

Did the 2012 Cancellation of the Conventional Ethanol Tax Credit Affect Corn Prices?

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After much debate, the \$0.45 per gallon blenders' tax credit for conventional corn-based ethanol was allowed to expire as of December 31, 2011. Did the removal of the credit affect corn prices? Theoretically, by taking away an important incentive for using ethanol, blenders should have been less inclined to buy the product, and ethanol prices should have declined. If ethanol prices declined, was it at the blender, or the ethanol plant, or some of both? Finally, if ethanol prices declined, was less corn used to produce ethanol, and were corn prices lower? If corn prices declined, what were the savings to the U.S. economy?

First, who was really getting the \$0.45 per gallon tax credit? Credits were paid to the blender, but the blender may not have kept all of that money. If the blender was passing the tax credit to the ethanol plant, it would show up in the price spread between the blenders' sale price and the price received by ethanol plants.

There is one important market area with complete data that can answer that question with certainty. The Nebraska Ethanol Board publishes monthly average ethanol and 87 octane gasoline prices received by Omaha gasoline blender locations. USDA publishes ethanol prices received by Iowa ethanol plants. Those ethanol prices are used in an Iowa State University ethanol plant profitability model.

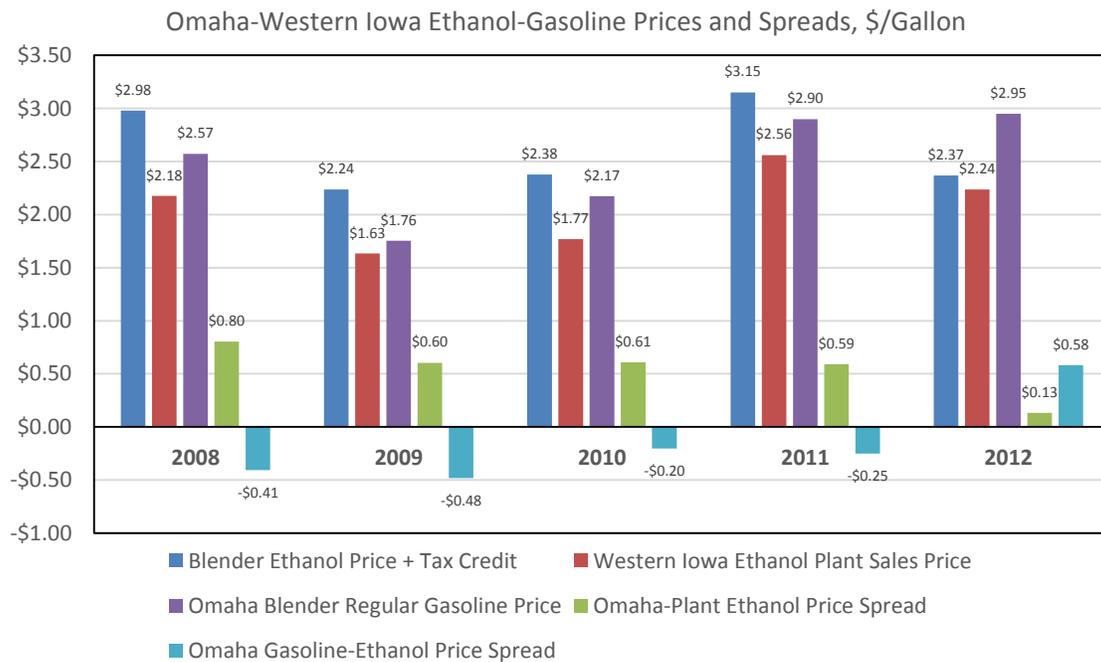
By comparing the ethanol plant and blender prices received we can see if the credit was being passed along to the plants. If the credit is being passed to the production plants, the Omaha-plant ethanol price spread, including the \$0.45 tax credit, should reflect only the cost of trucking ethanol to Omaha, and a modest margin for the blenders.

The data (next chart) show that the 2009-2011 plant-to-Omaha ethanol price spread was about \$0.60 per gallon. The 2008 spread has \$0.20 higher, but 2008 was an unusual year in many respects. The 2009-2011 spread was about the tax credit plus cost of trucking, and a small margin for the blender. Very little, if any, of the tax credit in effect from 2008 to 2011 was passed along to Iowa ethanol plants. In 2012, with no tax credit, this price spread declined to \$0.13, about the cost of trucking and a blender margin. When the credit disappeared, blenders absorbed the revenue loss. If the blenders had not absorbed the lost tax credits the Omaha-plant price spread would have not declined by about the same as the lost tax credit.

We can also clearly see the effects of lost tax credit revenue in the Omaha blender gasoline-ethanol price spread. Prior to 2012, the spread was in a -\$0.20 to -\$0.48 per gallon range. That is, including tax credits, ethanol was bringing in more blender revenue per gallon than gasoline. In 2012 gasoline prices were almost the same as 2011, but the gasoline-ethanol spread widened from -\$0.25 to +\$0.58 per gallon, an \$0.83 per gallon increase. The lost tax credit was \$0.45 of that difference, and \$0.38 was a lower ethanol price relative to gasoline. Ethanol prices declined significantly in 2012 even though gasoline prices were slightly higher, ethanol production costs went up with corn prices, and ethanol production declined.

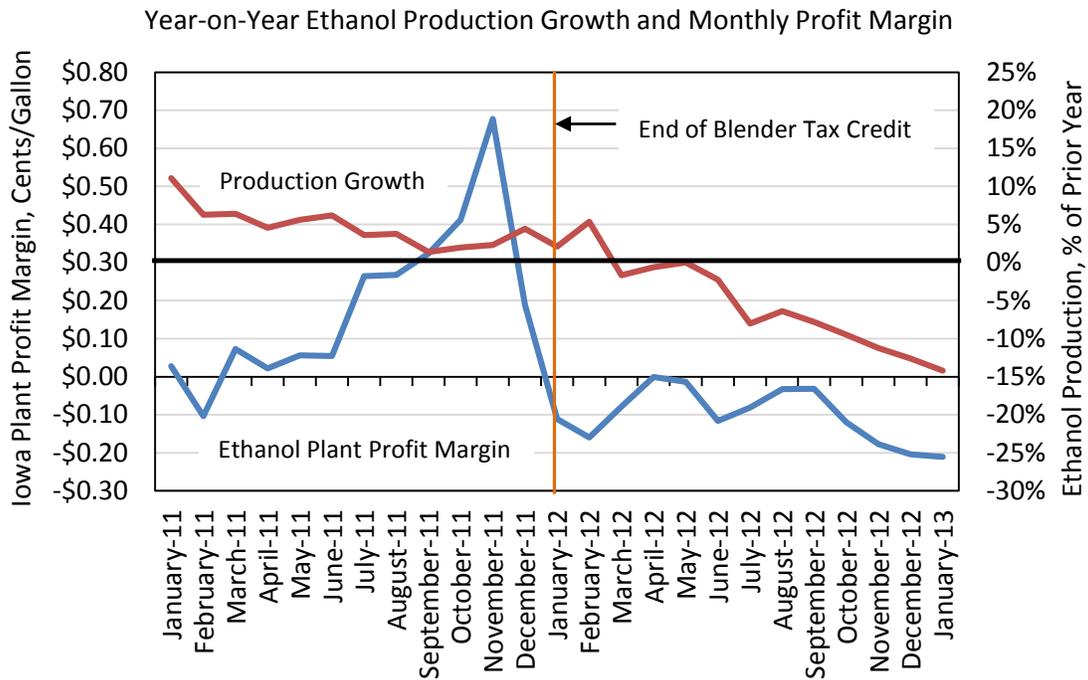
Clearly, the elimination of the tax credit caused blenders to have lower incentives to buy ethanol, and that was seen in lower 2012 ethanol prices at both the blender and the ethanol plant. Ethanol prices declined in 2012, even though production costs increased, gasoline prices were higher, and ethanol production declined.

The 2011 blender tax credit was worth almost \$6 billion to blenders, with essentially none of that benefit passed on to ethanol producers. Pulling that much revenue out simply had to impact ethanol demand and pricing.



Did lower ethanol prices affect ethanol prices and production? Yes, there was an effect, and the evidence is clear. As shown in the next chart, when the tax credit was in effect in 2011, ethanol plant margins in the Iowa State ethanol model were positive, and production was growing versus 2010. In January 2012

the tax credit was removed, and ethanol plant margins declined into negative territory.



The spike in plant margins in late 2011 is likely due to the fact that the blenders knew by mid-year that the tax credit was going to expire at year-end. Blenders bid ethanol prices higher in an attempt to buy as much as possible, and maximize their tax credit revenue. Monthly data show that the higher ethanol plant price was passed through to the blender price. Ethanol plants had short term windfall margin gains from the price spike.

In January 2012, after the tax credit expired, Omaha ethanol blender prices received declined to only \$2.21 per gallon, down sharply from the \$2.88 spike in November, 2011. At Iowa ethanol plants, prices declined from \$2.82 to \$2.13 over the same months. Ethanol plant margins went from very attractive levels to losses. Ethanol production started to decline almost immediately, and continued to decline versus 2011 during all of 2012, and into January, 2013, the latest available data as of this writing.

Despite the late 2012 ethanol price spike, the 2011 gasoline-ethanol price spread actually averaged \$0.05 per gallon lower than the 2010 spread.

Did lower ethanol production and prices affect corn prices? A statistical corn price model developed by this author and Dr. Steve Meyer in late 2010, and published in *Feedstuffs*, demonstrated that post-2007 increases in ethanol prices and production have profoundly affected corn prices. That model, updated with

recent data, was used to estimate the 2012 corn price impact of the termination of the tax credits.

The elimination of the blenders' tax credit impact corn prices through two factors in the model: Higher corn availability for non-ethanol uses and lower ethanol prices.

In a year of a very poor corn crop, lower 2012 ethanol production freed up about 225 million bushels of corn for other uses. The model says this increase in non-ethanol corn availability would reduce corn prices by \$0.13 per bushel.

As was computed earlier by comparing the change in the gasoline-ethanol price spread from 2011 to 2012, eliminating the tax credit reduced ethanol prices by about \$0.38 per gallon in 2012. The model says that this lower ethanol price reduced the amount that ethanol plants were willing and able to pay for corn by an additional \$0.62/bushel.

The total impact on 2012 corn prices is thus \$0.75 per bushel. That price decline benefitted all users of corn and products made from or with corn. Food and ethanol producers used 11.1 billion bushels of corn in 2012. At \$0.75 per bushel, their costs fell by \$8.3 billion. In addition, taxpayers saved \$5.9 billion that they would have paid if the tax credit had remained available.

Further, lower corn prices caused other key commodity prices to decline. Wheat, distillers' grains and soybean meal price declines add another \$2.4 billion in savings, making the total cost reduction to ethanol and feed users \$16.6 billion. To put that in perspective, the 2012 wholesale ethanol value realized by ethanol producers was about \$32 billion. The elimination of the tax credit saved the economy about half the wholesale value of ethanol production.

In summary, the elimination of the ethanol tax subsidy helped lower the price of key agricultural commodities, freed up corn supplies for other uses, and lowered the cost of food and ethanol fuel production by about \$16.6 billion. The conventional ethanol tax credit was an unnecessary, inflationary, policy mechanism that artificially increased corn and other key food commodity costs, and government spending. The tax credit was not benefiting the ethanol production plants, but was rather a windfall profit for blenders. Its termination has resulted in substantial and ongoing cost savings to U.S. economy. The Congress made a wise decision in allowing the tax credit to expire at the end of 2011.

Note: All data and statistical models used in this paper are available on request from the author at thomaselam@farmecon.com.