

Rising Biofuels Prices – Blessing or Curse for Food Security?

USDA Global Conference on Agricultural Biofuels

Minneapolis, 20-23 August 2007



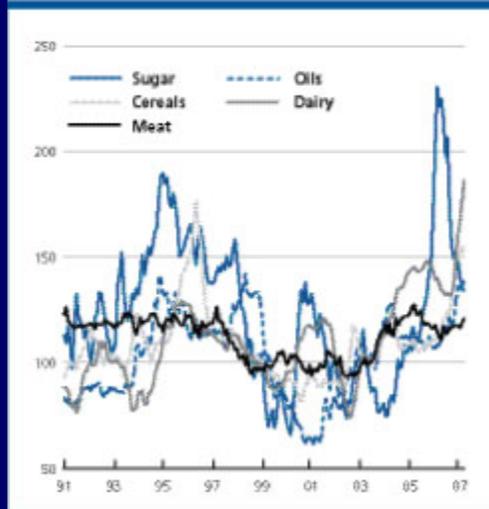
Interest in the biofuels sector...

- recent rapid increase and volatility in fossil fuel prices, and
- in parallel, rapid increase and volatility in prices of some agricultural commodities
 - some used as feedstock in biofuel production
 - some competing with them for productive resources

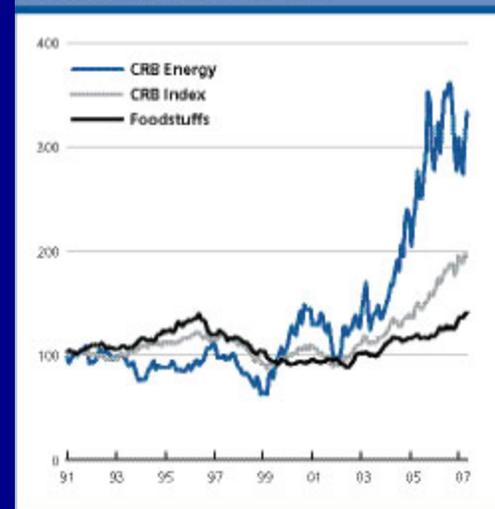


Food and fuel price indices...

FAO price indices for selected commodities (1998-2000=100)



FAO food price index and CRB commodity and energy indices (1998-2000=100)



Interest in the biofuels sector...

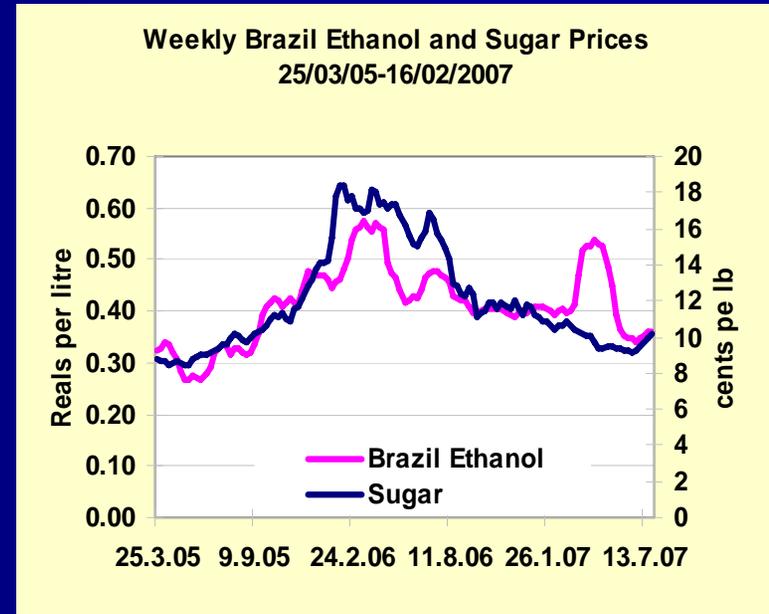
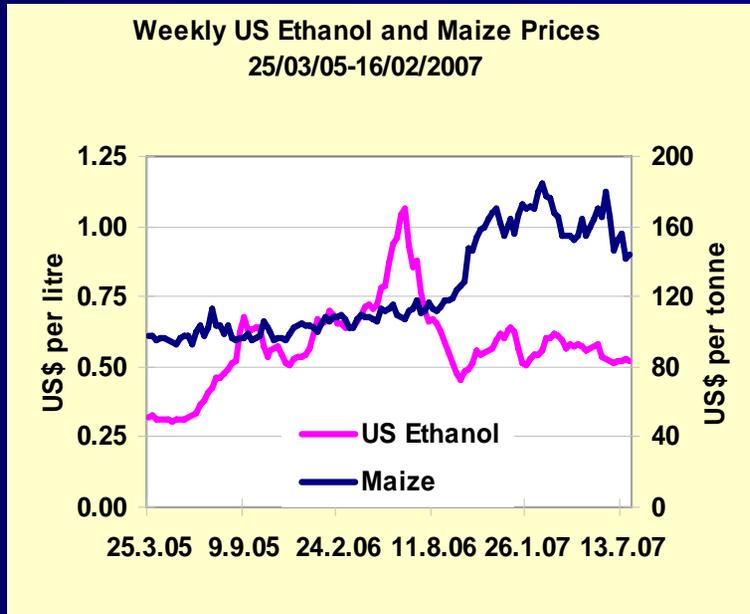
- recent rapid increase and volatility in fossil fuel prices, and
- in parallel, rapid increase and volatility in prices of some agricultural commodities
 - some used as feedstock in biofuel production
 - some competing with them for productive resources
- national and international commitments towards cleaner fuels, which led over 2000-06 period to
 - around a 3-fold increase in ethanol output, from 17.4 to 50.6 bln ltrs
 - nearly a 6-fold increase in biodiesel output, from 1.1 to 6.4 bln ltrs



Explaining the nature of price linkages...

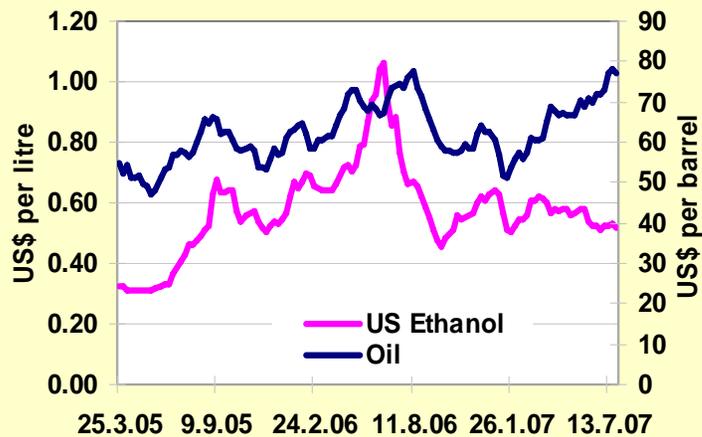
- as energy prices rise costs of agricultural inputs (fertilizers, pesticides and diesel) increase, putting pressure on agricultural prices
- also biofuels derived from different feedstocks become competitive with fossil fuels at different levels (so-called parity price), putting pressure on the prices of the feedstocks (effectively setting a 'floor' price for them)
- the link, however, weakens as rising feedstock prices make them too expensive as a source of fuel (acting as a 'ceiling' effect)
- however, these can be significantly influenced by policy interventions

Ethanol, maize and sugar prices (USA and Brazil)...

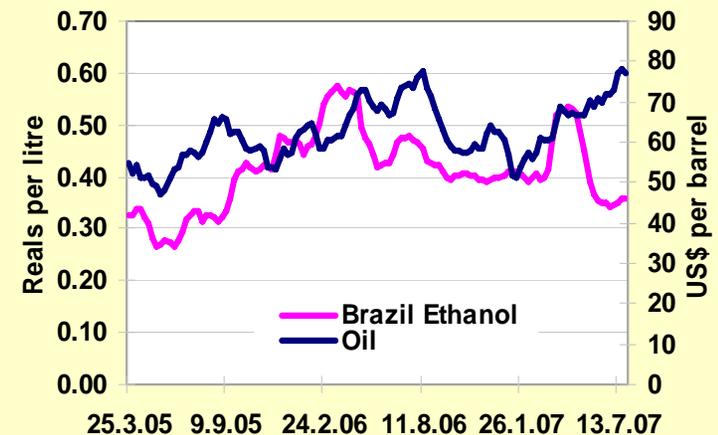


Maize and sugar ethanol and crude oil prices...

Weekly US Ethanol and Crude Oil Prices
25/03/05-16/02/2007

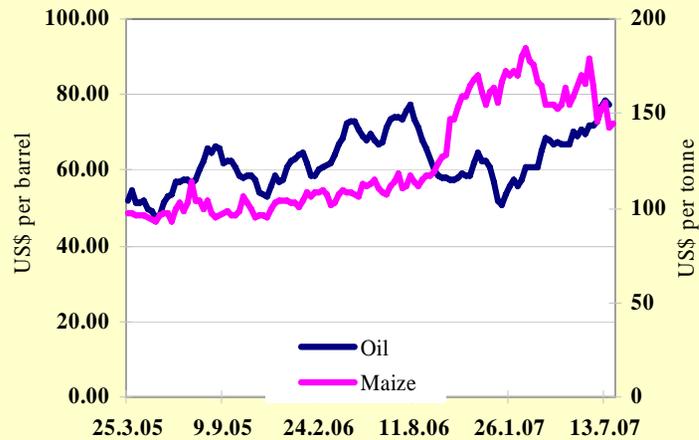


Weekly Brazil Ethanol and Crude Oil Prices
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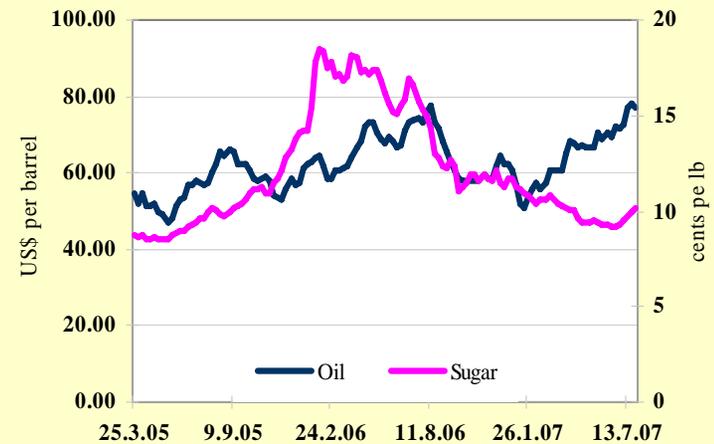


Maize, sugar and crude oil prices (USA and Brazil)...

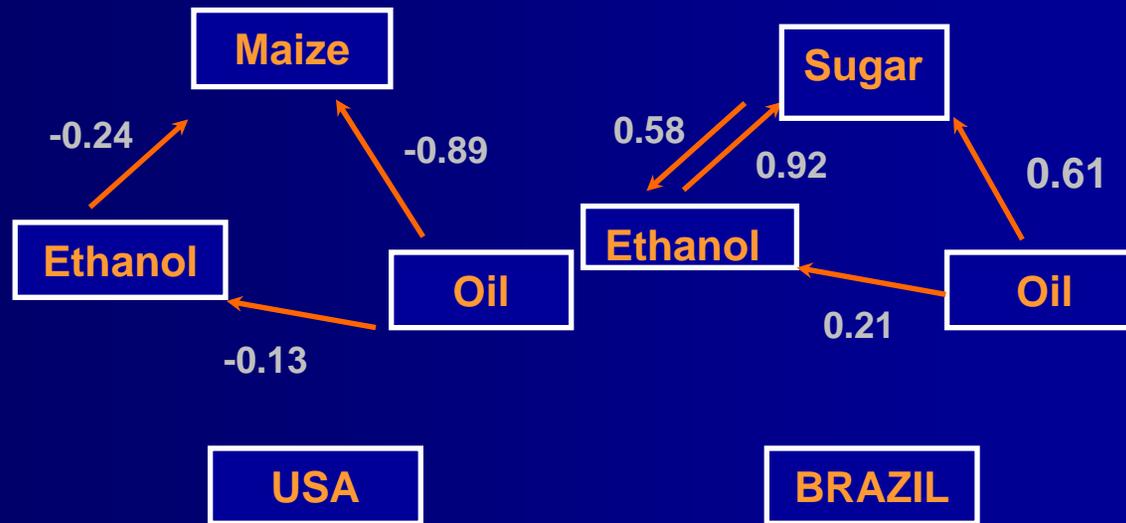
Weekly US Maize and Crude Oil Prices
25/03/05-16/02/2007



Weekly Brazil Sugar and Crude Oil Prices
25/03/05-16/02/2007



Co-integrating relations among relevant prices...



There could also be links to other markets...

- higher feedstock prices divert resources from other agricultural crops, reducing their availability and increasing their prices
- on the demand side, as oil prices rise prices of synthetic fibers rise influencing those of natural fiber

Effects of rising fuel and food prices will not be uniform...

- on food security of different countries
- across various feedstocks and other commodities
- on food security of different economic agents

FS effects across countries (1)...

- rising food and fuel prices likely compromise food security of countries that are net importers of both food and fuel as their current account deficits increase:
 - two-thirds of 47 low income food deficit countries (LFIDCs) for which data exist are also energy deficit and
 - include countries like Bangladesh, Ethiopia, Eritrea, Ghana, Haiti, India, Kenya etc.
- countries that are net exporters of both food and fuel will be in a win-win situation



FS effects across countries (2)...

- for countries that are net exporters in one and net importers of the other, the situation depends on the relative size of the food or energy exports and imports



Effects across commodities...

- different feedstocks become competitive in biofuel production with fossil fuel at different price levels:
 - US\$ 35-45/bbl for cane-based ethanol in Brazil
 - US\$ 40/bbl for large-scale casava-based ethanol in Thailand
 - US\$ 45/bbl for palm oil-based biodiesel in Malaysia
 - US\$ 60/bbl maize-based ethanol in the USA
- different feedstocks have different protein contents, which could significantly reduce protein prices and enhance food security as crushings increase
- different feedstocks have different degrees of integration into the fuels market (i.e. field-to-wheel system, the most developed of which is in Brazil)



FS effects across economic agents...

- producers of feedstocks will benefit from increased revenues
- though they may face higher wages and land values
- employment in rural areas might also increase (trickle down effect)
- net effects on incomes in rural areas in general and in agricultural incomes in particular though should be positive
- urban households, however, will face higher food prices
 - HHs with high share of food and fuel expenditure will be particularly hard hit

Three further uncertainties complicate the analysis...

- uncertainties about the future developments of fossil fuel prices
- uncertainties about the policies that will be implemented to support the relevant sector in different countries
- uncertainties about the future developments in second generation bioenergy technologies

Some concluding remarks...

- subsidies and border protection could distort agricultural markets, hindering market access by developing countries and raising domestic prices and hurting poor consumers
- there is a great potential for making 'bioenergy pro-poor'
 - by not blocking market access to products from developing countries
 - by devoting public resources to developing technologies that are labour-intensive, capital-saving and technology-saving to match the factor endowment of the poor
 - by supporting institutions that could pool meagre resources of the poor



'... as things now stand, the International Energy Agency projects that in 2030, biofuels will provide between 4 percent and 7 percent of all fuels used for transport, with the US, the European Union and Brazil remaining the leading producers and consumers. If that proves correct, it will mean that we had a chance to honour all our solemn pledges to banish hunger and poverty but to chose to look the other way..."

Dr. J. Diouf, The Director-General of FAO, 15 August 2007

