

American Farm Bureau Federation Backgrounder on Food Prices

May 22, 2008

World Food Price Issues

What is causing all of the concern about world food prices?

The causes of the world food price situation should be viewed as a set of short and long-term issues because there are legitimate concerns one should have about global food supplies that are displaying themselves in the short-term.

The Food and Agricultural Organization (FAO) of the United Nations recently released a report titled "Growing Demand on Agriculture and Rising Prices of Commodities."

Excerpts from the FAO report include:

- **Weather Related Production Shortfalls.** Output in eight major exporting countries dropped by 4 and 7 percent [in 2005 and 2006]. However, there was a major increase in output in 2007...This quick supply response for cereals...came at the expense of reducing...output of oilseeds."
- **Stock Levels.** Since 1995...global stock levels have on average declined by 3.4 percent per year...By the close of the 2008 season, world cereal stocks are expected to decline a further 5 percent, reaching the lowest level since 1982.
- **Increased Fuel Costs.** Freight rates have...doubled, mainly within a one-year period beginning February 2006.
- **Changing Structure of Demand.** Economic development and income growth in important emerging countries have been gradually changing the structure of demand for food commodities. In China, per capita meat consumption has increased from 20kg (44lbs.) in 1980 to 50kg (110lbs.) now.
- **Biofuels and Agricultural Commodities.** The emerging biofuels market is a new and significant source of demand for some agricultural commodities such as sugar, maize, cassava, oilseeds and palm oil.
- **Operations of Financial Markets.** Market-oriented policies are gradually making agricultural markets more transparent. This influx of liquidity is likely to influence the underlying spot markets.

Additional World Food Price Comments

In affecting the short-term, some traditional exporting countries are deciding whether to limit or even curtail delivery of rice and other products into the world market. Striking farmers in Argentina are another example of supply disruptions affecting world commodity availability. Once a hoarding mentality sets in, it can create irrational behavior.

Longer term, the answer has to be the adoption of more productive approaches to agriculture around the world. Deciding to forgo technologies that can significantly

improve yields, reduce pesticide needs and provide for better output traits, as Europe, Japan and some other countries have elected to do, places a major cost on developing and other economies.

This was a warning issued more than 10 years ago, but that was ignored or even scoffed at, at the time.

Further, other countries need to put policies in place that will open their economies to market signals. Farmers and consumers need to be able to see the true value and cost of their food.

Some other issues affecting world food supplies:

- China has experienced a harsh winter in the south and a spring drought in the north. There is concern that this could further exacerbate food shortages/demand in China. China has curbed exports of grain through quotas and taxes. China has been stockpiling grain, but as population grows and that nation's arable land shrinks, there is concern that China is reaching the red line of grain security with about 121.8 million hectares available (estimates are that China needs a minimum of 120 million hectares for grain security).
- China and India are consuming more grain and meat as incomes increase. Consumption of meat has increased demand for grains for animal feeding purposes. Per capita consumption of meat in China doubled between 1990 and 2005 and is still growing. This is leading to a rapid increase in the demand for feed.
- For some crops, notably rice in East Asia, the amount of good, productive land is falling, buried under concrete of expanding cities. Additionally, worldwide investment in agricultural research has dropped as spending on farming as a share of total spending in developing countries fell by a half between 1980 and 2004. Rice research has slowed significantly. Wheat yields also have reached a plateau due to lack of research.
- Rice availability is an issue even in normal times. Worldwide, little rice is actually exported: more than 90 percent of what is grown is consumed in countries where it is grown. In the last quarter century, rice consumption outpaced production, with global reserves plunging by half since 2000.
- A plant disease has hurt harvests in Vietnam reducing supply and leading to the hoarding of rice as speculators and investors see it as lucrative. Thailand has also tightened exports, as has India. Senegal and Haiti import 80 percent of their rice.
- Australia, one of the world largest wheat producers, has experienced a drought since 2002. Due to a six-year drought, Australia rice production is down 98 percent. The largest rice mill in the Southern Hemisphere, located in Australia, previously processed grain to meet the needs of 20 million people around the world. It closed in December 2007 due to the reduction in rice production.

- Floods and a devastating cyclone also affected Bangladesh’s ability to produce crops.
- Due to population growth and the loss of farmland, the average farm size in China and Bangladesh has fallen from about 1.5 hectares in the 1970s to 0.5 hectares now. In Ethiopia and Malawi, it fell from 1.2 hectares to about 0.8 hectares in the 1990s.
- In Africa, Kenyan and Ethiopia, farmers are planting less due to fuel and fertilizer costs and the inability of farmers to secure credit to their finance purchases. Growing political violence also has reduced plantings in Africa.
- Of the 58 countries tracked by the World Bank, 48 have imposed price controls, consumer subsidies, export restrictions or lower tariffs. China, Russia, Cambodia, Kazakhstan, Argentina, Brazil, Ukraine, Indonesia, India and others have export bans while others have restricted flow.

Wheat Markets

Wheat is one commodity area that has drawn attention in stories regarding food prices. After three consecutive years of weather-related production problems, world wheat production appears poised to set a new record, up 7 percent from last year and 3 percent above the 2004/05 record, according to the International Grains Council. Production is expected to exceed consumption for the first time in four years. U.S. wheat production is expected to increase about 13 percent in 2008.

Wheat futures prices topped out in late-February/early March of this year at around \$12.50 per bushel and have subsequently declined \$4-5 per bushel. (See Chart)



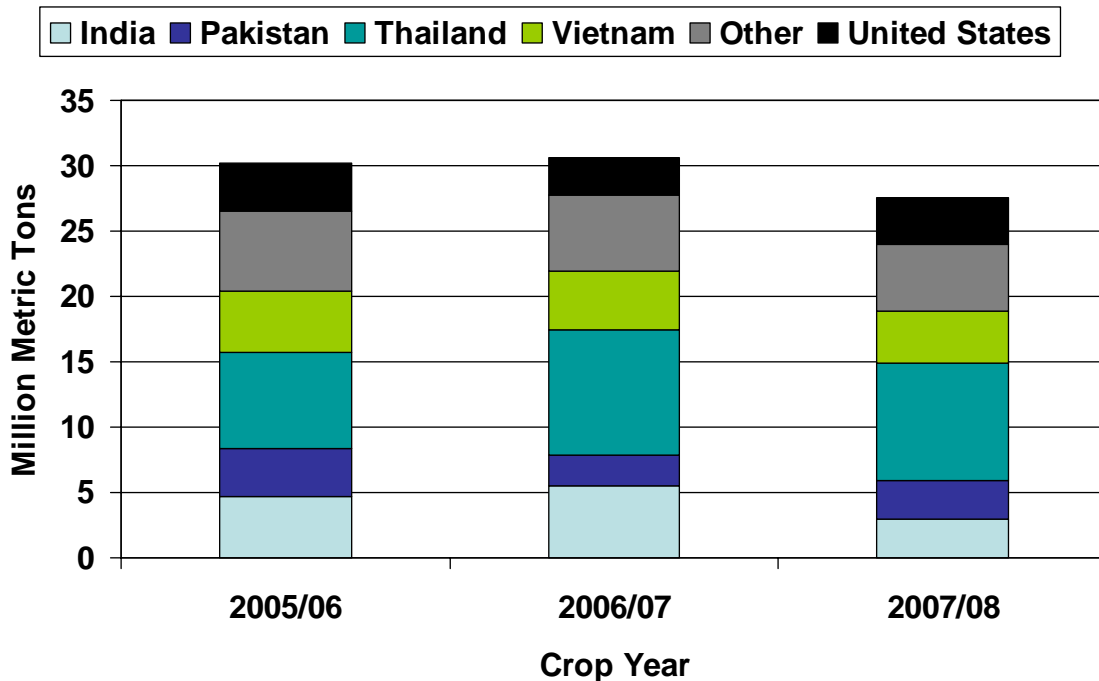
Rice Markets

Rice is referred to as a “thin” market, meaning that the amount that actually shows up in world trade is very small compared to the amount consumed in the countries where it is produced. With global rice consumption at 424 million metric tons this year, roughly 93 percent of rice is consumed in the country in which it is produced, leaving only 6-7 percent (27 million metric tons) to actually trade in global markets. Yet it is this traded quantity that determines the world price for rice. It takes only small disruptions in this portion of the world’s rice production for prices to move sharply.

Reports of rice shortages come in the face of three consecutive years of slowly growing world rice production. Production for the coming year is expected to rise by 1.8 percent. Also estimated world ending stocks of rice have been essentially unchanged over that period of time.

To the extent there are actual rice shortages in some areas of the world, they have been caused by countries hoarding supplies and withholding traditional exports to try to mitigate domestic inflationary pressures. Among the major rice exporters restricting exports are countries like India and Vietnam. But the effects on the overall trade numbers for rice have been relatively small, as shown in the graphic below.

World Rice Trade



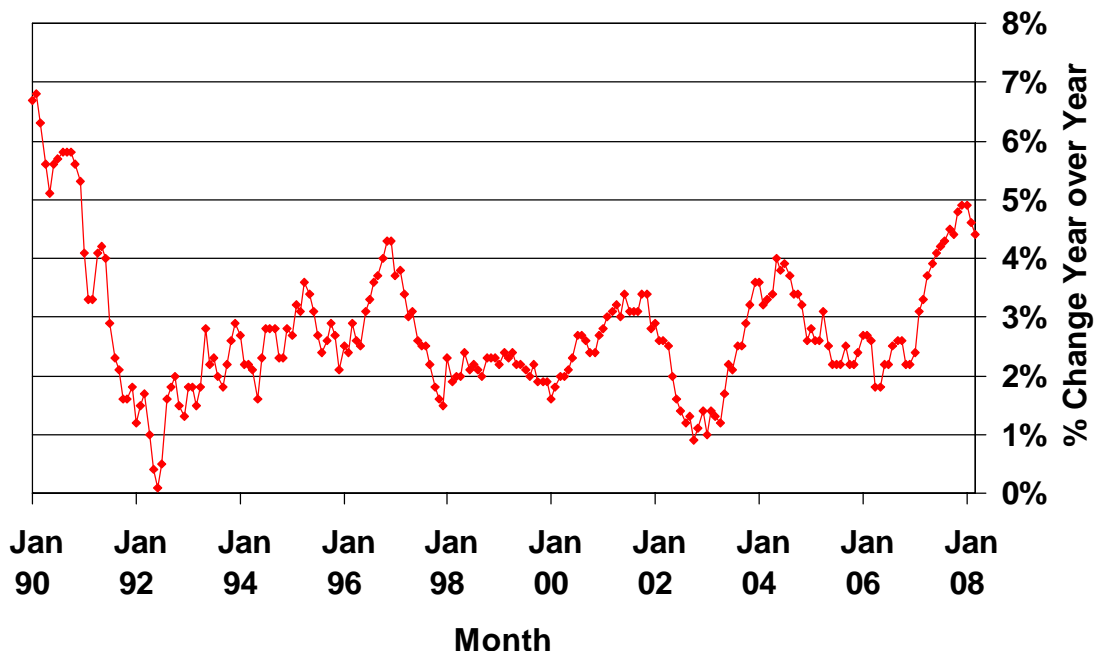
This small decline in trade, coming at the same time as these announcements regarding trade restrictions, has caused considerable distress in specific markets sufficient to drive prices sharply higher.

Domestic Food Price Issues

What is really happening to food expenditures?

USDA has observed that the Consumer Price Index for food and beverages increased by 4 percent for 2007. Expectations are that the increase will come in between 3.5 percent and 4.5 percent for 2008. The graphic below shows the monthly changes in the food CPI back to January 1990. Several things show up. First, this is not the first time we have had a rapid run-up in the food CPI, nor have we come close to hitting some of the degree of changes observed back in the early 1990s. Also note that the food CPI already has started to grow at a somewhat less torrid pace than occurred at the end of last year. In other words, like wheat prices, the food CPI may well be at the peak in this cycle.

Year-over-Year % Change in CPI for Food



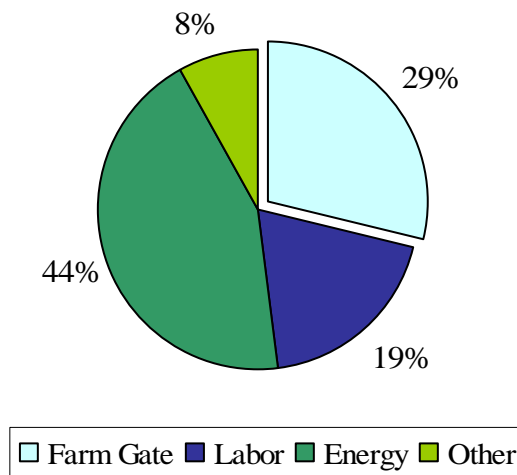
To put this in a different perspective, U.S. consumers spend approximately \$1.1 trillion per year for food and beverages. The core inflation rate is about 2.5 percent per year, as had been the average increase in food prices prior to 2007. The annualized food price inflation rate was 5 percent in the first quarter of 2008. Taking the \$1.1 trillion food and beverage expenditures, this suggests annual growth in food outlays of \$50 billion, up from the historical average of \$25-30 billion.

Through all of this, it is important to recognize that farmers receive 19 cents from every dollar consumers spend for food, according to the latest USDA Economic Research Service report. From March 2007 to March 2008 the Producer Price Index (PPI) for intermediate foods and feeds rose 11 percent. The largest single share of the food dollar,

39 cents, is for labor (Assumed to be up 3.5 percent, consistent with labor cost changes for 2007 reported by Bureau of Labor and Statistics; however, the minimum wage rate rose 13 percent in 2007 and an additional 12 percent in 2008). Energy-intensive activities such as transportation, fuels and electricity contribute a 16 percent share (the PPI for finished energy goods was up 20 percent March over March). “Other” marketing costs account for 22 cents, and slightly less than 5 cents is for corporate profits before taxes.

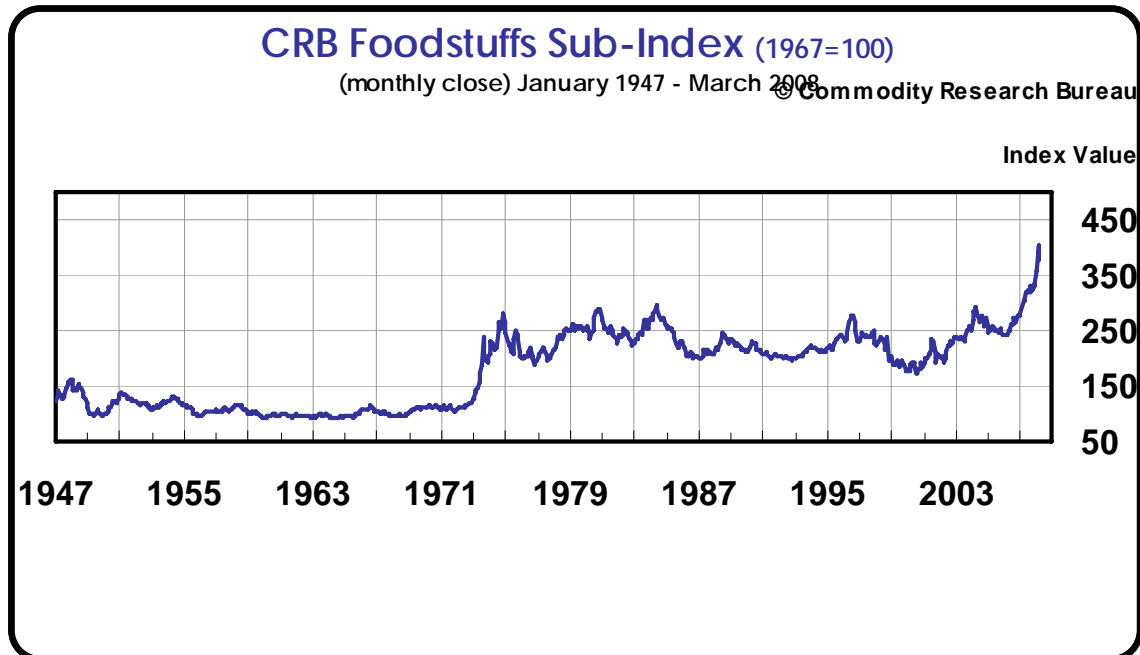
Overall, USDA expects the CPI for food to rise by 4.5 percent to 5 percent this year. Using the relative price changes of the various components over the last 12 months, that translates to the shares shown below for the shifts in domestic food costs:

Components of 2007/2008 Food Price Increase



How are food prices changing relative to the rest of the economy?

The Commodity Research Bureau Foodstuffs index, an index based on the prices of hogs, steers, lard, butter, soybean oil, cocoa, corn, Kansas City wheat, Minneapolis wheat and sugar, at the end of March 2008, was up 24 percent from March 2007 levels. At the same time, the overall CRB Continuous Commodity Index (including energy, precious metals and other broad components) was up 27 percent from year earlier levels. It is also instructive to compare these two indexes over longer periods. Between March 1990 and March 2008 the foodstuffs index rose 71 percent. The metals index on the other hand is up 198 percent and the energy index is up a 393 percent. Food commodity prices have increased over that period of time, but far, far less than many other input sectors. In fact, the foodstuff index in January 2007 was actually lower than the *nominal* value of the same index in September through November of 1980. (See Chart)



Clearly there has been a rise in the foodstuffs index in the last few months, but again, there have been several causes for that rise, and the trend also began as far back as early 2000, about the same time global wheat stocks hit their last peak. Anytime products as basic as foodstuffs are held at constant nominal prices for several years in a row – decades in this case – eventually, inflationary pressures will need to be taken into consideration.

Is ethanol driving up food prices?

While ethanol has certainly become the whipping boy, there are many causes lifting commodity prices this spring. Several independent think tanks place biofuels' contribution to the food cost increase on a global basis at somewhere between 10 and 30 percent. A study completed at University of Wisconsin by Fortenbery and Park suggests ethanol demand has increased corn prices by only 41 cents per bushel over levels that would have otherwise existed. As it is, corn prices have actually increased by \$1.22 over the same period studied by the Wisconsin researchers, suggesting other factors are contributing to higher commodity prices. Exports also have increased corn prices, but the Wisconsin researchers suggest a significant effect coming from speculative trading by outside investors.

Would suspending the RFS lower corn prices?

Very little, and in the short term, it is unlikely that waiving the renewable fuel standard (RFS) requirements would cause any reduction in corn prices, let alone working all the way through to food costs. Following are points to keep in mind:

- Corn exports have increased significantly, despite the corn price increase.

- The U.S. dollar has weakened sufficiently to keep corn exports flowing.
- This provides ample reason to believe a good portion of the corn freed up by an RFS waiver – a fourth to a third of the crop – would likely be snapped up by the export markets. The price response would probably be limited to 10 to 20 cents per bushel.
- Corn prices mainly affect consumer prices through livestock production, and price effects would take several months, even years, to work their way through to the consumer.

Is it true ethanol raises gasoline prices?

Actually just the opposite. Ethanol is serving to limit the run-up in gasoline prices. Multiple studies show that oil and gasoline prices would be as much as 10-15 percent higher if biofuel producers were not increasing their output. Without the expansion of biofuel production and use in the U.S., Brazil and elsewhere, world oil demand would increase and so would the price. Taking the 10 percent figure as a conservative estimate and a national average gasoline price of \$3.50 per bushel on the roughly 145 billion bushels of gasoline consumed in the United States every year, ethanol is saving the consumer more than \$50 billion in lower fuel costs.

Does ethanol use more energy than it creates?

No. USDA reports that, taking into account all of the energy used to produce and process corn into ethanol, including the energy used from the production of the fertilizer used to feed the corn crop all the way through the energy used to produce the stainless steel tanks to process the corn into ethanol, the renewable fuel has a positive energy balance of 67 percent. In other words, taking everything into account, ethanol provides 67 percent more energy than it takes to produce it.

Further, according to a recent report from Argonne National Lab, American ethanol facilities are using less water and less energy than five years ago while producing more ethanol.

- Water consumption -- down 26.6 percent
- Grid electricity use -- down 15.7 percent
- Total energy use -- down 21.8 percent

What has ethanol done for the economy and rural America?

Ethanol has brought about rural revitalization. The annual local economic impact of an ethanol plant, using a 40-million-gallon-per-year plant, is as follows:

- Economic base expansion = \$110.2 million
- Additional household income = \$19.6 million
- Jobs created = 694 permanent new jobs throughout the entire economy
- New tax revenues = \$1.2 million

What about tariffs?

Aren't tariffs protecting U.S. agriculture, keeping ethanol prices high and costing U.S. consumers? The fact is that ethanol is being imported today directly from countries like Brazil, but also from other countries in the Caribbean. These Caribbean countries actually have duty-free access to the United States, but are not filling their allowed levels because ethanol prices are higher in other markets. The fact remains that historically high crude oil prices are far more responsible for high gasoline prices than are existing trade laws.

Eliminating the tariff would result in U.S. taxpayers essentially subsidizing Brazilian ethanol.

More Information?

For more information regarding this topic:

- Regarding economic aspects, contact AFBF Chief Economist Bob Young.
- Regarding policy aspects, contact AFBF Director of Congressional Relations Anne Steckel.

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