

**Reactions to Biofuels and Food Security VO Draft January 9, 2013**  
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Summary:

- The logical consequence of the paper's main argument is, bizarrely, that no European biofuels mandate could possibly have any impact on global food prices; and
- The paper is not a literature review, but an opinion piece. Worse, to the extent the paper tries to advance a novel theory, its methodology is unscientific and its results unsupported even by the sources cited by the authors.

"Science-based comparative literature analysis": The Introduction states that the authors' duty is to produce a paper meeting this standard<sup>1</sup>. Yet, curiously for a paper that aspires to be a survey, its major effort is in advancing an unpublished theory of the link between ethanol and agricultural prices.

Data and Sources: The HLPE rules state that "*The HLPE shall use all available and documented forms of knowledge, academic or peer reviewed sources, and other sources as well, as soon as the evidence is documented and publicly available, and the quality of the material assessed and referenced*". The paper fails this instruction because; it (i) makes no effort to update, confirm or verify technical information about industry efficiencies and yields, even though such information is generally available (albeit in industry and governmental reports instead of in journals) and (ii) in selecting sources from among available academic articles, it latches onto articles whose conclusions are appealing, no matter how weak such articles are otherwise.

Data and Sources (Industry): Biofuels have achieved many improvements in energy savings, yields and costs in recent years. However, academic papers analyzing such technical information often rely on decades-long repetitions of figures from earlier work, and it is well-known within the biofuels industry that academic views of the industry are often obsolete. Examples of such obsolescence include:

- The graphic on page 17 is visually appealing, but its inclusion in a survey that should have a qualitative filter is unwarranted. The graphic is highly misleading; anyone with direct recent commercial (as opposed to academic) knowledge of more than two of the fuels listed will conclude that the graphic is incorrect. Consider that if the chart were correct, industry would be building immense new sugarcane ethanol capacities and sugar beet plants instead of wheat plants. Empirical investment trends loudly contradict the chart.
- Similarly, Table 1 on page 18 looks interesting, but it has no place in a paper with a qualitative filter. First, it is irrelevant; it is entirely unrelated to any thesis of the paper. Second, it is incorrect; anyone with recent direct industry knowledge will reject it as impossible to reconcile with physical reality. For example, wheat and corn are so similar (both as crops and as ethanol feedstock) that there is no physical possibility for their results to diverge so as to make them qualitatively different in terms of energy outcomes or EROI.

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<sup>1</sup> The authors and reviewers are encouraged to look to a recent work with a similar stated objective for an example of what a survey of available, rather than sympathetic (see further comments on this below), literature would entail. Institute for European Environmental Policy, *EU Biofuel Use and Agricultural Commodity Prices: A Review of the Evidence Base*, July 2012. [www.ieep.eu/assets/947/IEEP\\_Biofuels\\_and\\_food\\_prices\\_June\\_2012.pdf](http://www.ieep.eu/assets/947/IEEP_Biofuels_and_food_prices_June_2012.pdf)

Data and Sources (Academia): The paper's bibliography is arbitrary, with no chronological, publication, journal or other organizing criterion other than bias. The bibliography cites sources sympathetic to the authors' arguments (without regard to the quality of such sources) and ignores other sources. When it does cite other sources, it often misrepresents their findings. A full list of the paper's questionable selection and use of sources would be as long as the paper itself, so only one example is detailed below.

- As a key element of the paper's argument that econometric model results, which show low price impacts from food policy should be discarded, the paper cites Roberts (2010). However, Roberts (2010)<sup>2</sup> was never peer-reviewed, nor has it received any endorsement from academia. The paper is the first source, apparently, ever to cite it. Roberts (2010) is cited to prove that econometric models do not account for *reduced human consumption* and so the low estimated price impacts of econometric models are misleading as a proxy for nutrition. The paper then notes that Roberts (2010) suggests that 30% of calories used by biofuel are permanently removed from the market, leading to the clear and intentional inference that it is human consumption that is declining 30%.
- However, the paper neglects to mention that the level of this reduced human consumption is specifically estimated on page 18 of Roberts (2010) to be only 1.5% at the level of biofuels impacts discussed by the paper. In fact, this low figure directly contradicts the paper's express claim that "the world's food insecure on average would reduce their consumption by 9.5% . . . [and] by 2020 . . . their reduction in food consumption would reach 40%"; and
- this misrepresentation by omission is accompanied by a misrepresentation by commission; Roberts (2010) states that, after accounting for co-products, only up to 20% of calories are not replaced in his model<sup>3</sup>, which can be inferred to mean that total human consumption declines by 1% not 1.5%. This 1% contrasts hopelessly with the paper's conclusion (based, ironically, *solely* on Roberts (2010), and misrepresentations thereof) that "[w]e have reasonable evidence that [the hunger and malnutrition] that results from reduced demand is substantial."

Indeed, this mode of arguing is the, quite unfortunate, foundation of the paper. Throughout the paper, summary sections claim that previous pages prove, show or demonstrate things that the paper never proves, shows or demonstrates, and which are often entirely unsupported by scientific research<sup>4</sup>, industry realities and economic trends.

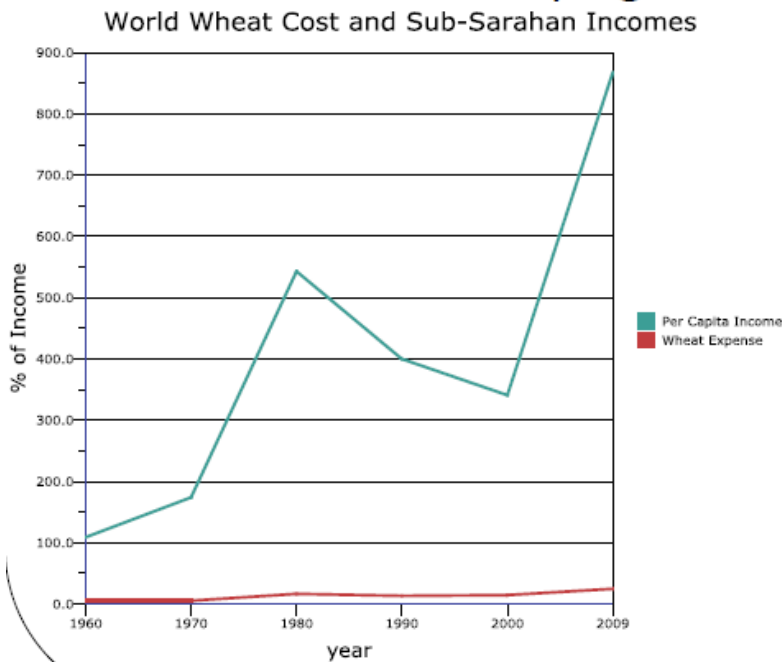
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<sup>2</sup> Roberts (2010) also predicts 19 million acres of new cropland due to U.S. ethanol policy (and a global expansion of total world agricultural acreage of 2%) and claims that Brazil would need 3 times as much land as the U.S. to replace corn. The problem with Roberts is that empirical reality does not match the Roberts model of the world. The world is not moving that much land into new corn production (or anything even remotely close to that, even though corn demand is increasing from many sectors, not just ethanol), not all calories are the same (Roberts argues that there is no need to distinguish between protein, starch, fat, etc., even though markets pay multiples for protein over starch), ethanol plants do not have the low yields stated by Roberts, there is no debate in actual commodity markets about whether corn distillers' grains have nutritional value, the US corn supply is not stuck at 2007 levels, and Brazil is not anywhere near as bad at growing corn as Roberts, for whatever reason, believes. To read Roberts is to be confronted with a fairly zany view of how the world works, in which facts matter much less than his own particular model of the world. Indeed, in December 2012, Roberts came out with a new working paper (NBER 18659), according to which, his model showed that U.S. yields declined by 23% in 2012. In the actual world, U.S. yields declined by nowhere near that much in 2012, and yields are calculated using actual data and not based on a theoretical model.

<sup>4</sup> In particular, we recommend that the authors and reviewers read FAO. *Biofuel co – products as livestock feed – Opportunities and challenges*, edited by Harinder P.S. Makkar. Rome, 2012.

Components of Food Security: The Introduction states that "[f]ood security will be analyzed in light of the four components comprising the FAO definition, adopted by the HLPE, namely: access *whose principal determinant is the ratio price of food/income*, availability *which is associated with the resources for food production . . . stability . . . and use. [emphases added]*". The report then proceeds to ignore these four criteria in their entirety. For example, the vulnerable community most often cited is "sub-Saharan Africa", yet there is no discussion of food prices and incomes in that region.

## Are World Grain Prices Crushing Developing Countries?



Uses Oxfam's figures for how much wheat is needed to feed a person for a year and then multiplies that by world wheat price for a reference year

Use Per Capita Incomes and excludes South Africa

What % of Per Capita Income Does this Signify?

1960:	6.2%
1970:	3.2%
1980:	3.1%
1990:	3.4%
2000:	4.3%
2009:	2.9%

This omission is significant. The graph above (using World Bank income information and nutritional information derived from Oxfam's 2012 *The Hunger Grains* report) shows a correlation between African incomes and the biofuels policies surveyed in the paper. The correlation *suggests* that biofuels policies have boosted trends in increases in African incomes. If that were true it would suggest that biofuels policies unambiguously contribute to food security.

Of course, biofuels policies are not a proximate cause of this increase in African incomes, but a paper that adhered to its stated methodology would necessarily look much different than what the authors are presenting. Indeed, contrary to the chart above, the paper states on page 38 that "people in sub-Saharan Africa will still be able to afford only extremely limited quantities."

The Novel Theory: On page 23, the paper declares that "biofuels have played a predominant role in the increases in food prices and volatility since 2004." While the meaning of "predominant" is not crystal clear, this statement would seem to, at the least, suggest that biofuels are responsible for more than 50% of food price increases and volatility since 2004. However, the paper provides:

- no information about the link between food prices and biofuels, even noting (correctly) that commodity prices and food prices are entirely different things;
- no evidence that biofuels have been responsible for 50% or more of commodity price increases over the past 8 years, which is not surprising since there is in fact no evidence of that scale of impact and almost no one who even tries to argue for that kind of scale; and
- no discussion of any kind about price volatility.

Arguably, the most frequent use of the paper will be by stakeholders who claim that the paper "proves" the role of biofuels in price increases and price volatility- and perhaps these claims will also include the word "predominant". That is terribly unfortunate since the authors not only do not "prove" anything of the sort according to any accepted standard of social science investigation, they don't even analyze price or volatility impacts at all. One wonders how an international institution can appoint scientists ostensibly to use their scientific skills, knowledge and ability to be impartial and then accept work that objectively is unscientific and politicized. Even worse, one wonders how an international institution could put the weight of its name behind the work product of such a detour from professional behavior.

Indeed, to substantiate its claims, the paper makes no effort to survey strong or recent or compelling science (which would already get the role of the authors backwards; they are not supposed to make claims and then prove them but instead they are supposed to review and summarize available science and other reports). Indeed, instead of acting as the HLPE mission requires, they strive to advance a novel hypothesis that biofuels have been the dominant factor in agricultural commodity price increases over the last decade. More specifically, the paper argues that U.S. ethanol policy (i) linked corn prices to the oil price and (ii) corn prices spread this effect to all other agricultural products.<sup>5</sup>

One wonders why this theory (or any unpublished theory) is included in a literature review. However, as it is included, some scientific observations can be made about why this theory must be rejected. Ironically, it must be observed that the authors' zeal to campaign against biofuels has left them blind to two logical (and so unavoidable) implications of their own theory, both of which end in the observation that the paper's theory means that food security organizations should no longer pay attention to biofuels mandates as well as evidence that the authors have dispensed with the concept of symmetry (discussed below). First, if U.S. ethanol policy accounts for all of the impacts of biofuels on food prices, then other jurisdictions can pursue whatever biofuels mandates they want without concern about having any impact at all on food prices. Second, once the U.S. fuels industry begins discretionary blending (buying ethanol not because of any mandate but purely because of its low price and thereby displacing the U.S. mandates), then no mandates matter anywhere; every country on the planet can now abolish all biofuels mandates and that will have no impact on prices. Likewise, they can adopt new mandates without price impacts. Relevant to this last observation, discretionary blending is now driving the U.S. market (at least according to the U.S. government in late 2012).<sup>6</sup>

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<sup>5</sup> To be fair, on page 23, the authors also note a secondary explanation, which is that agricultural supply has not been growing as fast as agricultural demand, in part due to biofuels. However, this secondary argument (which is perfectly reasonable) attracts no attention from the authors in their advancement of their theory, so I will ignore it also in this section.

<sup>6</sup> [www.epa.gov%2Fotac%2Ffuels%2Fdocuments%2F420f12075.pdf&ei=TZDkUNa9FMSk4ATdwoCwCA&usg=AFQjCNF-EkYZdHuPv\\_3TyBMvJQbUBd1eFQ&bvm=bv.1355534169.d.Yms](http://www.epa.gov%2Fotac%2Ffuels%2Fdocuments%2F420f12075.pdf&ei=TZDkUNa9FMSk4ATdwoCwCA&usg=AFQjCNF-EkYZdHuPv_3TyBMvJQbUBd1eFQ&bvm=bv.1355534169.d.Yms)

The authors' novel theory is based upon a decidedly passionate view of the biofuels industry as one unconcerned with rational actions. The authors declare that "it has made economic sense for biofuel producers to drive up grain prices dramatically," intimating that biofuels managers take no effort to keep down costs. Later (in a perversion of the scientific method), the authors state that anyone wishing to challenge their theory must offer "a cogent explanation of why ethanol producers would not have bid up the price of ethanol [sic., they mean corn] near to these amounts as oil prices rose."

Here is that requested cogent explanation:

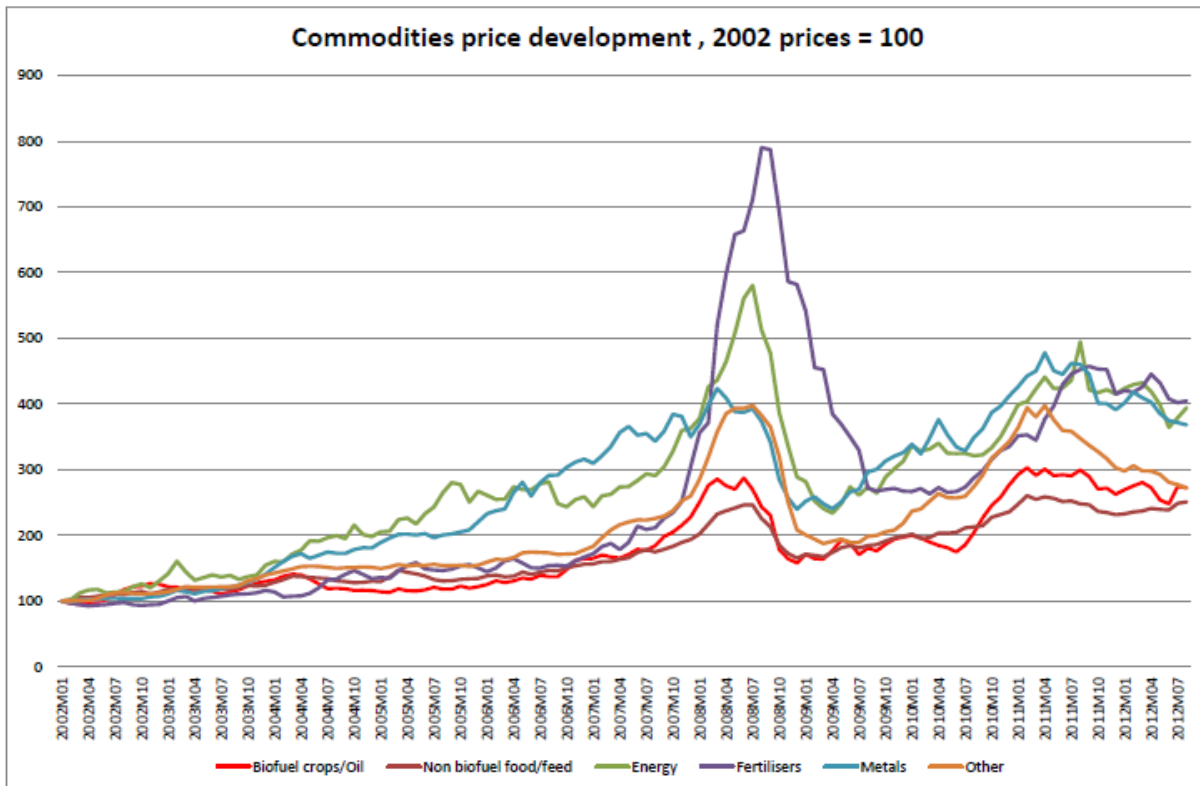
- when U.S. ethanol plants go bankrupt, the reason is usually and objectively that high corn prices make them uncompetitive. Accordingly, within the U.S. biofuel industry, the driving objective is to buy corn inexpensively and to avoid actions that push the price of corn up;
- in this, ethanol producers have exactly the same incentives as any other corn purchaser, meaning that any corn purchaser could have the same impacts on the market as ethanol; and
- most importantly, U.S. ethanol producers are not, and never were, paid for their product based on the oil price. While there is a correlation between the ethanol price and the oil price, there is also a correlation between the corn price and the oil price. As *everyone* in the U.S. ethanol industry knows, the market price of ethanol is, first and foremost, based on the corn price. The statistical correlation between ethanol price and oil price is positive and weak. Between the ethanol price and corn price, it is positive and strong, which is exactly why the single largest microeconomic concern of an ethanol plant is to avoid overpaying for corn. The whole concept of "bidding up" the corn price is suicide. Accordingly, it is inconceivable that the authors could present such a ludicrous theory and comply with the HLPE guidelines concerning data and information since *anyone* in the U.S. ethanol industry would happily describe for them the realities of the industry.

Actual data makes any further detailed discussion of the authors' theory, as they present it, a waste of time. However, it bears noting that a responsible investigation of the theory would:

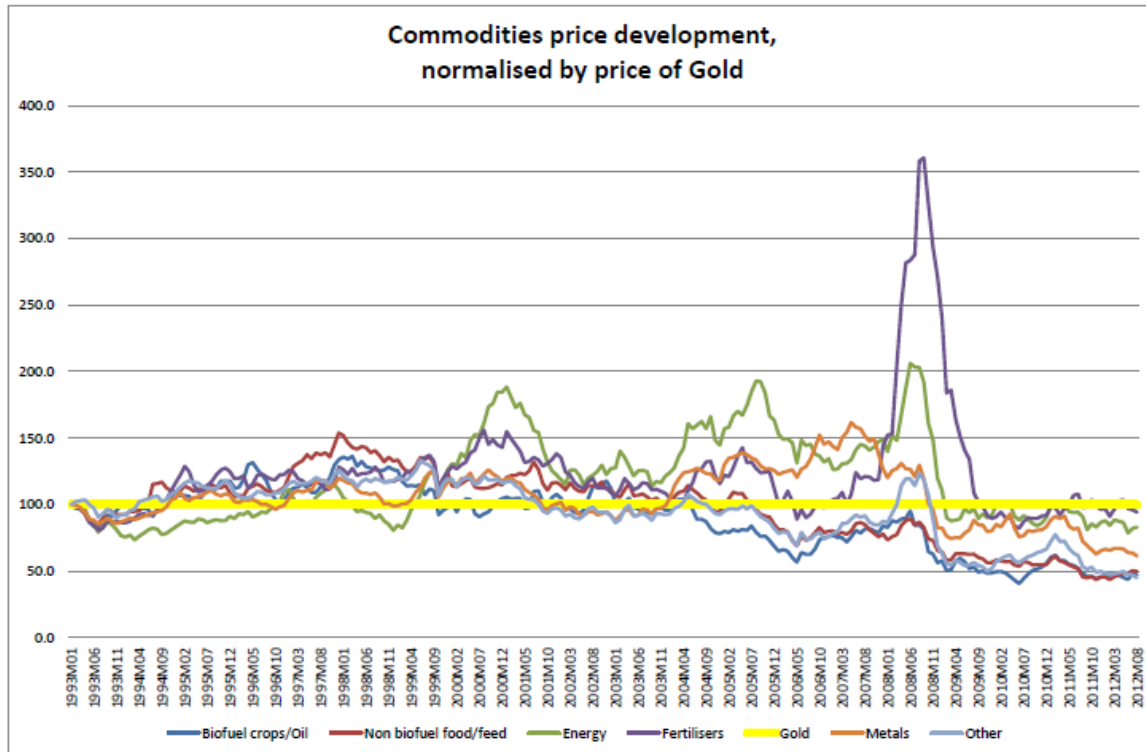
- track the U.S. prices of corn, ethanol and oil from 2004 to the end of 2012 (all readily available data) and note the statistical correlations between the commodities (*and at this first stage the theory, as stated, would need to be abandoned*)
- the theory could be restated to note (without the Manichean overtones of the original theory) that there is a correlation between oil prices and corn prices. An investigation of this theory (which has already been done by many people) would tease out the pathways for this interrelationship, which include fertilizer, transport, and ethanol. Unlike the authors, these objective studies conclude that fertilizer and transport are historically more important pathways than ethanol, but it is clear that ethanol is not an unimportant factor and could also in some scenarios become more important than fertilizer or transport;
- after the authors determine how much of a bridge ethanol is between oil and corn prices, they will need to research how much a change in corn price impacts wheat prices (strongly), barley prices (not so strong), rice prices (weak) and prices of other primary commodities (weak). The assumed causal pathway for corn impacting global commodity prices would be a reduction in corn exports as U.S. corn is diverted away from exports to U.S. ethanol. Abundant research on the interrelationship between corn and other primary commodities exists, and it is easy to look at U.S. corn export numbers. Unfortunately for the fate of the authors' theory, the trend in US corn

exports from 2004 to 2012 is not one of declines (indeed, the entire "missing piece of the puzzle" in terms of the authors' misrepresentations on many issues is the fact that U.S. corn harvests have been increasing dramatically over the last decade), and, also, there is simply zero evidence at all that corn price increases automatically and particularly raise the prices of all other agricultural commodities. The authors' casual declaration that a corn price increase of any amount accounts for every food price increase is bizarre and will never find support among rational reviewers.

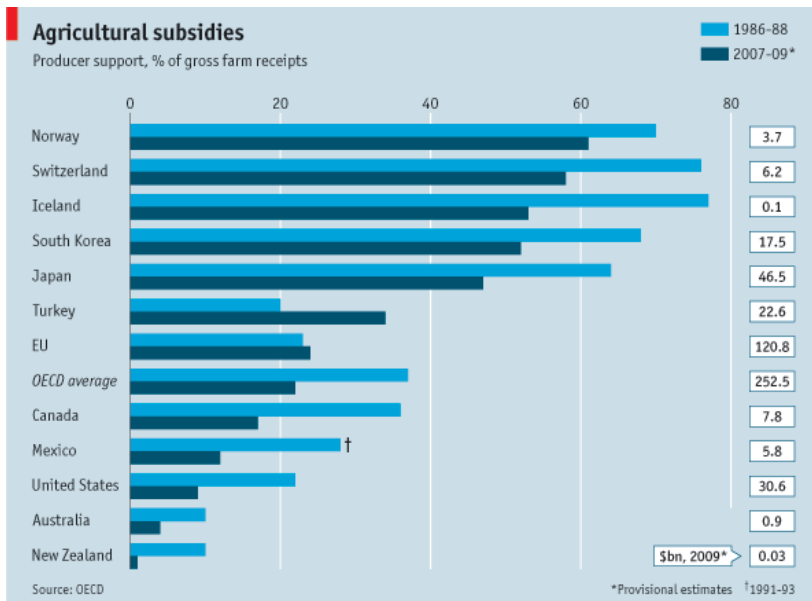
Inflation: On page 30, the authors correctly note that some price increases may be misrepresented by use of the U.S. dollar as the unit of measurement. They note that price increases measured in Euros would look smaller, and then they declare that "there is no clearly preferable currency for measuring world crop prices." While this is true, there is one preferable metric for measuring prices in the circumstances we face today in which (i) the commonly used currencies are all subject to various degrees of quantitative easing and devaluation, and (ii) when measured in almost any common currency, most things are getting more expensive. Indeed, it does look like basically everything is getting more expensive (indeed, the number of global commodities that are not getting more expensive can be counted on one's fingers).



The metric to turn to, then, is gold. It is not ideal, only useful, but its utility is specifically needed when currencies devalue. Taking the chart above, extending it back ten years, and converting it to gold presents a radically different picture of cost increases. Note, however, that this new chart pairs well with the chart on African incomes at the beginning of this response, in which food is actually getting less expensive for most people in the developing world.

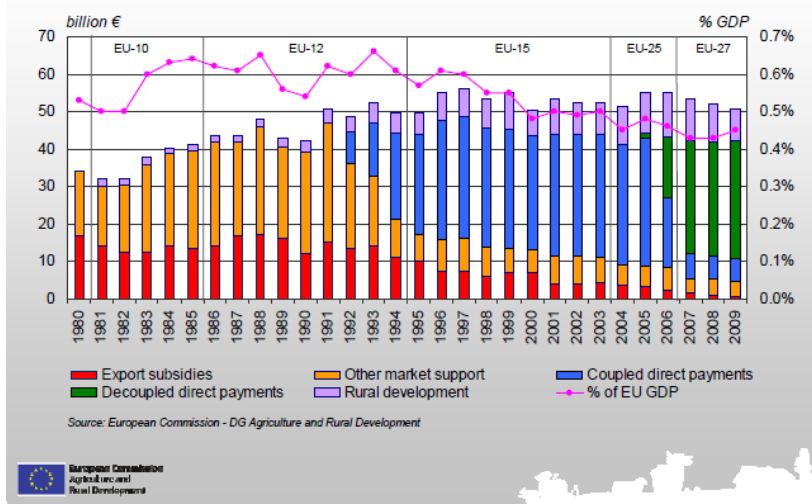


Commodity Nature of Feedstocks: The authors imply that biofuels feedstocks are "food" or "fuel", both implicitly and by referring to them as "internationally traded edible crops" (page 4). However, these crops (sugar; corn, etc.) are not traded internationally as food (at least not in any nutritionally significant sense) in significant quantities. Sugar is used as a food ingredient (often in ways that have no relevance to food security), as an ingredient in luxury food products (candies), as ethanol feedstock, as feedstock for beverage alcohol, as feedstock for industrial alcohol, and for many other purposes that are neither for food nor fuel. To an even greater degree, feed corn is an international commodity pursued as an ingredient in animal feeds, batteries, alcohol, explosives, bioplastics, fuel ethanol, production of pellets for stoves, paper and many other industries. Therefore, the mental image of corn being taken from the mouths of the hungry in a developing country to be put into an ethanol plant is both compelling and misleading. A kernel of corn in America grown before the biofuels mandates had a very small, probably only 10%, chance of reaching a human mouth in the developing world (and was much more likely instead to go to an animal mouth or industrial use). With the biofuels mandates, a kernel of corn grown in America has pretty much exactly the same chance of reaching a human mouth in the developing world (because the U.S. now grows much more corn in response to its biofuels mandates). And, to the extent that there is a battle for that corn, the struggle is not neatly between "food" and "fuel" but among food, feed, industry and fuel. Further, when "fuel" takes the corn, it uses only the carbohydrates (the empty calories whose nutritional value and whose market value are both insignificant) and puts the remaining nutritional elements back into the international food chain. So, most of the time, the simplistic binary relationship assumed in the paper is not true, and none of the time is such a simple view of markets at all correct. In summary, since the authors are interested in price impacts, an analysis limited to a false view of markets and the objectively and incontrovertibly false assumptions that all calories are identically important for human nutrition or identically priced is *a priori* invalid.



Role of Governments: The paper proceeds from a curious and unstated assumption that governments distort agricultural markets through biofuels subsidies, which is, of course, true. However, governments distort agricultural markets in a range of ways, a large number of which have impacts on agricultural producers that are an order of magnitude greater than biofuel policies, as evidenced by the chart on the next page and as evidenced by the fact that agricultural subsidies worldwide likely total half a trillion dollars per year. Viewing

### CAP expenditure and CAP reform path (2007 constant prices)



biofuels policies in isolation of these other government policies is ultimately unproductive and misleading, especially when it can be argued (easily) that farmer changes in behavior in the developed world are probably more influenced by policy changes than by price signals in any given year. For example, biofuels policies are introduced in some jurisdictions to replace other governmental subsidy programs, such as set-aside or intervention programs. In some cases, the only reason why a more distorting (and/or production reducing) subsidy can be removed is

because of the benefit promised by a biofuel program. Accordingly, an accurate analysis of the impacts of such biofuels policies on agricultural markets must take into account not absolute market distortions, but contextual market distortions. If a biofuels mandate takes the place of a system of set-aside payments, then it would be easy to see how biofuels facilitate food security rather than challenge it.

Symmetry: When a theory of economic impacts is correct, it will work in both directions. For example, if increased petrol prices are the cause for toll roads being used less, then lower prices will cause increased toll road use. It is a mainstay of social science theory and methodology that arguments of causation must work in both directions. Unfortunately, the authors repeatedly forget this basic tenet of methodology.

- They state that increasing food prices cause people to eat less. Biofuel feedstock prices were much lower in 2009 and 2010 than in 2008. Did people eat more? Corn prices today are almost



20% lower than in September 2012. Does that mean that people will eat more? Why would that happen if production has not increased?

- Biofuels markets in Europe and North America likely produced less biofuel in 2012 than in 2011. And they are likely to produce less biofuel in 2013 than in 2011. According to the authors' litany of ills caused by increasing biofuels production, this decreased use of biofuels should result in a corresponding litany of food security and other benefits. The authors, naturally, may claim that the 2012 drought means that there is less "food" and so no such benefits should be expected. However, putting aside all populist claims about the 2012 drought, the 2012 crop year was, as an indisputable fact,<sup>7</sup> the second largest for grains in human history, and it yielded so much extra grain (over 2008, 2009 and 2010 harvests) that this fact must be addressed.
- On page 5, the authors write "*The pressure of higher priced agricultural inputs on final food prices has become particularly acute in 2012 in the US, where the tightness of corn markets was exposed by the prolonged drought and led to the unprecedented import of corn into the US from Brazil.*" Elsewhere, the authors note that the prices of agricultural commodities have very low impact on final food prices in the most developed countries, yet that fact is forgotten in this statement. Likewise, the authors also fail to consider (the easily verifiable fact) that Brazil is exporting because it is becoming exceptionally good at growing corn (and so increasing food security). The very fact that Brazil is one of the world's largest corn growers belies much of the paper itself, which implicitly assumes that there is a finite amount of agricultural production in the world and, therefore, a zero sum game between food and fuel. Yet, Brazil has increased annual harvests of corn from about 6 tons/hectare in 2000 to about 9 tons today. To engage in some symmetrical analysis, the paper also notes that the US now exports ethanol to Brazil, which is equally unprecedented but elicits no emotional reaction from the authors. If the authors were consistent in their analysis, Brazilian imports of ethanol would have been mentioned as, to mirror the words of the authors, "exposing the tightness" of Brazil's energy markets, which would, of course, be untrue. Commodities are traded based upon price, and an exceptionally good harvest in Brazil, now the world's fifth largest corn producer, has made Brazilian corn competitive against U.S. corn even at some U.S. ports. There need not be, nor is there, anything sinister about such an event. Moreover, when developing countries gain access to the U.S. market for products that are traditionally produced only in the United States, that often leads to strong benefits for that developing market. That is the history of electronics, automobiles and many other products over the years.

#### Factual Errors:

- There has been no decision in the EU to cap crop-based biofuels. There is a proposal only, and this proposal is not well-received. (Executive Summary first page; page 14)
- The EU has no renewable fuels directive or mandate. The Renewable Energy Directive does not mandate any use or blending of biofuels; the entire 10% obligation could theoretically come from electric vehicles, biogas or any other renewable sources that displace fossil fuel in the transport sector (Executive Summary first page; page 7)

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<sup>7</sup> The "WASDE" report is the most respected authority on this type of data. See [usda01.library.cornell.edu/usda/current/wasde](http://usda01.library.cornell.edu/usda/current/wasde).

- On page 7, the authors write that the EU is "structurally" dependent on biofuel imports. While the EU is dependent, the reason is not structural but economic. Whereas the US has had about 95% capacity utilization of its ethanol fleet most of the time, Europe's biofuels facilities have capacity utilization rates of only around 50%.
- Table 2 on page 18 cannot be included. A review of scientific literature must include and even privilege recent literature. This chart is not a summary of current scientific thinking. The chart only relies on the state of the field at the end of the last decade and fails to provide minimum relevant information (for example, what baseline gasoline or diesel emissions are assumed). Likewise, it fails to explain how it is even possible for emissions savings to exceed 100%.
- The analysis of second generation fuels on page 20 omits what is either the first or second most important factor in determining where second generation production will occur. Feedstock cost is, always, the largest cost of a first generation biofuels facility and so the plants with the lowest production costs tend to be located where feedstock is least expensive. Second generation plants, especially cellulosic, have two primary components of production cost- feedstock and energy- since energy costs per unit of production are two to four times higher than for first generation. Accordingly, jurisdictions with low natural gas and electricity prices will favor second generation production. This is not to belittle the observations made in the section, only to emphasize that there is no question that it is specifically the United States and Canada that will be at the center of this industry globally unless there is a material structural change in global commodity markets.
- On page 32, the paper claims that "the increase in biofuel production since 2004 has commandeered roughly 22.7 million hectares of [lands]." There is no possible basis to include this statement or the authors' calculations behind it in a serious paper. Their methodology betrays a complete lack of understanding of commodity markets, their data is incorrect, and they ignore actual yield increases experienced due to biofuels demand.
- On page 33, the authors write that "the evidence is abundant that the rate of demand growth has created agricultural markets that are well out of long-term equilibrium, with prices in excess of production costs." This statement discusses (i) rates of demand growth, (ii) equilibrium, and (iii) equilibrium prices, and the authors get each of these wrong in both fact and theory. Rates of demand growth for biofuel feedstocks are falling not increasing (and the paper in several places bases its argument on the false assumption that they are increasing), which is a verifiable fact, and which is part of a trend that predates any large scale biofuels production. Rates of price volatility for biofuel feedstocks are increasing, and biofuels may or may not be to blame (the authors never look at this issue), but volatility itself precludes equilibrium. Any farmer who gets his production costs for his crop won't be farming for long, and anyone who writes something suggesting that a healthy agricultural market is one in which farmers only get their production costs back is someone arguing for a future massive decline in harvests, which will not do much to help alleviate hunger and malnutrition. More broadly, the authors' focus on costs of production as a *determinant* of price is simply irrelevant to an investigation of why prices have increased; all of their observations apply equally to oil. Production costs for oil over the past decade have not increased as rapidly as the cost of oil itself. Rather than being a sinister or unusual situation, as the authors intimate, the authors would be wise to realize that all they are doing is describing commodity markets in general and that the magnitude of the disassociation of production cost to sale cost is probably larger for *most* commodities than it is for agricultural commodities, meaning that they are actually arguing against themselves.