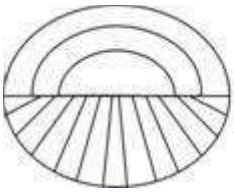

July 7, 2010

Jobs, safety and informed choices

By Don L. Coursey
Ameritech Professor of Public Policy Studies
The Harris School at the University of Chicago

As tentative signs of recovery emerge, federal policy makers should focus on a significant overhang that might yet impair both job creation and growth.

Regulation moves the margins of profitability. Regulatory uncertainty ripples through the economy to distant and unexpected quarters. The uncertainty created by unanticipated regulatory review puts research, development and capital spending on hold. An ill-founded result can devastate jobs for no reason.

A good example of this is taking place at the Environmental Protection Agency. EPA and its predecessors have regulated the agricultural herbicide atrazine for more than 50 years. Many consider atrazine, a synthetic organic compound, to be the most studied such molecule on the planet. It is by far the top corn herbicide for that period and it has been vitally important for growing both sugar cane and sorghum as well.

EPA reviewed almost 6,000 studies before re-registering atrazine, several times more than similar compounds. In 2006, EPA finished an unprecedented 12-year review that included the largest multi-dose amphibian toxicological study ever. It found atrazine to be no threat to health or safety when used appropriately.

Yet in late 2009, after Obama Administration appointees took the reins at EPA, it announced an unplanned review of atrazine – citing a *New York Times* article and a report by longtime atrazine opponents at Natural Resources Defense Council, which called for a ban on atrazine.

Independent natural scientists serving on prestigious advisory panels are sorting through activist claims that – essentially – career government service EPA professionals subverted or ignored their responsibility to assess atrazine properly throughout Democratic and Republican administrations over the last 50 years.

But the economics are clear. Based on studies I have conducted for an atrazine manufacturer, banning atrazine will wipe out between 21,000 and 48,000 jobs related to corn production, with additional job losses in both the sugar cane and sorghum industries. The range is wide because we have never before banned a product on which so many depend and for which suitable replacements have a wide variety of prices and application regimes.

These numbers are quite enough to be felt. They will first arise on marginal farms and move on to marginal business in corn-dominated communities. In 2009 terms, if all of those jobs were lost in the agriculture sector alone, its unemployment would grow by as much as 2.6 percent. Were they concentrated in corn production alone – unlikely in the real world, but useful to gauge magnitude -- unemployment in that sector would grow by 10.9 to 25 percent. According to the United States Department of Agriculture, in 2009, 95 percent of all U.S. corn farms were family farms, so impacts would be felt very close to home.

Atrazine is widely used precisely because growers know it well and have learned its benefits. It is obviously reliable. It does what it is supposed to do at a reasonable price. Its application and performance are complementary to other agronomic dictates of corn production. In my language of economics, it has high utility.

In 2003 EPA said that losing atrazine would cost corn growers an additional $28 per acre, on average. This figure includes more expensive alternatives and lost yields because the alternatives are less effective (or farmers would use them now). My research, which refers to additional factors, brackets EPA's result, finding replacement costs between $26 and $58 per acre.

If these low and high estimates are multiplied over the 2009 U.S. corn acres to which atrazine was applied, one finds atrazine's corn production economic value between $2.3 billion and $5 billion. EPA's estimate -- in 2003 dollars – of losing atrazine to corn, sorghum and sugar cane production was "in excess of" $2 billion per year.

A definitive analysis of atrazine's value to the economy would require an elaborate and sophisticated model-building exercise known as a general equilibrium study. I have not performed such a study and this analysis is hardly a substitute. But, as a first order approximation, it is perfectly appropriate to divide those value figures by a factor resulting from gross domestic product over total workforce.

Using 2009 figures, the cash value equivalent created per U.S. labor force member – including unemployed workers – is about $93,000. Dividing the totals of $2.3 billion and $5 billion, respectively, produces estimated corn-production related job losses of between 21,000 and 48,000.

Such a ban acts as a pure tax on corn production, so its impact will be felt distinctly in America's corn-growing rural heartland.

Corn growers, who like other farmers are preparing to feed the earth's anticipated 9 billion inhabitants by mid-century, would suffer lost income, yields, certainty, reliability and predictability. Unintended and unforeseeable consequences, such as weed escapes from substitute protection programs, could have serious and lasting effects, which costs are not included here.

Other losses, not included in the per-acre estimates, would be borne by society at large.

For instance, sedimentary runoff is the top pollutant of our streams and rivers. Atrazine makes conservation tillage possible for many corn growers, keeping soil on the land and out of our water. Losing this societal benefit will bring incalculable costs to community water systems, meaning average Americans.

Losses in sorghum and sugar cane would be additional, based on atrazine's role in their production. EPA's 2003 estimate for sugar cane was 10 to 40 percent crop loss on affected acres, or between $89 million and $340 million of value.

EPA's review and regulatory regime is arguably the most scientifically sound and practically applicable response to this shared value in human history. Its scientific experts have set a global standard in their respective disciplines because they have found balance between technological advances and protecting all of us.

Recently, the State of Minnesota and the Australian Government have reaffirmed their positions on atrazine. Minnesota announced a favorable review in January. Australia, based on considerable science in a regulatory system that parallels ours, said in March that it "continues to be satisfied that atrazine can be safely used." Australia allows higher levels of atrazine in its water than we do.

There is growing discussion that higher allowable levels are appropriate in light of the recent science and repeated testing. In October 2009, the Joint Meeting on Pesticide Residues of the World Health Organization/Food and Agriculture Organization established an acceptable daily intake level that is higher than Australia's -- or ours.

Irrespective of any increase in the approved level of atrazine in water, EPA has already built on industry's voluntary water-monitoring and stewardship program, resulting in declining levels that are well within conservative federal standards.

Economically, EPA's regime has enabled extraordinary values – from atrazine and other active ingredients -- to be marshaled for the benefit of our national production.

Every incoming administration feels a need to differentiate itself from its predecessor. In the regulatory field, this can amount to "righting" perceived or real "wrongs." It is also normal for friends of any new administration to present their list of items on which they seek official vindication. This is why the safest course for the public – and the economy – is to maintain

predictability by keeping sound science at the heart of regulatory decisions, not activist claims and heated rhetoric.

Unplanned reviews to satisfy implacable activists may bring political benefits, but wiping out established inputs based on anything less than clear and compelling science treats jobs and income cheaply – and expresses wanton indifference to our need for economic recovery.

Professor Don Coursey is an economist at the University of Chicago. He has studied atrazine for Syngenta Crop Protection, Inc.