

Ethanol Impact Studies – Part 3: What the Critics Don't Want Consumers to Know About Ethanol

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This is the third section of a three part series dealing with ethanol issues. This paper examines what is probably the media's best keep secret associated with ethanol – it is saving consumers a ton of money.

As discussed in Part 2, the constant theme of critics, as expressed in the campaign being conducted on the behalf of the Grocery Manufacturers Association (GMA) consortium by the Glover Park Group (GPG) advertising agency, is that ethanol has caused food prices to rise. The GMA/GPG message has been delivered through articles, editorials and commentators in both the print and broadcast media. They have been very effective where the media is looking for either a sensational headline or a quick sound bite. There is only one problem with this message – it is less than half the story.

It was noted in Part 2 that ethanol's contribution to higher food prices is relatively minimal at this juncture. Instead, one of the biggest factors responsible for higher food prices is the higher cost of energy alone (nothing to do with ethanol) as has been noted in a couple of USDA studies.

A study that looked at the impact of crude oil prices on the food CPI concluded that the short term impact of a doubling of crude oil prices causes a 1.82% rise in food prices in the short run and a 0.27% rise in the long term.¹

Another USDA economist examined the impact of energy price increases on intermediate food processing and found that a 10% increase in energy price caused a 0.27% increase in the price of food and kindred products.²

Considering that crude oil and other energy prices have approximately doubled over the past year, that alone will account for a third to one-half of the rise in food prices food in 2008.

Put the impact of the higher energy price aside for the moment and ask how much higher food prices are now than they have been in the past. Historically, food prices have risen at close to the core inflation rate, about 2.5% per year. Last year food prices rose at a 4% rate and in 2008 the USDA is currently projecting that food prices will increase in the 5-6% range. Taking the mid-point of 5.5% and subtracting the historical food/core inflation rate of 2.5% suggests that in 2008 food prices are likely to increase at a rate 3% higher than in the past.

¹ Reed, A.J., Hanson, Kenneth, Elitzak, Howard, and Schluter, Gerald. 1997. "Changing Consumer Food Prices: A User's Guide to ERS Analyses." USDA Economic Research Service, Technical Bulletin 1862, June.

² Lee, Chinkook. 2002. "The Impact of Intermediate Input Changes on Food Prices: An Analysis of "From-the-Ground-Up" Effects," *Journal of Agribusiness* 20, 1, Spring.

It is projected that consumers will spend approximately \$1.1 trillion dollars on food in 2008. Three percent of \$1.1 trillion is \$33 billion. So it is likely that consumers will pay \$33 billion more than the typical historical rise in food costs, much of which comes from the sharply higher energy prices previously discussed.

Next, consider that the supply of fuel available for gasoline powered vehicles will be increased by 9 billion gallons of ethanol in 2008. What happens when the supply of any good increases? The price goes down. The only question is by how much?

A couple of studies on this issue were released this past spring that got much less play in the media than the anti-ethanol stories. These studies estimated that ethanol was lowering gasoline prices, from \$0.29 to \$0.40 cents per gallon according to the CARD study³, to 15% of the price of gasoline according to Merrill Lynch⁴. Obviously the price of gasoline has increased further since these studies were done so the Merrill Lynch estimate of 15% can be most easily applied. Based up today's gasoline price, the Merrill Lynch number would imply that consumers are saving over 60 cents per gallon due to ethanol.

Historically consumers have purchased around 145 billion gallons per year, but there have been some modest cutbacks in recent months. So assume that in 2008 consumers will purchase about 140 billion gallons of gasoline. Splitting the difference of those gasoline price effect studies suggests consumers are currently savings 50 cents per gallon due to the availability of ethanol. That in turn will save consumers \$70 billion in 2008. If you doubt the results of these studies, just consider the difference between diesel and gasoline prices. Historically diesel has been priced close to gasoline. However, as of the week of July 7th the average price per gallon of gasoline in the United States, all grades, was \$4.16 versus \$4.73 for diesel.

Now put the two numbers together; consumers pay \$33 billion more for food but save \$70 billion in gasoline costs. That is more than a two-to-one savings. It may be hard to deal with the fact that if it were not for ethanol consumers would be paying over \$4.60 per gallon, but that is the reality.

The other reality is only a limited proportion of the \$33 billion increase in food costs can be directly attributed to corn. In a recent USDA publication it was noted that, "Given that less than a third of retail food contains corn as a major ingredient, these rising prices for corn-related products would raise overall U.S. retail food prices less than 1 percentage point per year above the normal rate of inflation."⁵ So instead of the overall two for one

³ Du, Xiaodong, and Dermot J. Hayes. 2008. "The Impact of Ethanol Production on U.S. and Regional Gasoline Prices and on the Profitability of the U.S. Oil Refinery Industry," Center for Agricultural and Rural Development, Iowa State University, Working Paper 08-WP467, April.

⁴ Barta, Patrick. 2008. "As Biofuels Catch On, Next Task is to Deal With Environmental, Economic Impact," *The Wall Street Journal*, March 24: A2.

⁵ Leibtag, Ehphraim. 2008. "Corn Prices Near Record High, But What About Food Costs?" *Amber Waves*, USDA, February. <http://www.ers.usda.gov/AmberWaves/February08/PDF/CornPrices.pdf>

savings figure when looking at corn alone, the actual savings-to-cost ratio might be as high as six to one.

One final note on this issue comes as from a project by Center for Strategic and International Studies (CSIS) entitled “Facing the Hard Truths About Energy.”⁶ This was an integrated, in-depth analysis of over 100 studies incorporated to include both public and aggregated proprietary outlooks at the world energy situation. It was noted that “to mitigate these risks, **expansion of all economic energy sources will be required**, including coal, nuclear, biomass, other renewables, and unconventional oil and natural gas. Each of these sources faces significant challenges including safety, environmental, political, or economic hurdles, and imposes infrastructure requirements for development and delivery.” The conclusion is inescapable; we need them all to meet the energy requirements of the future. That includes ethanol.

Summary: According to USDA studies, the increase in the price of crude oil and energy alone will likely account from a third to half of the rise in food prices in 2008. Moreover, the best kept secret about ethanol is that for every extra dollar spent for food, consumers will save at least two dollars in gasoline costs. While it is understandable that food companies are frustrated with the higher ingredient costs (even though they are experiencing record or near record profits), it is more difficult to understand why they want to pursue a policy that will cost consumers more if the production of ethanol is reduced or eliminated in the United States. There is such a thing as the good of overall order.

⁶ Center for Strategic and International Studies, CSIS, 2007. “A Comprehensive View To 2030 Of Global Oil and Natural Gas.” Presented at CSIS Seminar: Facing the Hard Truths About Energy, Washington DC, August 1.

Appendix 1

The Effects of Ethanol on Texas Food and Feed, Texas A&M, April 2008¹

“Relaxing the RFS does not result in significantly lower corn prices.”

“—with a one-quarter RFS waiver price falling about \$0.30 per bushel below the full RFS price a few years hence, and the one-half RFS waiver price falling about \$0.50 to \$0.60 per bushel below the full RFS expected price.”

Food and Agriculture Policy Research Institute, FAPRI, January 2008²

“—implementation of EISA’s RFC (in the absence of the tax credit) will raise corn prices about 19%—the ethanol tax credit of \$0.51 per gallon (in the absence of the RFS) supports corn prices by a slightly smaller 11%. Because of the interactions between the two subsidies, it is estimated that joint implementation of both the RFS and tax credit supports corn prices by about 20%.”

Center for Agricultural Research and Development, CARD, March 2008³

“—jointly the RFS and tax credit supported the price of corn by a slightly smaller 16%.”

The Effect of Ethanol Production on the U.S. National Corn Price, University of Wisconsin, Madison, April 2008⁴

“—the model results above suggest that ethanol’s contribution to the price rise was about 41 cents per bushel, *ceteris paribus*.”

The Role of Biofuels and Other Factors in Increasing Farm and Food Prices, Keith Collins, June 2008.⁵

“This paper reviews various studies that have examined the relationship between corn used in ethanol production and corn prices. They suggest increased corn demand for ethanol could account for 25 to 50 percent of the corn price increase expected from 2006/07 to 2008/09. Another analysis presented in the paper suggests that ethanol could account for 60 percent of the expected increase in corn prices between 2006/07 and 2008/09—“

¹ Anderson, D.P., Outlaw, J.L., Bryant, H.L., Richardson, J.W., Ernstes, D.P., Raulston, J.M., Welch, J.M., Knapek, G., Herbst, B.K., and Allison, M. 2008. “The Effects of Ethanol on Texas Food and Feed,” Agricultural and Food Policy Center, Texas A&M University, April 10.

² Food and Agricultural Policy Institute. 2008. “The Energy Independence and Security Act of 2007: Preliminary Evaluation of Selected Provisions,” University of Missouri-Columbia, FAPRI-MU #01-03, January.

³ Du, Xiaodong, and Dermot J. Hayes. 2008. “The Impact of Ethanol Production on U.S. and Regional Gasoline Prices and on the Profitability of the U.S. Oil Refinery Industry,” Center for Agricultural and Rural Development, Iowa State University, Working Paper 08-WP467, April.

⁴ Fortenbery, T. Randall, and Hwanil Park. 2008. “The Effect of Ethanol Production on the U.S. National Corn Price,” University of Wisconsin-Madison, Department of Agricultural Economics, Staff Paper No. 523, April.

⁵ Collins, Keith J. “The Role of Biofuels and Other Factors in Increasing Farm and Food Prices: A Review of Recent Developments with a Focus on Feed Grain Market Prospects.” Prepared as supporting material for a review conducted by Kraft Foods Global, Inc., June 19.

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