

FarmEcon LLC

A source of information on
global farming and food systems

Comments for Texas Ag Forum

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Points to be addressed

- Subsidies, taxes and tariffs
- Policy-induced demand structure of biofuel feedstocks
- Effects of commodities on retail food prices
- Effects of ethanol on energy prices
- Proposal for an economically healthy and sustainable biofuels industry

What do subsidies do?

- Subsidy programs **do not** create added income
- They do redistribute income
- Subsidies also shift costs
- Economists generally agree that subsidies
 - Increase the welfare of recipients
 - Reduce the welfare of everyone else
 - Welfare losses generally outweigh the gains
- **Subsidies are engines of redistribution and inefficiency, not creation**

What do tariffs do?

- Tariffs drive a wedge between domestic and global prices
- Tariffs reduce efficient producer market access
- Welfare of inefficient domestic producers is increased
- Welfare of efficient foreign producers is reduced
- Welfare of consumers in the country imposing the tariff is reduced by having to buy from inefficient local producers

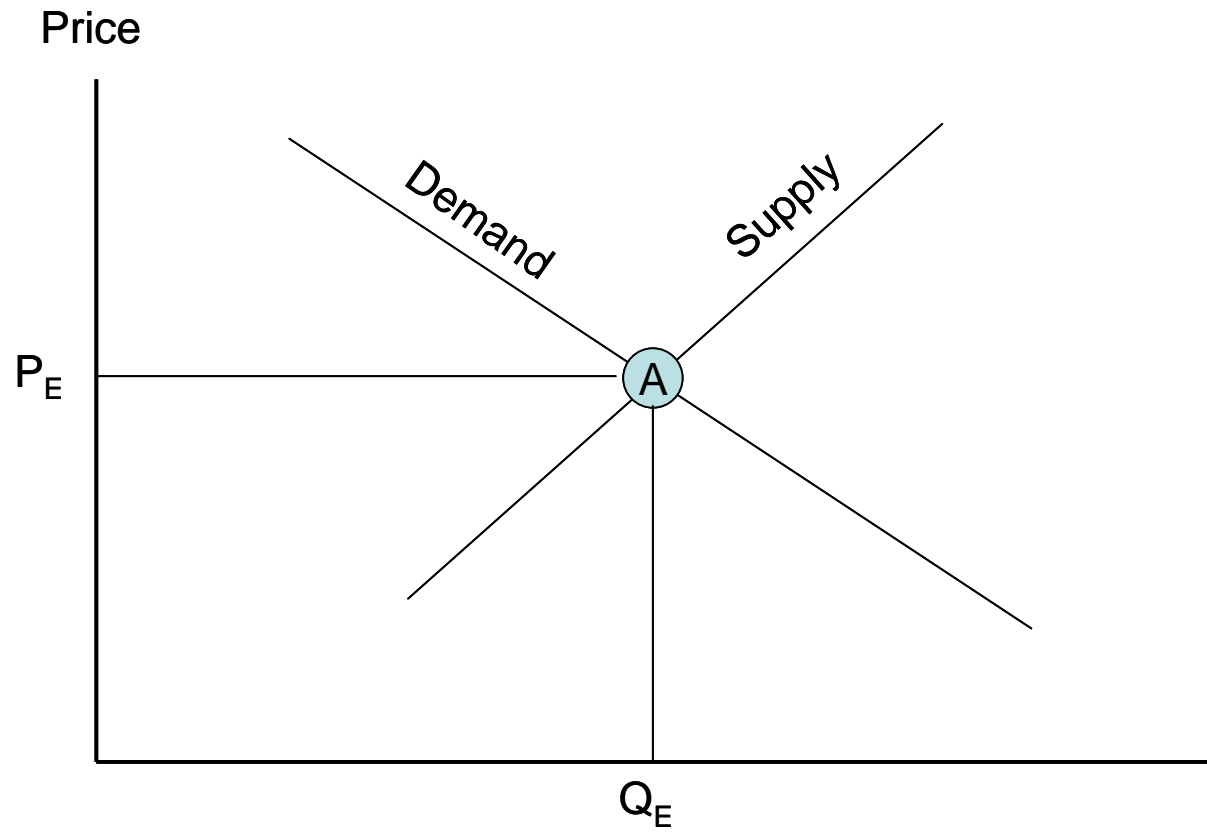
Is ethanol from corn efficient?

- At \$5.50 per bushel corn is priced at a 40% premium to natural gas per combustible BTU
- Only 47% of the combustible BTU content of corn is produced as ethanol
- Brazil - 85-90% energy conversion from sugarcane

Policy changes demand for biofuel feedstocks

- RFS
 - Creates a large, price inelastic, feedstock demand
 - Creates enormous price risk for the market
 - Likely increases feedstock prices by demand certainty
- Tax credits
 - Make biofuels more affordable for blenders
 - Increase demand for biofuels vs. market forces
- Ethanol tariff
 - Keeps more efficiently produced ethanol out

Feed, food, export demand

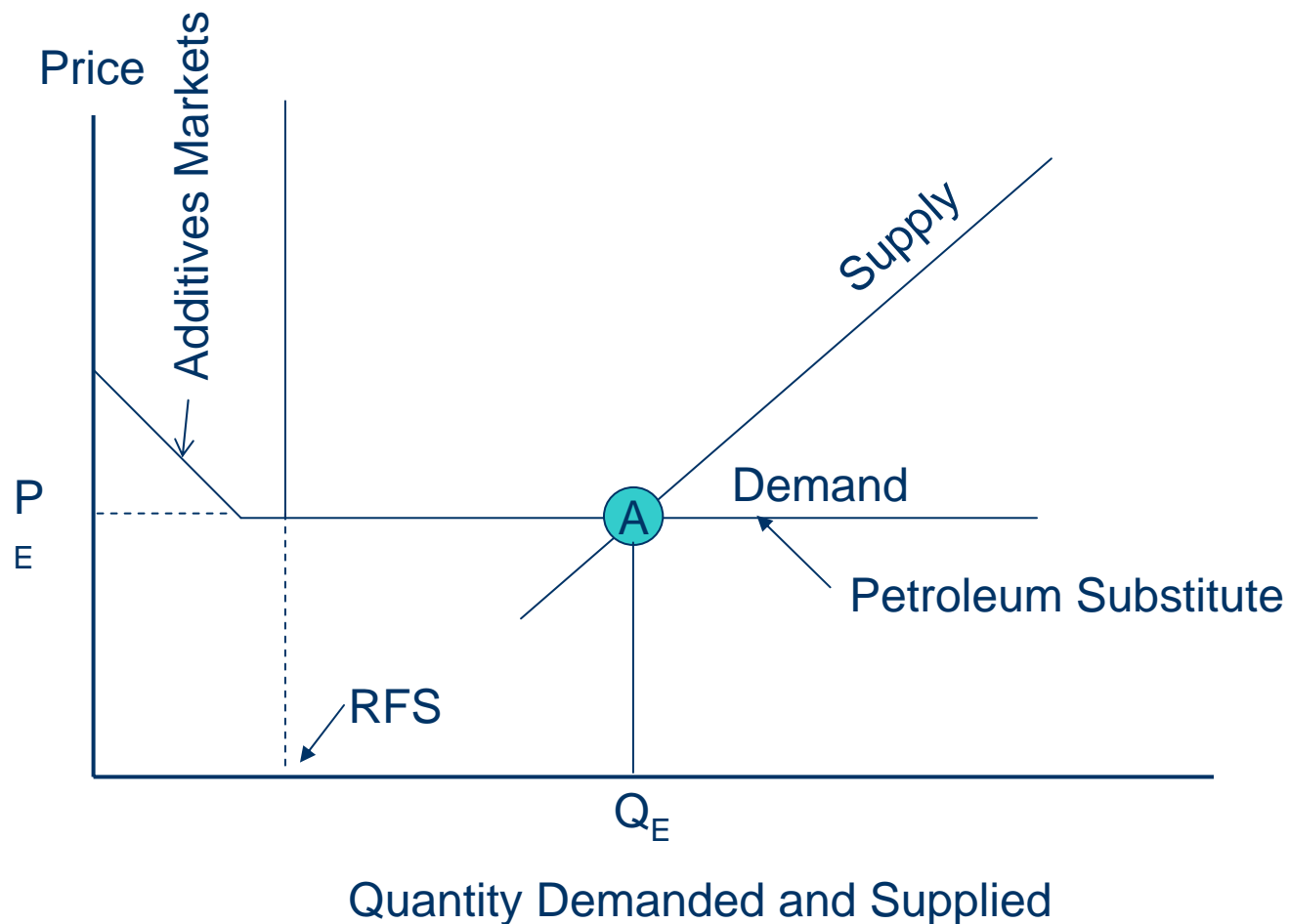


Quantity Demanded and Supplied

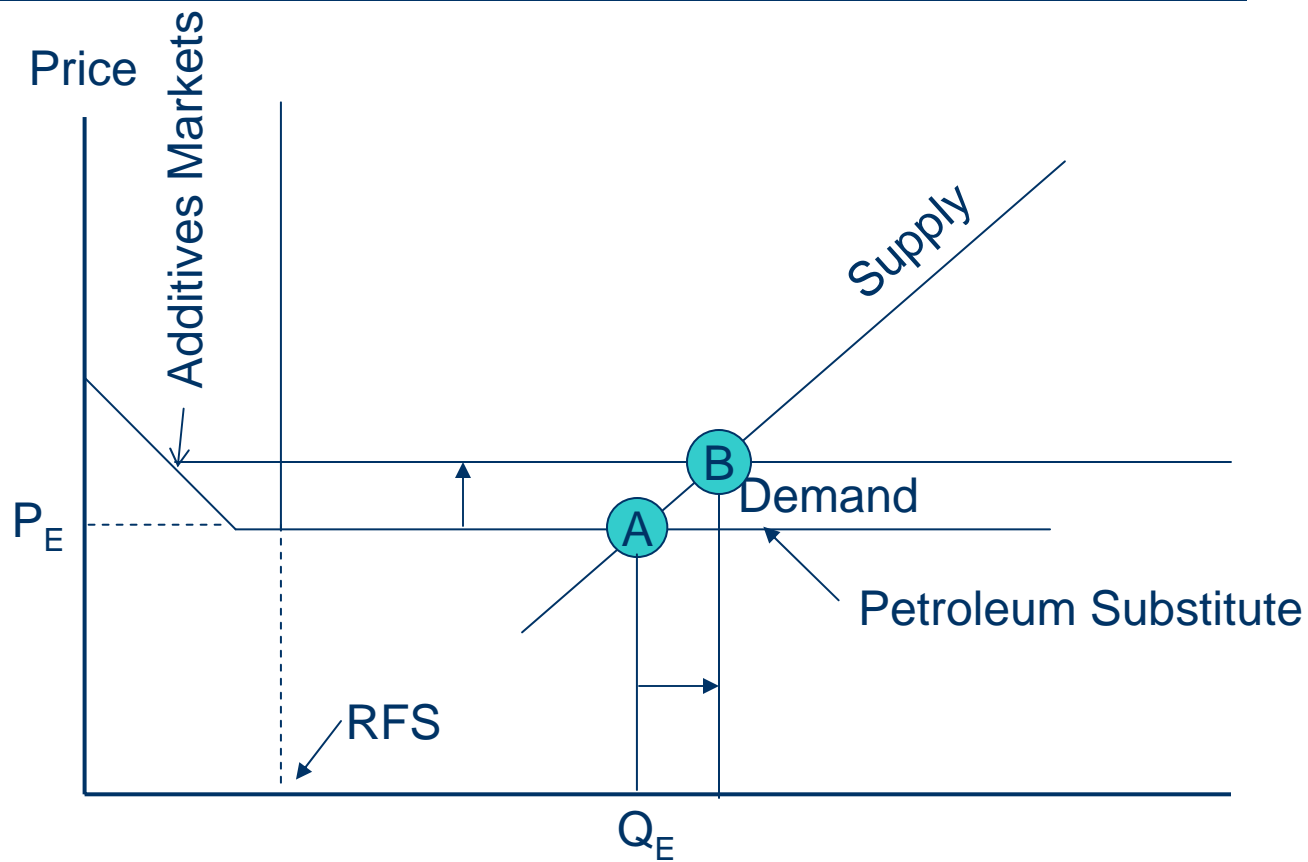
Biofuel feedstock demand is different

- Biofuels account for only a small percent of potential fuel demand
 - Total world grain supply converted to ethanol is less than 10% of global petroleum use
- Biofuel demand is highly price elastic
 - Assume biofuels produced for energy, not additives
 - As production increases, biofuels easily substituted
 - Therefore, prices not very responsive to supply
 - Can see short run issues from bottlenecks

Biofuel demand/supply with additive niches and $RFS < Q_e$, no tax credit



Biofuel demand/supply with additive niches and $RFS < Q_e$, with tax credit



Quantity Demanded and Supplied

Effect on feedstocks markets

- Feedstock demand derived from biofuels
- If no binding RFS price becomes the higher of:
 - Combined food, feed, export market value
 - Or biofuel value if biofuel value > food/feed/export
- If RFS is binding upper price limit is increased
- If biofuel value is high relative to food value
 - Biofuel prices are major determinate of feedstock prices
 - Limited acreage implies prices will never decline from increased feedstock production alone
 - Higher prices ration food, feed and exports

Does ethanol increase corn prices?

- “Demand created by ethanol production increases the price a farmer receives for grain.” RFA Website

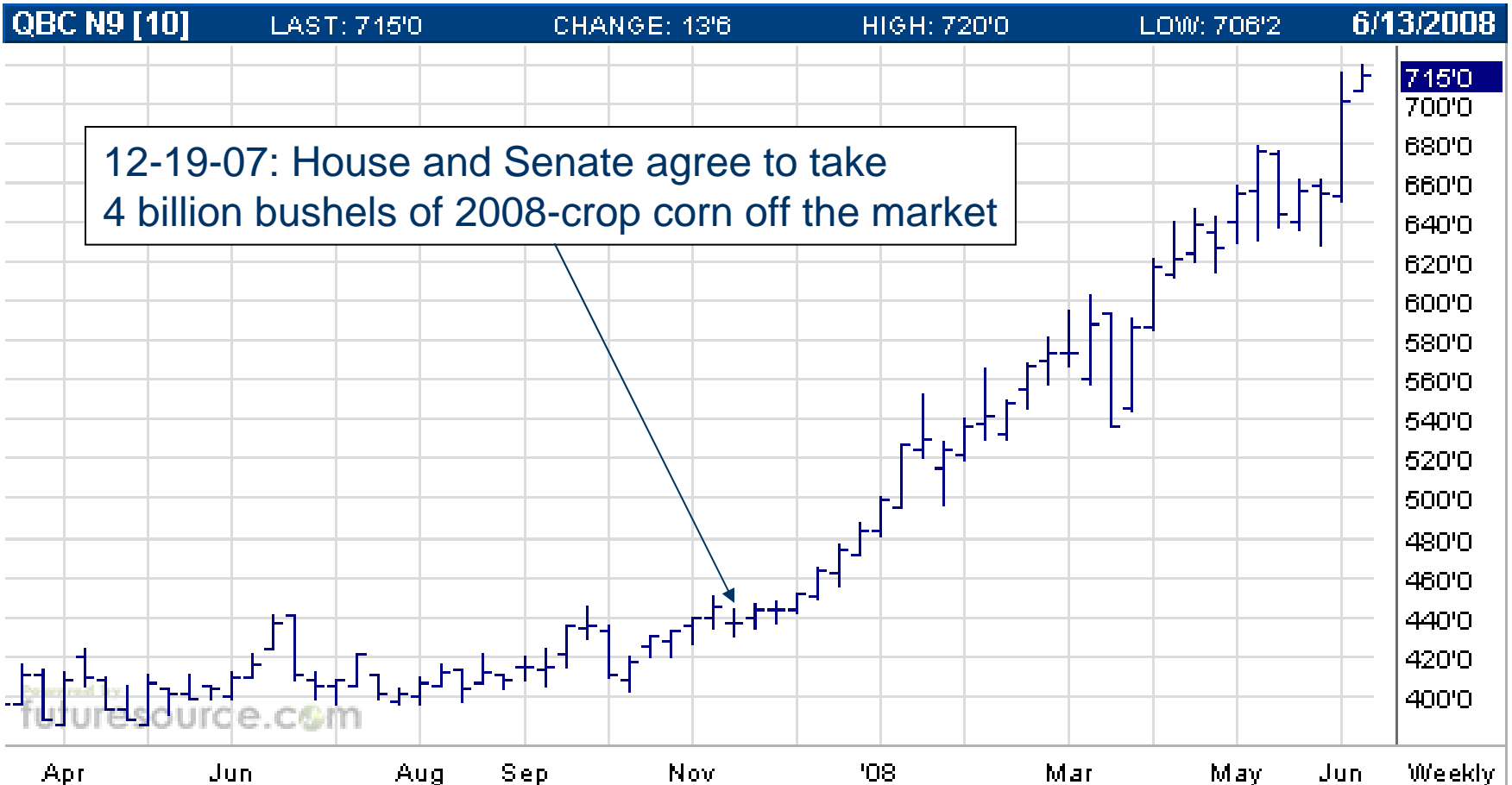
Why no rationing to date?

- Large corn/soybean stocks of 2006-2007
- Long lags in feed use response
- Weak dollar boosting export demand
- Price inelastic food demand

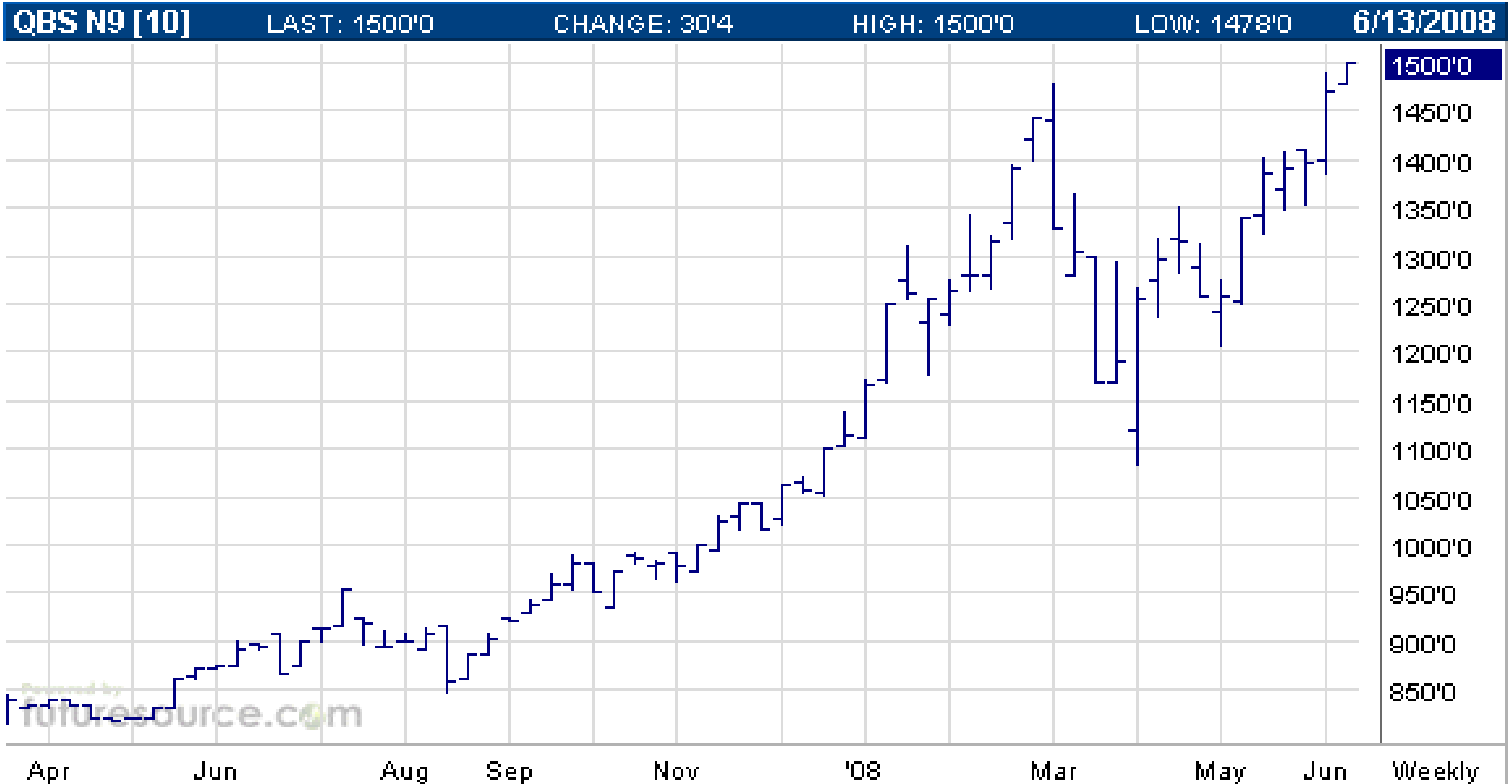
Rationing starts now

- Stocks are depleted, or soon will be
- Reduced 2008 corn crop
- USDA already forecasts major reductions in corn feeding and exports based on trend yields
- Unfavorable May/June weather – yields declining
- Reductions in soybean yields are likely
- Wheat acreage expansion limited by corn
 - Major reduction in wheat exports
 - Wheat feeding almost eliminated
 - Wheat stocks stay at pipeline levels

Why rationing now? July 09 Corn



Why rationing now? July 09 Beans



Why rationing now? July 09 Wheat



Policy benefits and costs

- Crop farmers and suppliers benefit from policy
 - Higher prices = higher incomes
- Higher crop prices = higher costs to the system
 - Corn and soybeans are food inputs, not food
 - Real food producers see higher costs, lower profits
 - Food prices increase, but with important lags
- Rest of economy sees lower spending/demand
- Net effect is higher food expenditures, less spending available for other sectors
 - April Food CPI = ~\$100 billion in discretionary income

Quotes from RFA Web Site

- **Ethanol production does not reduce the amount of food available for human consumption.**
 - Ethanol is produced from field corn fed to livestock, not sweet corn fed to humans. Importantly, ethanol production utilizes only the starch portion of the corn kernel, which is **abundant and of low value.**

Typical food producer headline June 5, 2008

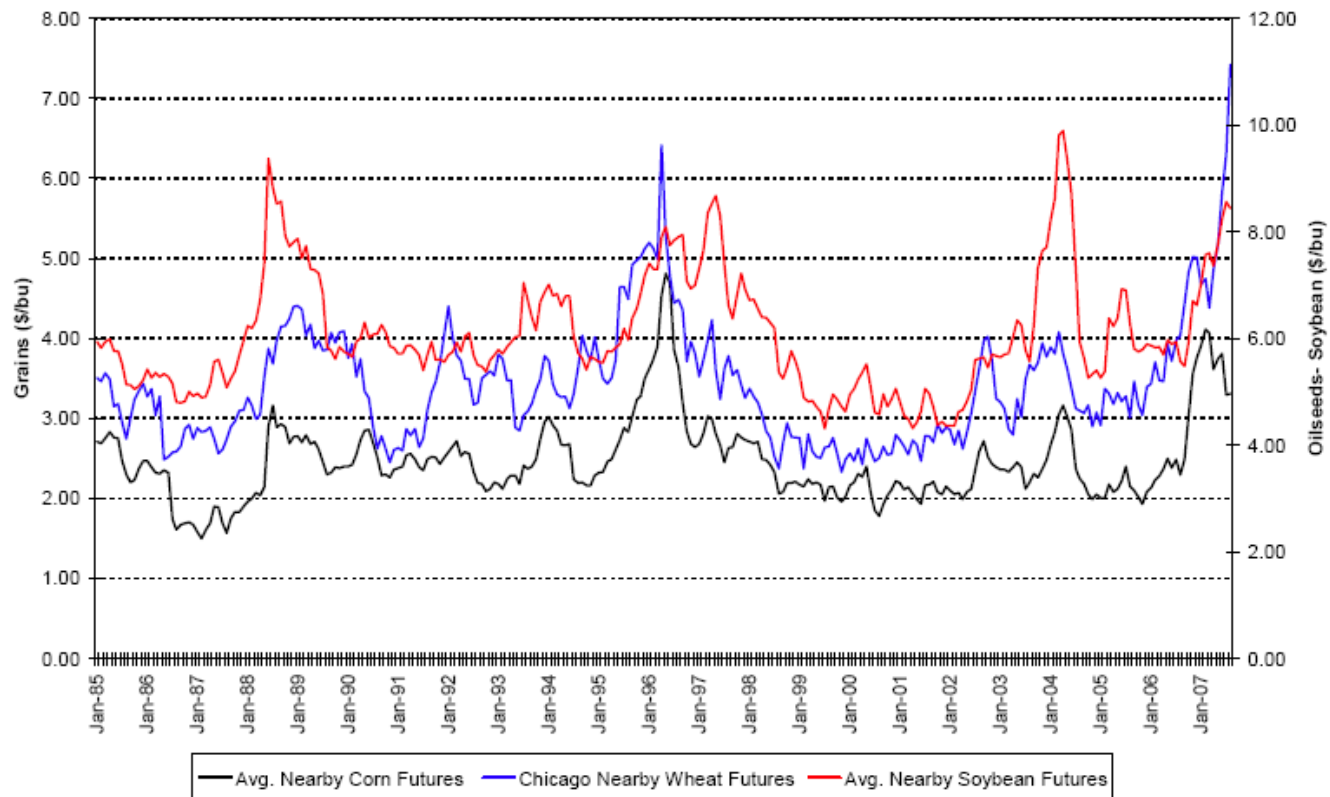
“Smithfield Foods today reported a significantly lower profit for its fourth quarter due to the increasing cost for grain and falling prices for hogs. The Virginia-based meat producer reported income from continuing operations of \$1.8 million compared with \$51.8 million from the year prior.”

Do corn prices matter?

- Informa and Texas A&M studies used pre-2008 data.
- 1985-2007 food commodity prices showed almost no trend
- Corn prices could not correlate to upward trending retail food prices
- Labor costs did trend up, correlating with food prices
- This DOES NOT prove that corn and commodity prices are not important.

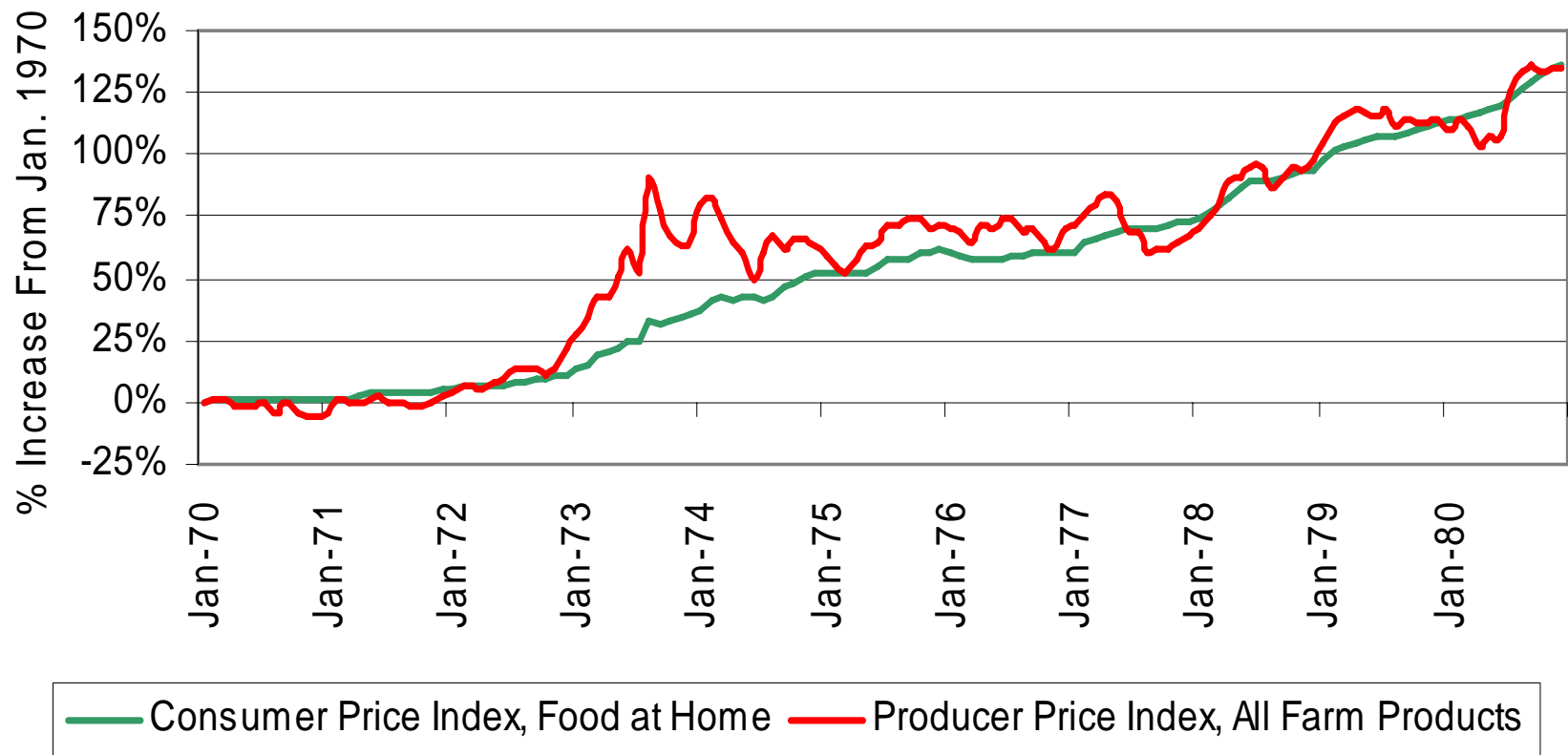
Figure 7 from Informa study

Figure 7: Historical Grain and Oilseed Prices (January 1995 - August 2007)



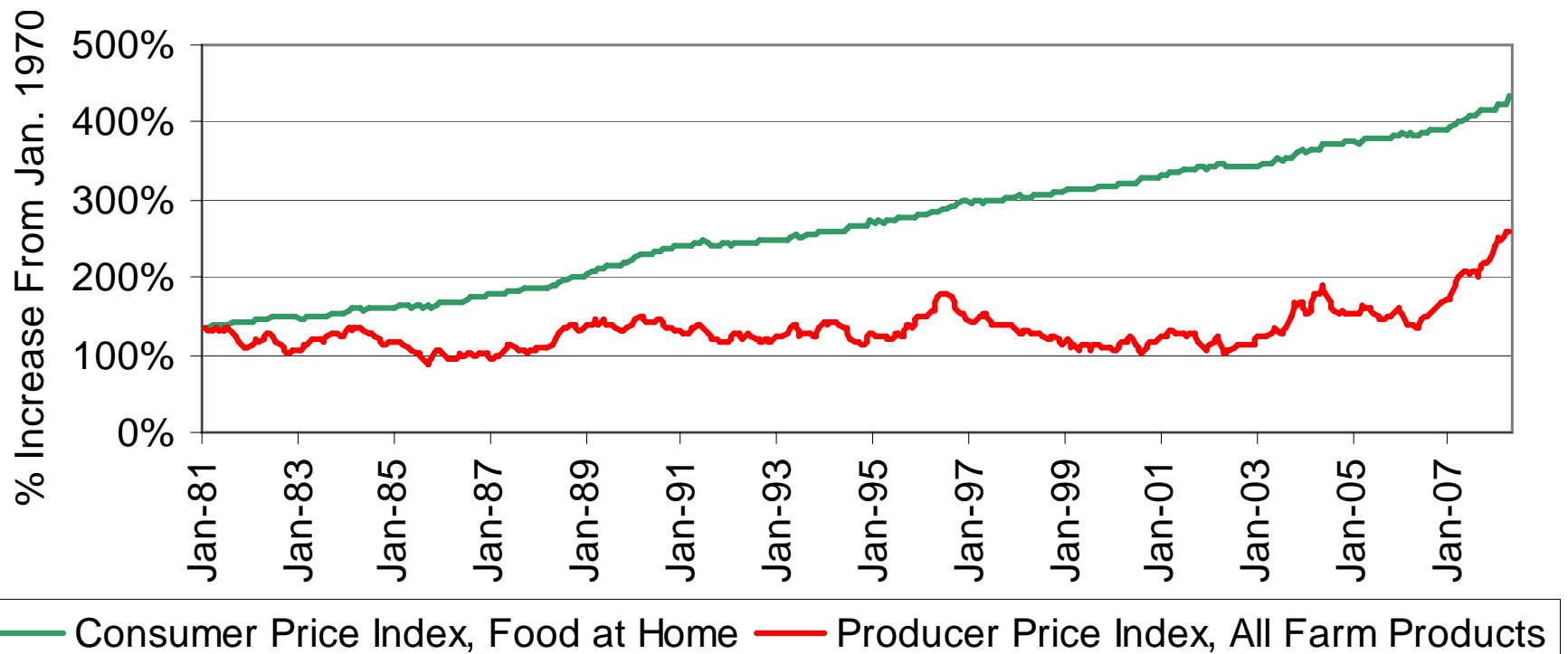
Source: Chicago Board of Trade

Food at Home CPI and All Farm Products PPI, 1970-1980



Regression: $R^2 = 91\%$, $\beta=1.148$, $t=36.46$

Food at Home CPI and All Farm Products PPI, 1981-April 2008



You cannot correlate what is not changing with something that is changing.
If it is not changing it does not mean it is not important when it does change.

It's not just corn!

- Corn prices have an effect on a broad range of farm products
 - Substitution price effects (competing feeds/foods)
 - Acreage competition effects (all major crops)
 - Cost effects (downstream foods)
- It takes 2-5 years for the effects to move through the food system

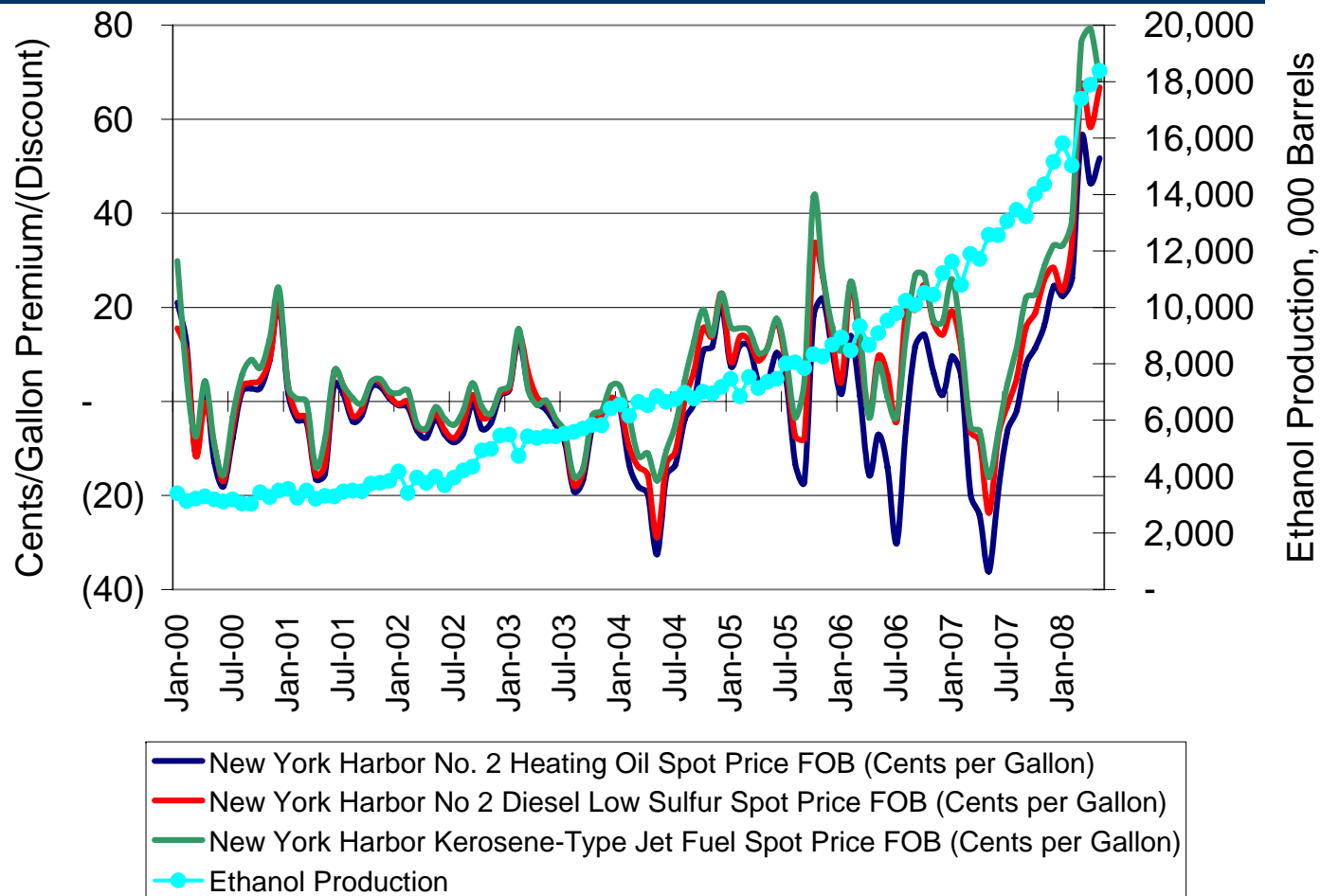
Biofuels policy macroeconomic effects

- No net addition to real income or GDP
- No net gain in jobs
- Higher spending on biofuels and foods
- Lower spending on everything else
- Higher farm production costs
 - Variable inputs
 - Land prices and rents
- Increased biofuels prices and costs
- No net benefit to society

Effects on energy costs

- Increased ethanol production may be depressing gasoline prices
- However, gap between gasoline and other petroleum prices has widened to record levels
- Evidence suggests, and theory supports, a transfer of cost burden:
 - From gasoline users (personal transportation)
 - To other products (goods transport, home heating & aviation)

Heating Oil, Diesel and Jet Fuel Price Premiums and (Discounts) to Gasoline



Regression of ethanol production on diesel/gasoline premium

- 12 MMA, Feb. 1995 to May, 2008
- Diesel premium positively related to ethanol production
- Each 100,000 bbl of added monthly ethanol production increases premium by 14.6 cents
- $R^2 = 47\%$, t statistic = 11.8

Does the Hayes study* refute?

- Hayes data were from 1995-2007
- Page 8: “Our hypothesis is that this additional (ethanol) production has had a negative impact on gasoline prices and on the margins of crude oil refiners.”
- Page 13: “The results suggest that this reduction in gasoline prices came at the expense of refiners’ profits.”
- If margins and profits are depressed, cost recovery will be pushed from gasoline to other product prices
- Prior graph shows this is happening in 2007/2008

*Xiaodong Du and Dermot J. Hayes. “The Impact of Ethanol Production on U.S. and Regional Gasoline Prices and on the Profitability of the U.S. Oil Refinery Industry”. Iowa State. Working Paper 08-WP 467. April 2008

Lower gasoline prices are also

- Raising the cost of goods transport
- Increasing cost pressures on the food system
- Adding to airline fares
- Increasing home heating costs
- No net gain to the economy, possibly a loss

Rx for a healthy biofuels industry

- Eliminate/phase out RFS, tax credits and tariffs
- Compete for feedstocks on a level playing field, and based on real economic value
- Compete with efficient foreign producers
- Add real value, not artificial cost inflation
- Continue federal support for basic research