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Before the Senate Foreign Relations Committee
Hearing on "**Responding to the Global Food Crisis"**

Wednesday, May 14, 2008

Thank you, Chairman Biden, Ranking Member Lugar and Members of the Senate Foreign Relations Committee. I appreciate the opportunity to be with you today to discuss the economic factors that have contributed to recent increases in global food prices.

Developing countries and lower income individuals are disproportionately affected by food price increases, and the Committee's focus on this issue is particularly timely. For policy makers to develop an appropriate response, it is essential to understand the underlying causes of food-price inflation. The causes are many, and few are within our ability to control, especially in the immediate future.

There are several measures of food prices. The international measure we have analyzed is the International Monetary Fund's (IMF) Global Food Index. This measure includes vegetable oils, meat, seafood, sugar, oranges, bananas, and cereals (which we often refer to as grains). This index consists of virtually no processed foods, which may accurately reflect a consumption bundle of some individuals in developing countries. For the average consumer in the United States, we analyzed the CPI, both the total index and its food subcomponent. This index places heavy weights on processed foods, which Americans consume in large proportions.

Global food inflation was 43% during the 12 months ending in March, 2008.[1] While this rate is high, it is not unprecedented. Similar rates were seen in the mid-70s and other periods have experienced high world food-price inflation. But that makes the current situation no less difficult.

Although the IMF Global Food Index increased 43 percent, the U.S. food CPI increased only 4.5 percent. The reason for the smaller rate of inflation is that Americans tend to consume highly processed foods. When consumers in the United States purchase foods from supermarkets, convenience stores, or restaurants, a large fraction goes to cover labor associated with preparing, serving, and marketing the food that we eat[2]. This is much less true in developing countries.

The effect of food price inflation on individuals in poor countries is even more pronounced because the poor spend a larger fraction of their income on food. The typical

[1] Source: International Monetary Fund's International Financial Statistics database, food price index.
[2] Source: USDA, http://www.ers.usda.gov/Data/FarmToConsumer/Data/marketingbilltable1.htm

American spends slightly less than 14% of total expenditures on food.[3] In contrast, Africans spends 43% of their expenditures on food[4] and those subsisting on less than one dollar per day in Sub-Saharan Africa may dedicate as much as 70% of their expenditures to food.[5]

Americans also vary in the proportion of their income that they spend on food, but it is not too different across income groups. Even individuals with incomes between $5,000 and $10,000 spend only 17.1% of their expenditures on food. Richer Americans spend a smaller share, but those with incomes exceeding $70,000 still spend 11.3% of their expenditures on food.

Because of the high level of processing associated with food consumed in the United States, rising energy prices are affecting consumers in the United States more than rising food prices. For example, with food prices rising 4.5%, Americans would have had to pay nearly $300 more in 2007 to consume the same basket of food they did the previous year. With gasoline prices rising 26.5%, Americans would have had to pay nearly $600 more for the same quantity of gasoline during the same period.

Still, food inflation is important, even in the United States, and it is useful to understand its underlying causes. Grains and seeds have experienced the most rapid price increases over the last 12 months ending in March. Wheat prices have increased by 123 percent, soybean prices have increased by 66 percent, corn prices have increased by 37 percent, and rice prices have increased by 36 percent.[6]

Increased demand in emerging markets is an important factor that contributes to food price increases. Rapid economic growth in emerging economies over the past several years has been accompanied by improved living standards, including better diets. Millions of people are becoming part of a growing middle class in these countries with greater purchasing power. A consequence of this development is greater consumption of grains and meats, which use grain as feed. Emerging market food consumption has increased by nearly 45% for the 2001-2007 period as compared to the 1991-2000 period.[7] Consumption in developed economies has increased only slightly, so a large share of the rise in demand can be attributed to increased consumption by emerging markets such as China. This factor cannot entirely explain the recent spike in food prices, however, since consumption in these emerging markets has been growing steadily over the past decade and grain-price increases have only risen noticeably over the past 2 years. We estimate that the increase in emerging market demand can account for about 18% of the rise in food prices over the past twelve months.

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[3] Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2006. ftp://ftp.bls.gov/pub/special.requests/ce/share/2006/income.txt. Typical American refers to an individual at the median income level.

[4] Source: Federal Reserve Board Staff calculation, IMF, and World Bank

[5] Source: The International Food Policy Research Institute 2020 Discussion Paper No. 43, "The World's Most Deprived."

[6] Source: U.S. Department of Agriculture, National Agricultural Statistics Service database.

[7] Source: International Monetary Fund's Finance and Development Magazine, "Riding a Wave," March 2008, Volume 45(1).

On the side of food supply, adverse weather has been a key factor in the recent rise in food prices. Australia, China, and many Eastern European countries have experienced severe weather-related events that have lowered crop yields. Australia, for example, experienced 40% lower harvests for its major crops, including wheat, barley and canola this year. While difficult to quantify the impact on food prices, most analysts point to reduced harvests in these countries as the primary cause of the large increase in wheat prices. A return to normal weather patterns should help to put some downward pressure on food prices, particularly wheat, as crop yields return to historic levels. Unfortunately, the decline will be gradual since inventories of wheat have been depleted and rebuilding stocks of grain will keep prices high for awhile.

I recognize the contribution of biofuel production to recent food-price increases is a topic of particular interest to the Committee. The bottom line is that ethanol production is a significant contributor to increases in corn prices, but neither U.S. nor worldwide biofuel production can account for much of the rise in food prices.

Among the existing stock of biofuels, ethanol is by far the largest type, with corn-based ethanol accounting for a substantial portion of total ethanol. Corn-based ethanol production has increased dramatically over the past year with approximately 25% of total U.S. corn production dedicated to ethanol production in 2007.[8] We estimate that the increase in U.S. corn-based ethanol production accounts for approximately 7.5 percentage points of the 37% increase in corn prices over the past twelve months[9] The increase in corn-based ethanol production in the rest of the world this past year accounts for as much as an additional 5.5 percentage points. Combining the increases in ethanol production in the U.S. and the rest of the world, we estimate that the total global increase in corn-based ethanol production accounts for about 13 percentage points of the 37% increase in corn prices, or about one-third of the increase in corn prices over the past year.

Let me put this in context. Because corn only represents a small fraction of the IMF Global Food Index, we estimate that the increase in total corn-based ethanol production has pushed up global food prices by about 1.2 percentage points of the 43% increase in global food prices, or about 3% of the increase over the past twelve months. This estimate includes the indirect effects of the increase in corn-based ethanol production, through crop substitution and spillover effects into other food products. Looking back to 2005 and 2006, the effect of increased ethanol production on food prices during these two years taken together has been of similar magnitude.

Based on the Department of Energy's Energy Information Administration (EIA) actual and projected ethanol production levels, it appears that the Renewable Fuels Standard has not yet been a contributing factor in increased ethanol production. At

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[8] Source: U.S. Department of Agriculture, *USDA Agricultural Projections to 2017* Long-term Projections Report OCE-2008-1. February 2008

[9] Since 2004, the increase in ethanol production in the United States has pushed up corn prices by about 20 percent.

current corn and gasoline prices, ethanol production is profitable regardless of the mandate. Indeed, EIA's projection for ethanol production in 2008 suggests that we will supply 9.15 billion gallons of ethanol (including imports), which is above the 9 billion gallon mandate. The mandate may become a factor in the future, if corn prices increase relative to gasoline prices and ethanol is no longer a cost competitive alternative to gasoline. Other policies – ethanol subsidies and tariffs – may also be factors contributing to increased production of ethanol in the U.S. We have not quantified the size of those policies' effects.

In conclusion, it is possible that food prices may remain elevated over the next year, but we do not expect to see the rapid rates of global food-price inflation that we saw this year. Some factors contributing to recent food-price inflation, such as weather, should wane, but other factors, such as growing demand in emerging markets, will continue to put upward pressure on food prices. Furthermore, agricultural markets may respond to higher farm prices and margins by increasing supply, which could alleviate high food prices over the next few years.

I welcome your questions.