

FOOD PRICE INCREASES: IS IT FAIR TO BLAME BIOFUELS?

The price of food staples has risen alarmingly over the past few years, by up to 244% since 2004. New Energy Finance has looked at the drivers of these increases and concludes that, while increased biofuel production has been a contributing factor, particularly in certain crops and geographies, it is far from the dominant one. Increases in input costs have played a much larger role, as have changes in consumption habits and growth in population which, for the first time in decades, have not been offset by increases in yields, particularly in grains.

Executive summary

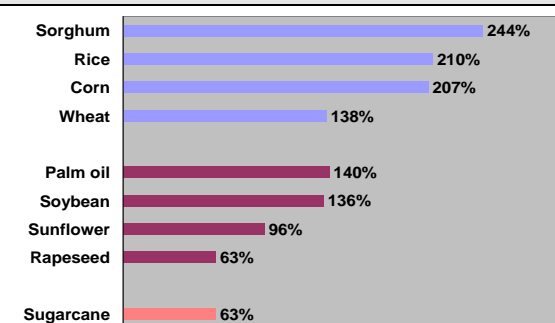
The price of food staples has risen by up to 244% since 2004 (see Figure 1). The media has been quick to blame the biofuels industry. In October 2007 Jean Ziegler, the United Nations Special Rapporteur on the Right to Food, kicked things off by describing it as "a crime against humanity to divert arable land to the production of crops which are then burned for fuel". Since then no article on food price increases has failed to mention biofuels as a main driver of increases in the price of food staples around the world.

The Food and Agriculture Organisation of the UN has said that biofuels have contributed 10% to food price rises. Washington's International Food Policy Research Institute has claimed that increased biofuel demand accounted for 30% of the increase in weighted average grain prices in 2007 and early 2008, ranging from 21% to 22% on rice and wheat, to 39% for maize. Other bodies, including the IMF, have estimated biofuels' contribution to recent food price rises at between 20% and 30%. What is the true picture?

New Energy Finance has analysed food price increases between January 2004 and April 2008, breaking them down into their constituent drivers: input costs, dollar depreciation, supply-demand factors and speculative activity (see Figure 2). We conclude that increased biofuels production has been a meaningful driver of food price inflation, particularly in certain crops and geographies, but it is far from the dominant factor. Increases in input costs have played a much larger role, as have changes in consumption habits and increases in global population which, for the first time in decades, have not been offset by increases in agricultural yields, particularly in grains (see Figure 3). Furthermore, where biofuels have had significant impacts, this has been due to overly-rapid application of support schemes and protectionism, rather than to the impact of production on land use itself.

- In grains, during the period from 2004 to April 2008, global dollar prices increased by an average of 168%. The rising price of oil accounts for an increase of 32.5% and other inputs – such as land and labour costs – contributed 7.4%. Dollar depreciation accounts for a further 17.9%. Supply and demand imbalances account for the remaining 57.7%, with biofuels responsible for up to an 8.1% increase in global average grain prices (the impact on US corn was clearly above average). The biggest issues were the failure to improve yields to compensate for global population growth, along with the failure of the Australian harvest.
- In food oils, all major crops saw significant price increases between 2004 and 2008. The biggest price jump was in palm oil, where prices moved up 140%, and soy, which saw an increase of 136%. We estimate that the crude oil price increase over the period was responsible for a 17.9% price increase in soy oil, and other input costs drove the price up by a further 11.0%. Dollar depreciation was responsible for 16.7%

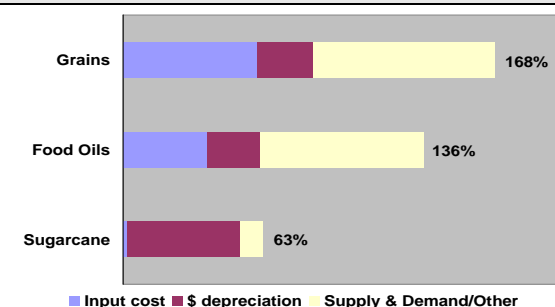
Figure 1. Select food crop price increases, 2004 to April 2008: % change in \$



Note: See Appendix "Methodology"

Source: New Energy Finance, USDA

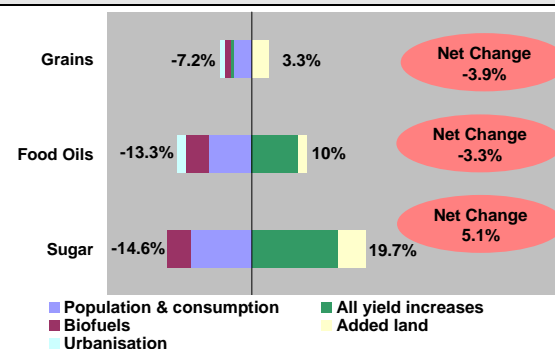
Figure 2. Mean price increases of select food groups, 2004 to April 2008: % change in \$



Note: See Appendix "Methodology"

Source: New Energy Finance, USDA

Figure 3. Supply-demand land factors by food groups, 2004 to 2007: % net change in hectares



Note: See Appendix "Methodology"

Source: New Energy Finance, USDA

* Jean Ziegler is a habitual controversialist. In 1986 he co-founded the Gaddafi prize, whose winners include Fidel Castro, Hugo Chávez and himself. He has expressed support for Colonel Mengistu, Robert Mugabe, Saddam Hussain, Fidel Castro and Kim Il Sung, as well as Holocaust-denier Roger Garaudy. During his time as Rapporteur on Food Rights, he failed to speak out on food emergencies in Burundi, the Central African Republic, Sierra Leone and elsewhere. In 2008 he was appointed to the Advisory Committee of the UN Human Rights Council.

increase, leaving supply-demand factors responsible for up to 54.3% price increase. Biofuels caused the biggest pressure on land for food oil production, absorbing 4.1% of available land and so driving average price increases of up to 17%. Other major issues were changes in dietary habits, along with population growth, although this was compensated by yield improvements and a switch to productive crops.

- In sugar, the picture is very different from that of grains and food oils. Surging oil prices drove domestic demand for ethanol in Brazil and contributed to a 70% increase in sugarcane prices by mid-2006. However, this increased price signal brought further capacity into use from a number of sources (not, it should be noted, in the Amazon region), and the price of cane in Brazilian Reals reverted to just above its long-run value, helped also by a good harvest in India. The big driver of dollar price rises in sugar has been the strength of the Real.

In all crop groups, pressures on supply-demand balances have resulted in a reduction in year end stock levels, and although exports grew during the period 2004-2007, this fell below growth in exports of manufactured goods and services, except in the case of certain food oils (see Figures 4 & 5).

Trading activity, whether speculative or commercial, does not alter the fundamental supply-demand balance for commodities, and should not affect long-run average prices. However, the period from 2004 to 2008 saw a rapid increase in trading volumes, at a time of tightening markets and falling stock levels, which we conclude is to a certain extent driving a short-term price spike (see Figure 6). When the underlying supply-demand situation stabilises, we would expect this to unwind as some of the speculative activity falls away – as we have already seen in sugar.

Looking to the future, in the short term it is vital that policy-makers intervene early and forcefully to protect the vulnerable from the worst impact of food price increases. In the medium to long term, rising food prices must be allowed to send a signal to the agricultural community to increase production.

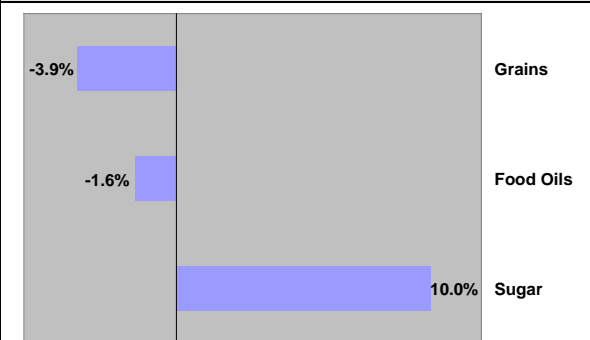
The key will be to secure modest increases in land under cultivation, along with substantial increases in agricultural productivity. This means focusing on the fundamentals of land reform, irrigation, fertiliser availability, transport infrastructure and eliminating distribution monopolies. Grain and oilseed exporters would be well served by reducing state interference in the price setting of food crops. Europeans are likely to face tough choices between climate change; development goals; and resisting the march of GM crops: blaming the US biofuels industry will not offer an easy way out forever.

The global biofuels industry should not underestimate the extent to which high food prices are undermining its ongoing political support, and hence its viability. There is a real risk if food prices remain high, particularly if there is large-scale famine in the developing world, of a postponement or even abandonment of the current aggressive biofuels mandates. A group of politicians in the US – including Presidential candidate John McCain – has already called for the relaxation of the US's renewable fuels standard.

New Energy Finance notes the progress the world's wind industry has made in developing a unified voice, in the form of the Global Wind Energy Council. We believe participants in the biofuels industry would do well to develop a joint research and communication platform, focusing on three things:

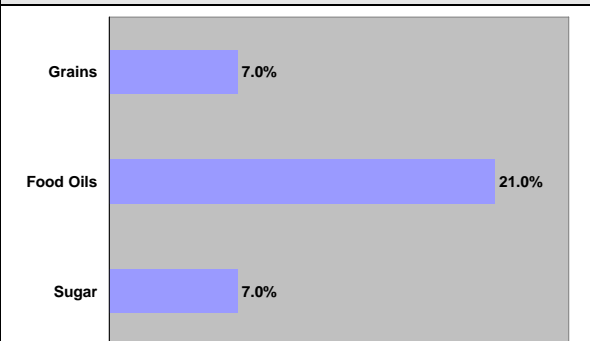
- Communicating the fact that biofuels have been only one contributor to recent food price increases, and that, managed correctly, and with renewed yield improvements in the world's agricultural sector, biofuels can responsibly be part of the world's response to climate change;
- Clarifying the real environmental impact of biofuels and eliminating the use of feedstocks, fuels and practices which have net negative impacts, as envisaged by the revised European Biofuels Directive;
- Accelerating the development of technologies and models that use municipal, commercial and agricultural waste, or feedstocks that do not compete for land with food – such as jatropha or algae.

Figure 4. Net changes in food stocks, 2004 to 2007: % change in hectares



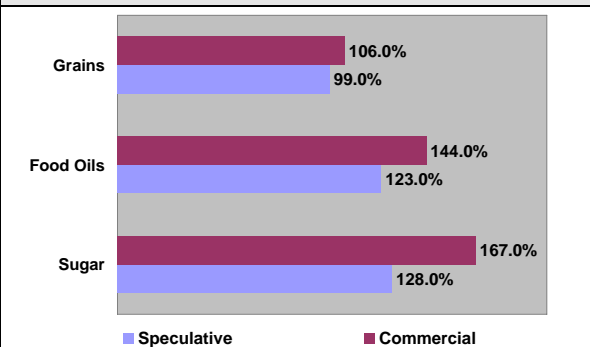
Source: New Energy Finance, USDA

Figure 5. Net changes in exports, 2004 – 2007: % change in tonnes



Source: New Energy Finance, USDA

Figure 6. Net change in trading volumes, 2004 – 2007: %



Note: "Commercial" = trading by players taking eventual contract delivery.
"Speculative" = trading activity that does not result in delivery.

Source: New Energy Finance, CFTC

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