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CRITIQUE OF WORLD BANK WORKING PAPER "A NOTE OF RISING FOOD PRICES"

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In early April 2008, Dr. Donald Mitchell, Lead Economist in the Development Prospects Group of the World Bank, prepared a draft working paper that examined the sharp increase in global food prices between January 2002 and February 2008 and attempted to identify causal factors for the increase.[1] The report was intended solely for use within the Bank and was not authorized for citation or circulation.

The lead sentence in Mitchell's summary attributes the vast share (three-quarters) of the increase in global food prices to the large increase in biofuels production in the U.S. and EU. The report was leaked to the British newspaper *The Guardian* which published Mitchell's conclusions just prior to the opening of the G-8 Hokkaido-Toyako Summit, and has received worldwide attention.

A careful reading of Mitchell's study reveals that Mitchell identifies several factors that have contributed to the rise in food prices.

- Increases in petroleum prices and related increases in agricultural inputs derived from petroleum, notably fertilizer and chemicals.
- Drought in Australia in 2006 and 2007 and poor crops in the EU in 2007 which reduced supplies of grain.
- Increased demand for oilseeds in China to supply a rapidly expanding livestock and poultry sector.
- The decline in the value of the dollar.
- Speculation by institutional investors.
- Export bans and restrictions that restricted access to supplies of food crops.
- Increased demand for biofuels which, in addition to increasing demand for food crops, led to "large land use changes" which reduced supplies of crops (wheat) that compete with food crops used for biofuels.

[1] The World Bank index of food prices increased 140 percent between January 2002 and February 2008.

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These factors have been widely discussed and accepted by many analysts. Mitchell goes on the assign weights to many of the factors; specifically:

> "The decline in the value of the dollar has contributed about 20 percentage points to the rise in food prices. Thus, the combination of higher energy prices and related increases in fertilizer prices, and dollar weakness caused food prices to rise by about 35 percent from January 2002 until February 2008 and the remaining three-quarters of the 140 percent actual increase was due to biofuels and the related consequences of low grain stocks, large land use shifts, speculative activity, and export bans."

Mitchell's analysis is largely subjective. While he discusses each of these factors in some detail he fails to describe how he arrived at the relative weights described above. Specific points of criticism include:

1. Mitchell fails to disaggregate the impact on food prices from ethanol and biodiesel. While he correctly points out that land used to produce corn used for ethanol competes with wheat and oilseeds (notably soybeans in the U.S. and rapeseed in Canada and the EU). Much of the feedstock for biodiesel production in the EU has come from palm kernel oil imported from South Asia. The demand for biodiesel has boosted edible oils prices which have a larger weight in the World Bank food price index than does meat and dairy which are affected by corn.

2. Mitchell contends that increased biofuel production has increased the demand for food crops and has been the major cause of the increase in food prices. Specifically he states that almost all of the increase in global maize production from 2004 to 2007 went for biofuels in the U.S. with the net effect being that the increase in global consumption for other uses came largely from stocks. In fact, current USDA Foreign Agricultural Service Statistics report that world maize production increased 74 million tonnes between 2004/05 and 2007/08 (715.77 MT to 789.812 MT). During this same period the amount of corn used to produce ethanol in the U.S. increased 42.6 million tones (33.6 MT in 2004 to 76.2 MT in 2007).[2] Consequently, the expanding U.S. ethanol industry used only slightly more than half the increase in global corn production between 2004 and 2007.

3. While vegetable oil is the primary feedstock for biodiesel production, Mitchell fails to take into account the increased use of waste grease and oil particularly in the U.S. The lion's share of the increase in world fats and oils prices is attributable to demand from the EU biodiesel industry.

[2] USDA/FAS Production, Supply and Distribution Online Data base. http://fas.usda.gov/psdonline/psdhome.aspx Accessed July 9, 2008. Corn used for ethanol from USDA/ERS Feed Outlook converted from bushels to metric tones.

4. Mitchell attributes the increase in world wheat prices largely to reduced production caused by diversion of wheat area to corn in the U.S. and to oilseeds (rapeseed and sunflower) in Canada, EU, Russia, Ukraine, and Kazakhstan. Specifically he focuses on the significant increase in area planted to corn in the U.S. in 2007 and consequent decline in soybean area. He does point out that this pattern is being reversed this year with higher soybean and lower corn acreage. Examination of acreage patterns fails to show the sharp land shifts Mitchell blames for the decline in wheat production and increase in prices. Table 1 summarizes world area harvested for corn and the grains corn competes with for land and the major oilseeds used to produce biodiesel for two five year periods 1999-2003 and 2004-2008 using current (June 2008) USDA projections for 2008.

Table 1
World Area Harvested (Thou hectares)

	Average 1999-03	**Average 2004-08**	**Pct Change**
Corn	138,843	151,483	9.1%
Soybeans	79,506	93,686	17.8%
Wheat	214,836	217,958	1.5%
Other Grains	156,776	151,712	-3.2%
Rapeseed	24,386	27,524	12.9%
Sunflower	21,051	22,799	8.3%
Total	635,397	665,162	4.7%

Source: USDA/FAS PSD Online
Other grains include barley, sorghum, oats, rye and millet

As can be seen in Table 1 total world area increased by nearly 5 percent with the largest increases realized by oilseeds (soybeans and rapeseed) and corn. Wheat area increased marginally while area devoted to other feedgrains declined. Looking at individual countries provides sharply different results. For example,

- In the U.S. corn area increased primarily at the expense of sorghum, barley, soybeans and cotton.
- Canadian rapeseed area expanded at the equal expense of wheat and barley.
- In the EU rapeseed area expanded at the expense of corn and only marginally wheat.
- Wheat area declined in Russia in 2006 but recovered in 2007 and 2008. Area devoted to rapeseed increased but from a very small base.

- Wheat is the primary grain crop in Kazakhstan and area increased steadily over the past decade. Rapeseed is a new crop with about 200,000 hectares under cultivation, compared to 13 million for wheat.

- In Ukraine, declines in wheat area in 2006 and 2007 were matched by gains in other grains and to a small extent rapeseed.

- Brazil expanded area for wheat, corn and soybeans with the acreage coming from pasture and rain forest.

- Argentina increased soybean area at the expense of wheat and pasture.

It is possible that *but for* biofuels more wheat (and less corn and oilseeds) would have been planted. However had the demand from biofuels not supported higher commodity prices that provided an incentive for increased planting, total grain and oilseed area (and production) could have been lower also resulting in reduced stocks. The impact of weather on wheat yields likely had more impact on production globally than land use changes prompted by biofuels demand.

5. Mitchell cites the impact on food prices from export bans and restrictions that restricted access to supplies primarily of rice and attributes this to biofuels. His argument is that had grain prices (largely wheat) not increased sharply [due to biofuels demand], rice exporters would not have restricted supplies and rice prices would not have increased sharply. Rice is the leading source of calories for most of the world's population and the significant increase in prices was a major contributor to global food price inflation. Blaming the increase in rice prices on biofuels is a stretch since rice is not used as a feedstock for ethanol or biodiesel and the land planted to rice does not compete with corn, wheat or oilseeds.

6. Mitchell recognizes that speculation "could have" contributed to food price increases but lumps the potential impact in with the impact of the declining dollar since it is hard to quantify.

In short, Mitchell estimates the impact of global food prices from the weak dollar and the direct and indirect effect of high petroleum prices and attributes everything else to biofuels.