



**Commodities Week Europe Conference –  
October 2007**

***Economic variables impacting the soft  
commodity market - Panel  
October 2007***

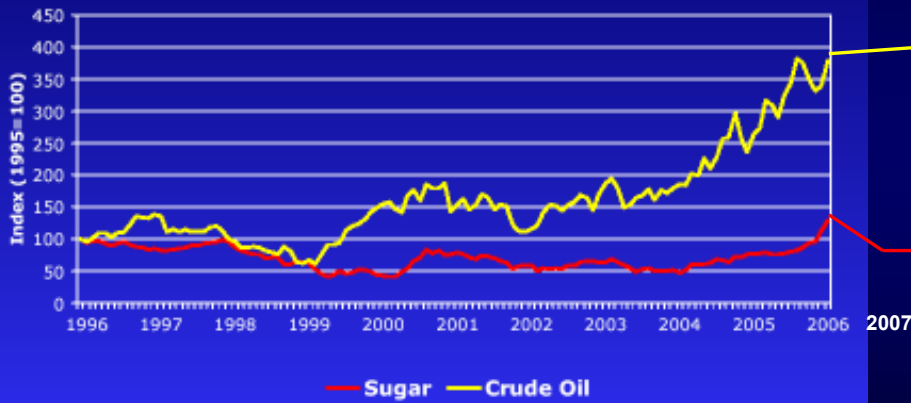
**Dr Leonardo Bichara Rocha  
Economist  
International Sugar Organization**

Good morning, ladies and gentlemen. (I am Leonardo Bichara Rocha, Economist of the ISO – for those that don't know the ISO, we are the largest intergovernmental commodity body in the world, with 81 member countries. Just this year, 6 new countries have joined the ISO with the United Arab Emirates being the last one to join in May). I have only got a few minutes to go through a very broad topic but with this very brief presentation I would like to concentrate on two issues: the first one is how the world soft commodity market is becoming increasingly connected to the world energy markets and why this is a good thing for sugar producing countries. And the second issue is a new trend that I believe is today a crucial driver of demand for soft commodities today: how income has overtaken population growth to become the main engine of consumption.

# Oil and sugar



## Sugar vs crude oil (Index 1995=100)



First I would like to show you a slide with the dynamics of sugar prices as against oil prices. You have that the oil price has had a more than a 4 fold rise in the last decade but sugar prices have barely changed in nominal terms. And because sugar has become so cheap compared to other commodities, its uses are now going well beyond that of just human consumption. More and more countries are looking to use the sugar cane and beet crops as raw materials to make alternative fuels, for example, ethanol.

## Sugar and the energy markets



- Ethanol demand boosted in recent years:
  - Launch of flexifuel cars + doping of ethanol in petrol (and diesel) in several countries (Brazil, Europe, US, India, Thailand, Canada)
- Sugar crops very competitive as raw materials for ethanol production – world sugar surplus capping sugar and cane price rises



Now ethanol consumption in the world is booming, by as much as 30% a year. Increasing ethanol demand is already impacting on the share of oil in total transportation fuel usage, which is for the first time declining after many years of rises. In Brazil today over 85% of the new cars sold to the public can run on ethanol. So there you have a market of over 16 bln litres. In the US, several states are now mixing ethanol in gasoline or using ethanol as an additive to gasoline, which is pushing ethanol use there to very high levels. Indeed, the US is today the largest consumer of ethanol, more than 26 bln litres a year –, compared to less than 5 billion litres less than a decade ago. In the EU, ethanol consumption is projected to rise from 1.7 bln litres last year to 3 bln litres in 2007. India is introducing ethanol mix in diesel, which has an 80% share in the country's transport fuel market. And the most important thing is that the high price of oil and environmental concerns will continue to help spread the use of ethanol as a fuel. Now we go back to the main message which is why sugar has over the past few years become a competitive substrate to make ethanol from.

## Ethanol and feedstocks



- 80 litres per tonne of sugarcane. Cost: USD 0.25/l – cheapest – Brazil



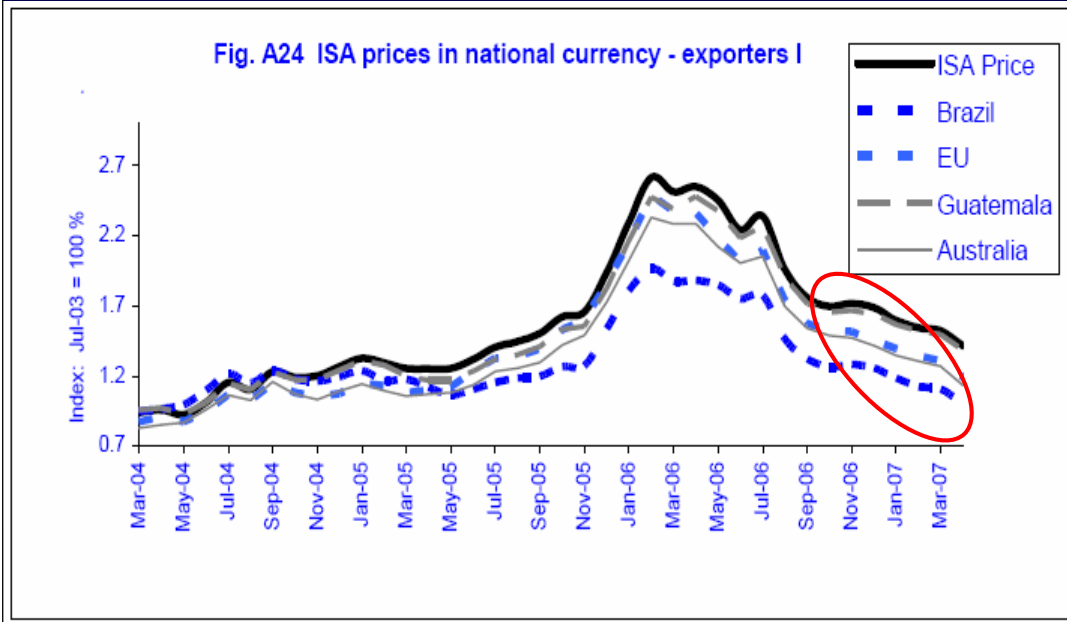
- Up to 250 litres per tonne of molasses. Cost: USD 0.3- 0.4/l – Thailand, Colombia, India



- About 350 litres per tonne of corn/wheat. Cost: >USD 0.5/l- viable with subsidies – Europe, US, China, Canada

Sugarcane is simply the cheapest feedstock to make fuel ethanol, especially if compared to corn or wheat. It is no surprise that today 9 multinationals, including Cargill, Bunge, Abengoa, Louis Dreyfus are all making ethanol from sugarcane in Brazil. From one tonne of cane, one can extract about 80 litres of ethanol, at a cost of about USD 0.25/l. Making ethanol out of sugar cane molasses is also cost-competitive, and this is currently the case in countries like India, Thailand and Colombia. From one tonne of molasses, one can extract about 250 litres of ethanol, at a variable cost of about USD 0.3-0.4/litre. When other feedstocks are used, such as wheat (Europe and Canada), and corn (US and China), ethanol production costs are generally seen as even higher, at over USD 0.5/litre.

# World sugar prices in national currency



Now if sugar is already cheap in dollar terms, it is even cheaper when expressed in the currencies of the world's largest producers and exporters. This slide just shows you the world sugar price, the ISA price for raw sugar, in the currencies of Brazil, Guatemala and Australia and how they have evolved well below the black line, which is the line of prices in US Dollars. So for the world's largest sugar exporter, which is Brazil, the sugar prices of today of USD 10 cents/lb are not much different in real terms from the sugar prices of USD 6 cents/lb of the beginning of 2004, which was one of the lowest historical price points.

## Ethanol from sugar crops - efficiency



6,000 – 8,000 litres per hectare



3,000 – 4,000 litres per hectare

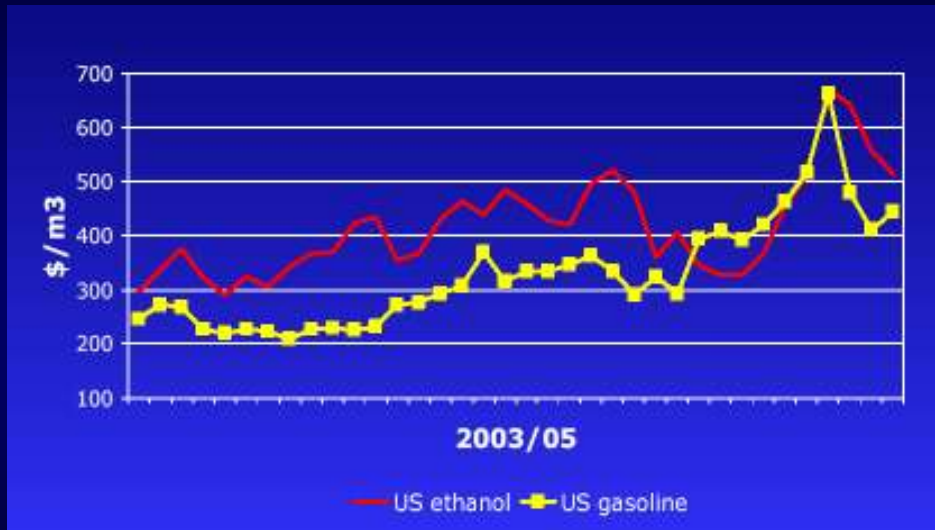


2,000 litres per hectare



It is important to remember that sugar cane (and also sugar beets) have an advantage over other feedstocks for ethanol production and when it comes to the food versus fuel debate sugar crops are the most efficient in terms of land utilization. It can yield around twice as much ethanol per hectare compared to other grains.

# Oil and ethanol



Finally, ethanol brings indeed a very promising window of opportunity for world sugar – especially if you see that in some markets the retail price of ethanol is almost the same as gasoline – this slide shows the ethanol prices as against gasoline prices in the US.

## **But ethanol is no panacea -Other factors impacting soft commodities and prices**

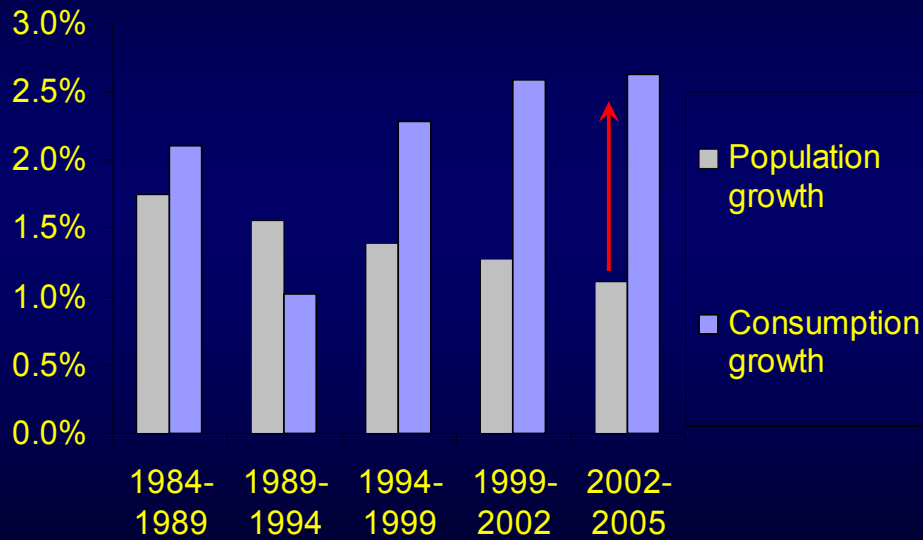


- Import tariffs – domestic prices very different to world prices
- Doha Round negotiations
- Freight rates
- Exchange rates
- Regional Trade agreements
- Farm policy

**AS A RESULT: UNEXPECTEDLY LARGE SUGAR SURPLUS!  
SUPPLY AND DEMAND TAKE LONGER TO ADJUST**

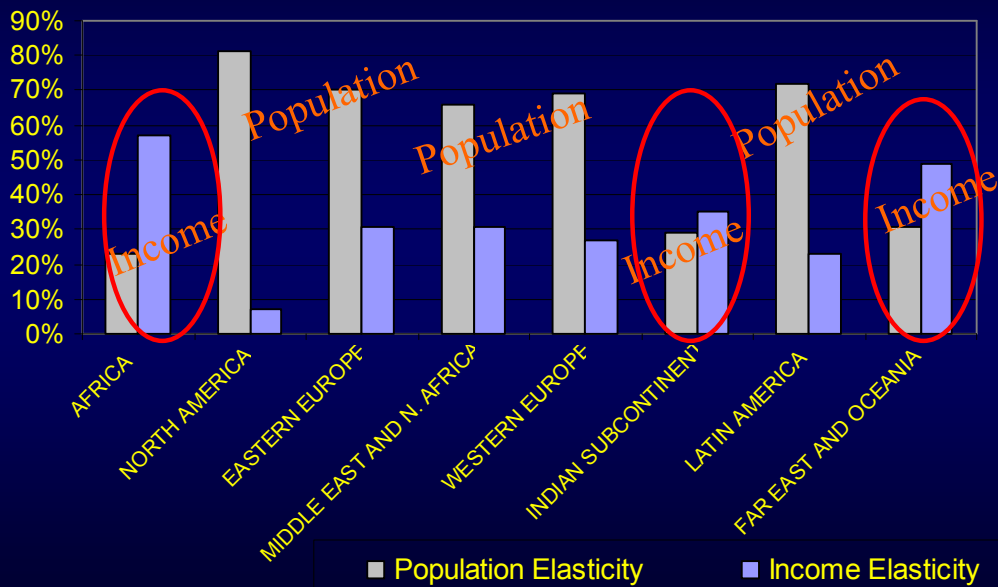
But we have to remember that ethanol is no panacea for the world soft commodity market. There is so much more at stake. First, domestic prices are very different to world prices and sugar is a very political commodity because most markets are insulated from the global trade. And several other issues, from freight rates and regional trade agreements make the picture much more complex and unpredictable. Because of all these factors, which makes the international trade of sugar and ethanol much more difficult, we have actually had a year of an unexpectedly large surplus in the world sugar market! But this is not a disaster because the outlook is still very positive.

## Population and sugar consumption



Now ladies and gentlemen, the second part of this short presentation is on the demand side. Why is demand for soft commodities behaving so differently now compared to the past? The answer is simple. Population growth is no longer the driver of commodity consumption in the world because income growth is outstripping population effects in emerging markets.

## Elasticities of sugar demand



The biggest proof of this came out of an econometric study we did at the ISO where we found that sugar consumption growth is explained by income rather than population changes in at least three continents: Africa, the Indian Subcontinent and the Far East. And because these regions now account for most of the additional consumption growth worldwide, their high rates of income growth are driving consumption of commodities as well as their prices up the roof. It is simply a matter of income elasticity.

## Conclusions

---



- Sugar crops are in a historical comparative advantage position to take advantage of the booming renewable energy markets.
- Income growth has now become the more important driver of consumption growth (replacing population growth) due to the growing role of emerging markets in the world consumption of soft commodities.



ISO