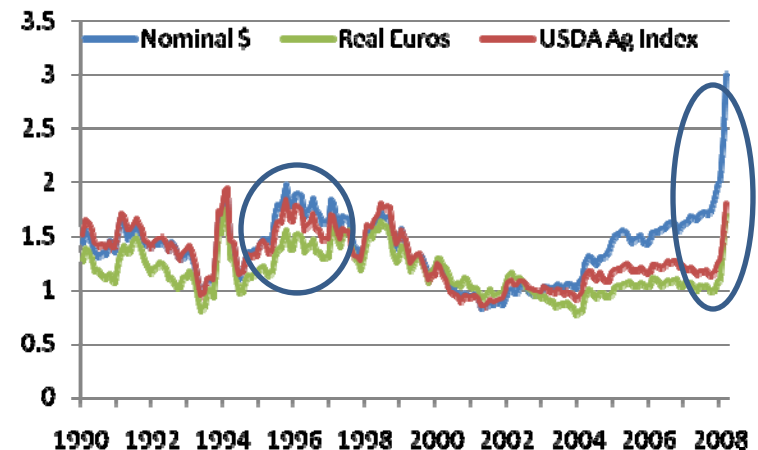
Soybean Prices



Wheat Prices



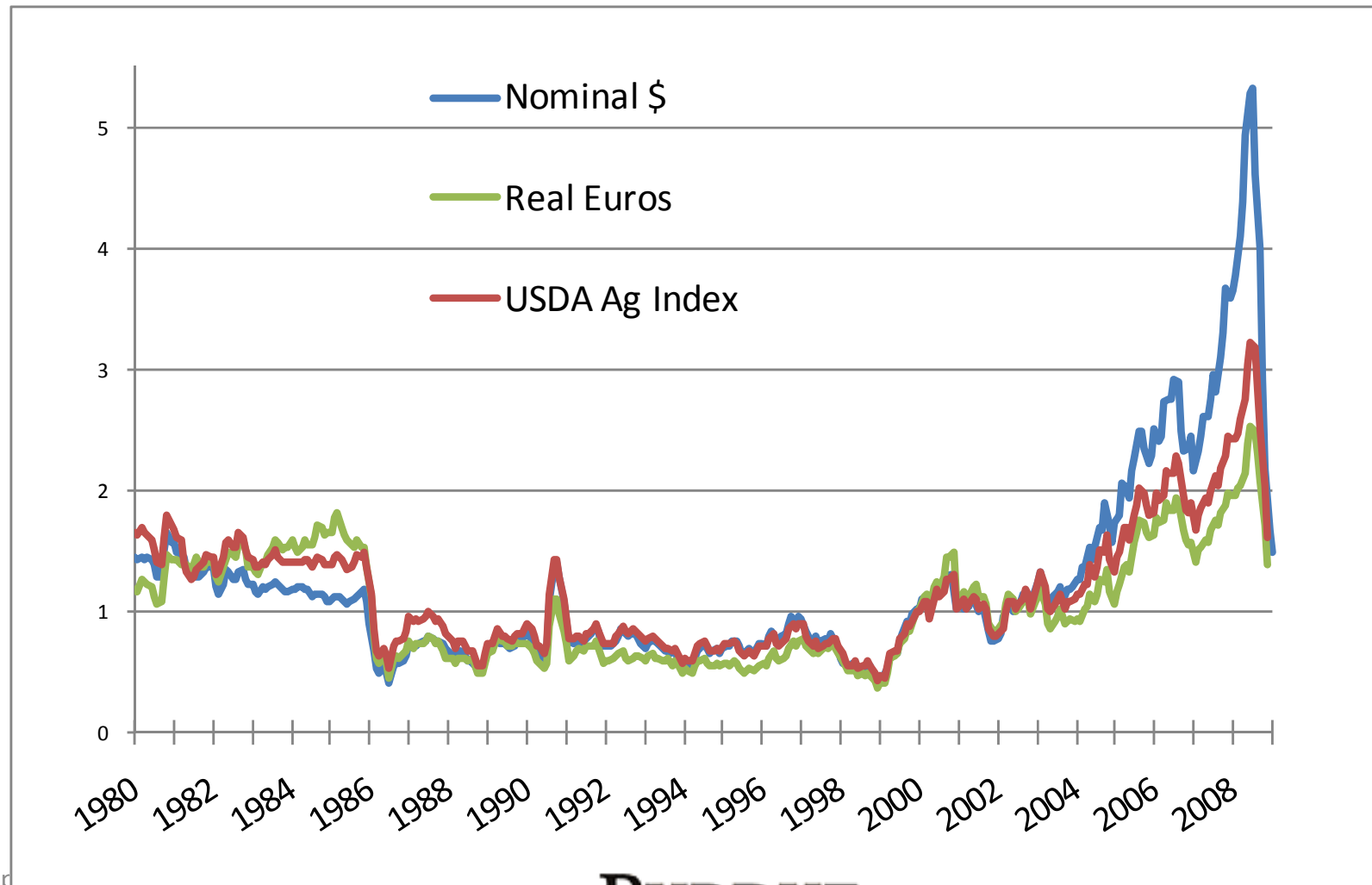
Rice Prices





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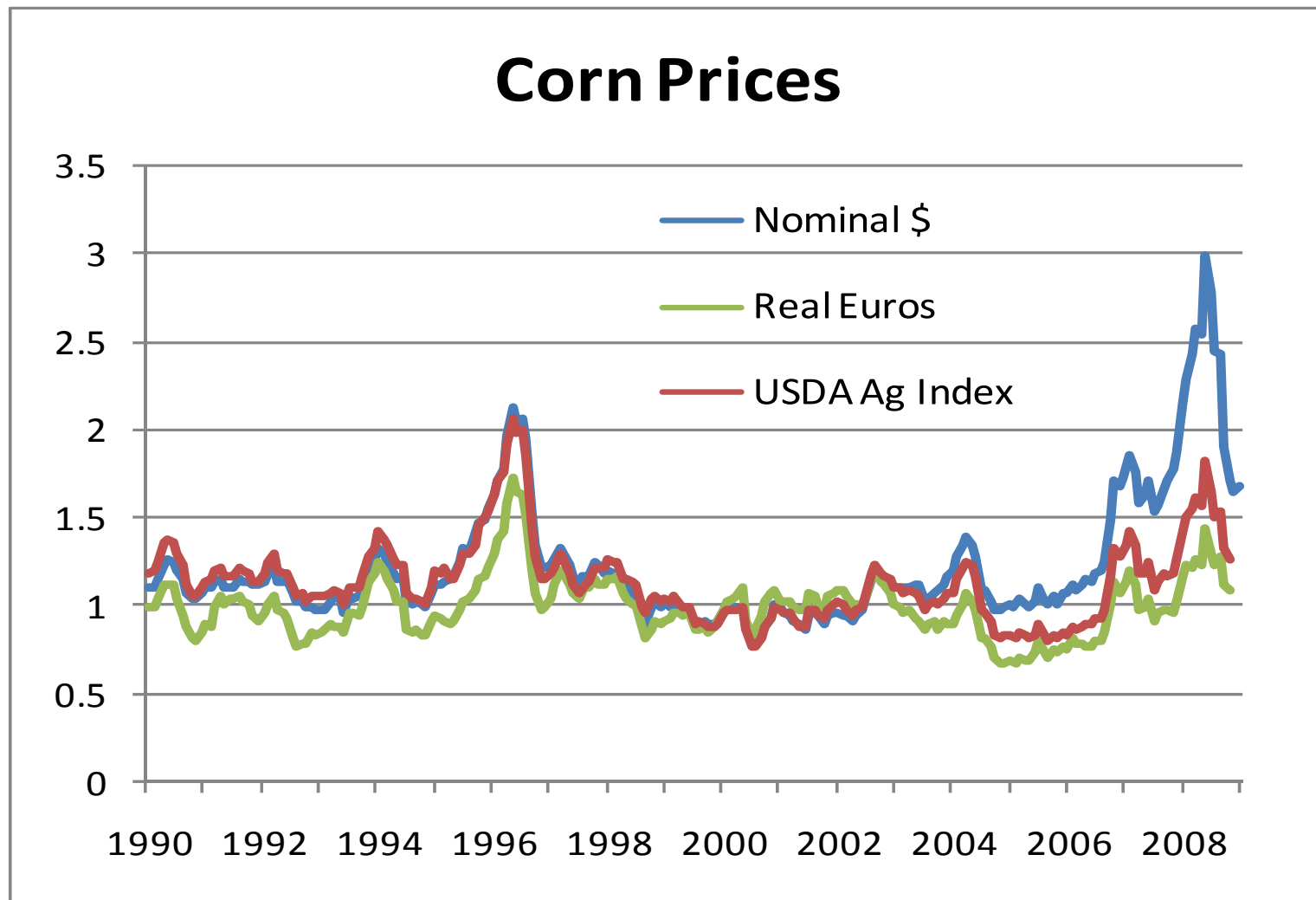
Crude Oil Price in \$ and €





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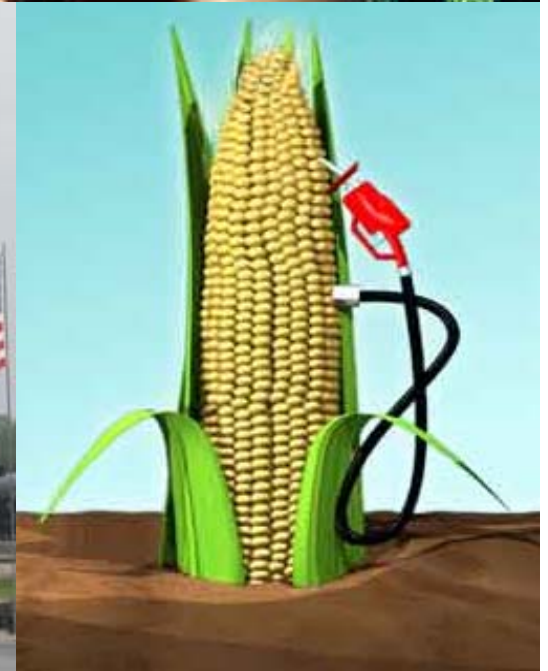
Corn Price in \$ and €



Why is the dollar weaker now?

- Current account (trade balance) = Capital Account
- Twin deficits – Unprecedented trade deficit – 5-6% of GDP
- Government deficits rise in recession, Financial crisis interventions → foreign borrowing
- Why \$ hadn't depreciated further? Capital account
 - Chinese buy Treasury bills
 - Recycling Petro dollars
 - Safe haven

BioFuels Production

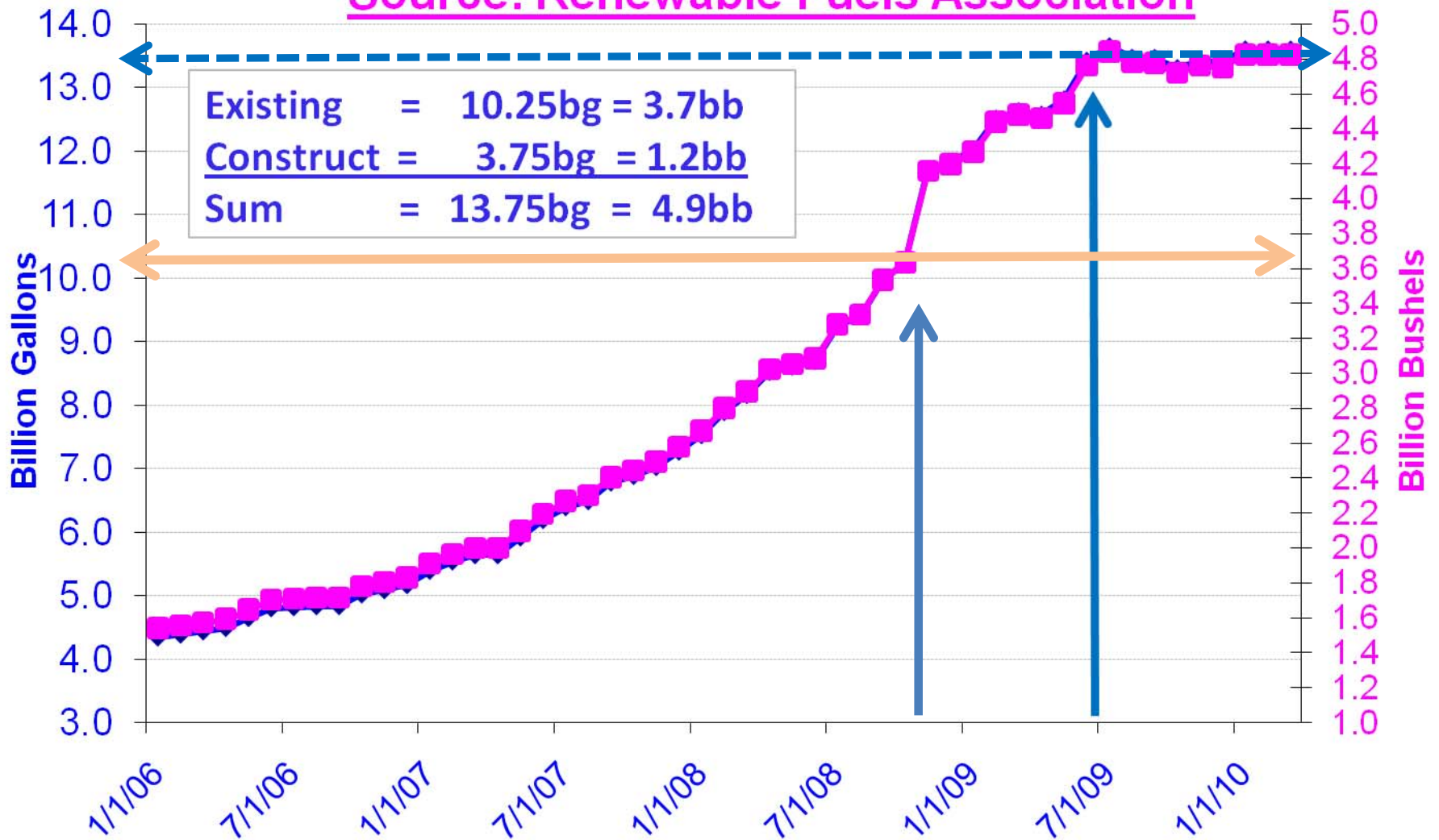




Biofuels

- *Biofuels programs in the US and EU, which provide subsidies and mandates for biofuels leading to greater use of corn and vegetable oil for biofuels, have stimulated increases in the prices of these commodities.*
 - The US ethanol industry would not have come into existence in the 1980s without subsidies. The same is true for the US biodiesel industry, which occurred later. The EU biodiesel industry also was made possible by mandates and subsidies.
 - Subsidies and other factors have contributed to subsequent growth of biofuels.

Ethanol Capacity: Existing + Under Construction: Source: Renewable Fuels Association

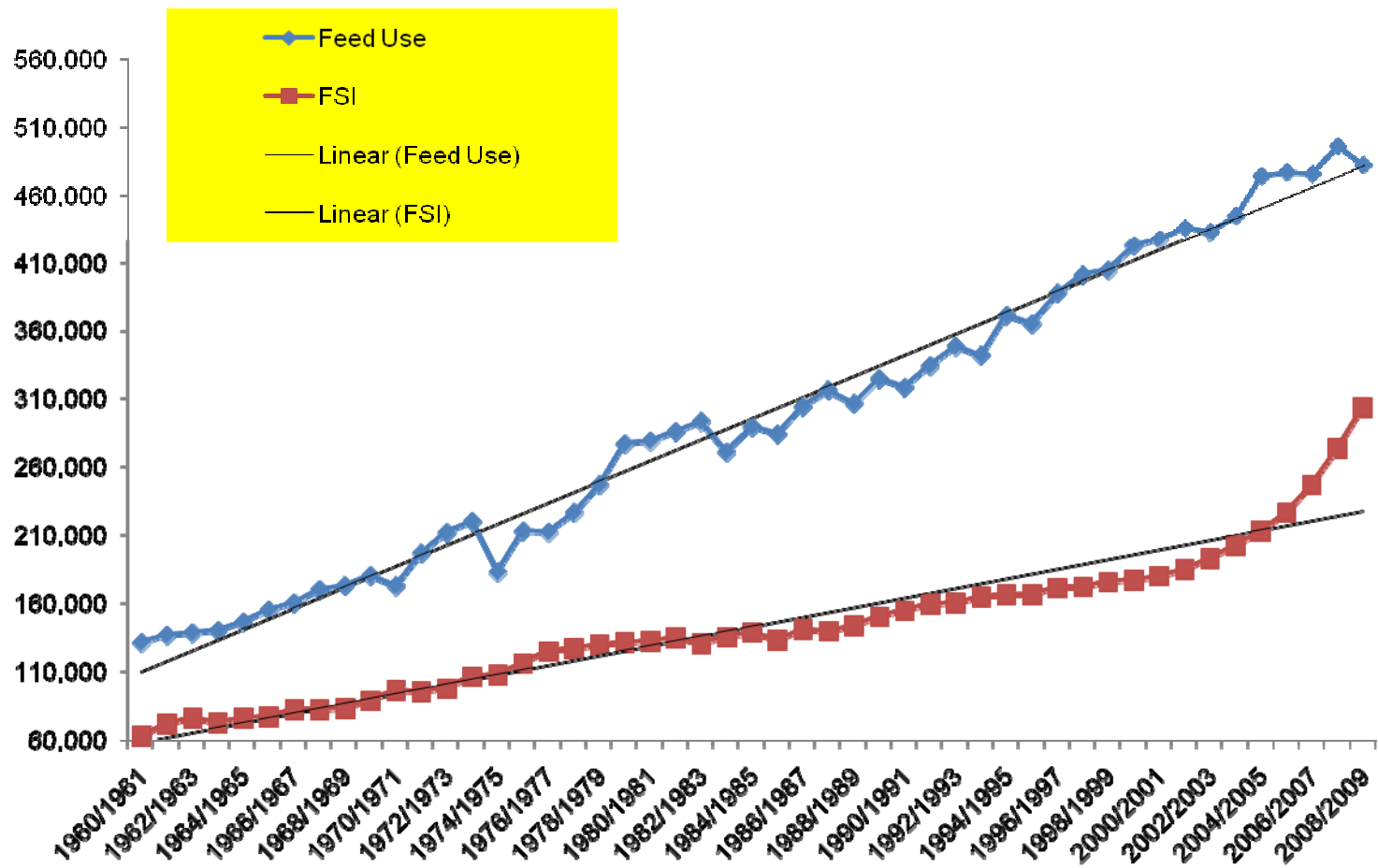




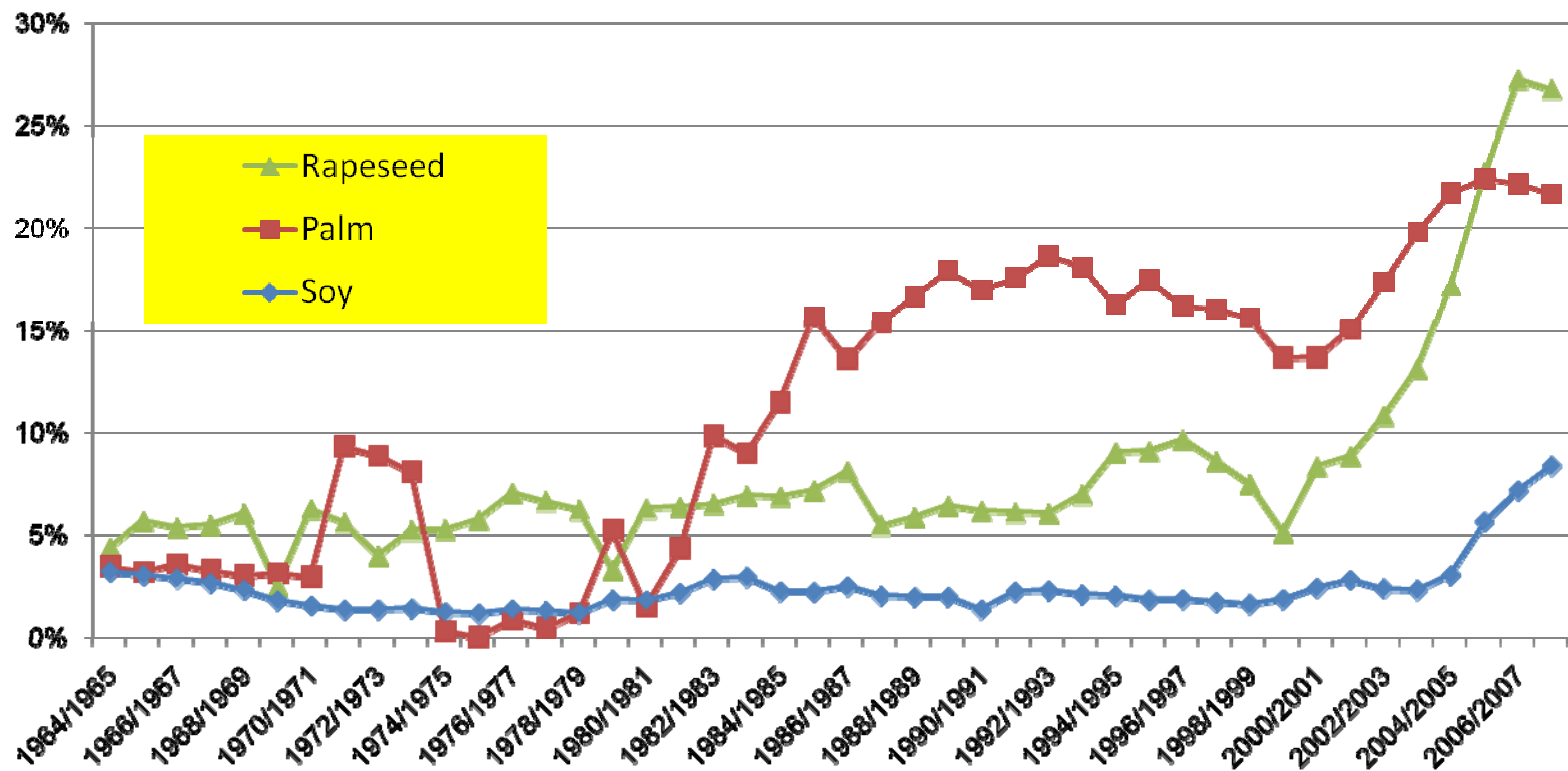
Biofuels

- Most of the global increase in demand for corn in the past four years has come from the growth in United States' use of corn for ethanol.
- Much of the global increase in rapeseed oil (driven by EU biodiesel) is due to biodiesel. For soy oil, most of the increase is still food related.

World Corn Use - Feed and FSI (1,000mt)



World Oils: Industrial Use as Percent of Total





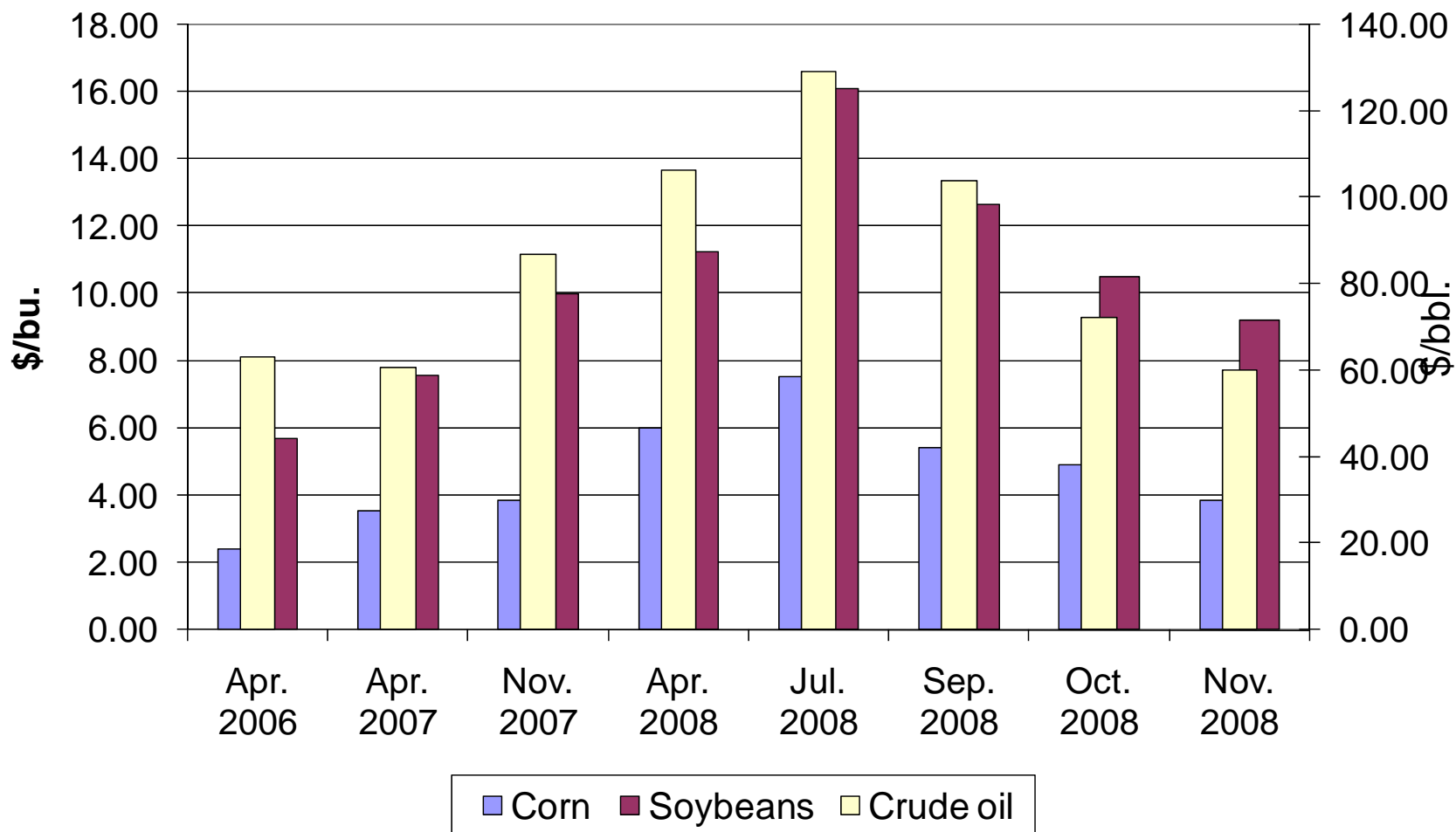
Biofuels

- Higher oil prices led to corn price increases and lower oil prices led to the fall in corn price.
 - Higher crude leads to higher gasoline, which increases the demand for ethanol, which provides incentives to build more ethanol plants, which increases the demand for corn. Higher corn demand leads to higher corn price.
 - Corn has not subsequently fallen to historic levels because of the ethanol demand for corn
- The US ethanol subsidy and import tariff have contributed to increased corn prices. The lower US\$ has also contributed.
- The ethanol mandate became binding for the first time in December 2009.

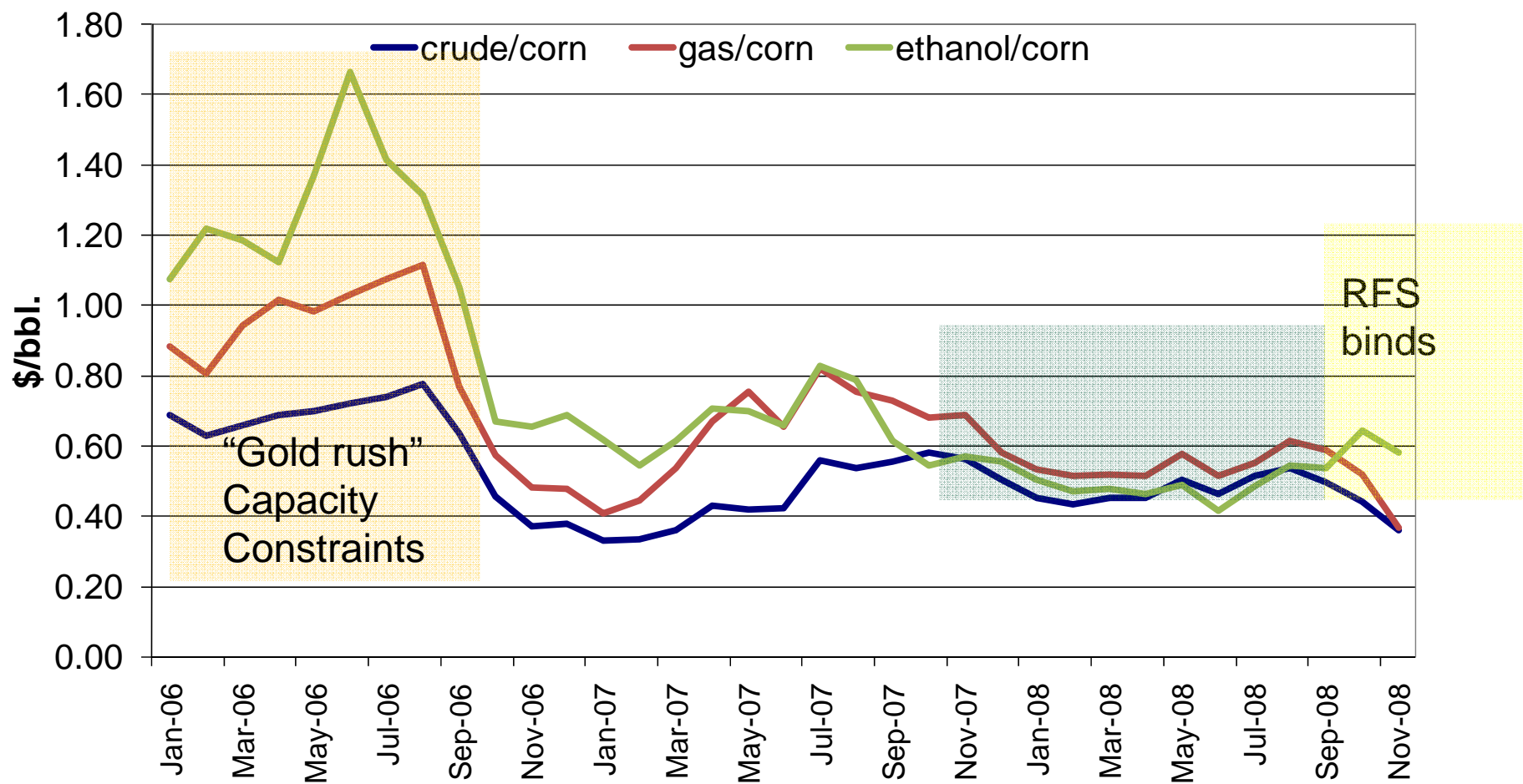


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Crude, Corn, and Soybean Prices



Crude, Gasoline, and Ethanol Price Ratios to Corn





Conclusion

- We began this work by asking if there were some major driving force that was behind all the price increases or was it a perfect storm of individual commodity supply and demand circumstances that just happened to come together at the same time?
- It was a combination of diverse and complex factors involving commodity supply and utilization, US\$ depreciation, and biofuels.
- Those same factors (global supply and demand, value of the US\$, and biofuels) also are behind the recent drop in commodity prices.

What's Next?

- Prediction is very difficult, especially if it's about the future.
 - Niels Bohr
- The only thing we know about the future is that it will be different.
 - Peter Drucker
- The future ain't what it used to be.
 - Yogi Berra

What to Watch? - Macroeconomics and Oil

- \$ exchange rate and crude oil price are linked to each other and are critical to agricultural markets
- Strongly dependent on worldwide economic performance – recession length and depth
- Macro (e.g. Federal Reserve) policy
- GDP growth here and abroad
- Deflation or inflation?
- Macro sets the stage for market specific supply-utilization events

Agricultural Markets?

- Will declining real agricultural commodity prices return? Or will this episode of high prices last longer?
- How fast will supply response catch up to new biofuels demands?
- Will global recovery bring increasing feed demand?
- Will lags in input cost adjustment disrupt supply in the short run?



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- The complete report is available at:
- www.farmfoundation.org