

The Economics of Regulation

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Can Farmers Pass Along the Costs of Increased Pollution Control?

The statement "Farmers cannot pass along the costs of regulation (or environmental protection or higher feed costs, etc.) to the customer," can be found in many places and on many tongues. Is this a true statement? Sometimes or always? If so, when? The cases where the statement is true are narrowly defined. When applied to the broader market, the statement is false. Let us look at three illustrative cases.

First, suppose that farmers have made all their production decisions for the season. They have evaluated what prices are expected and what their yields (either crops or livestock) will be. Suddenly, something changes. Maybe the hog farmer expected to pay \$2.00 per bushel for corn and due to drought corn is \$3.50. The costs of growing out a hog are now higher than expected. He already has the pigs on hand so he can't just produce fewer hogs. He's made his commitment. The producer will make adjustments that are practicable such as feeding slightly less, seeking alternate feedstuffs, or selling animals lighter weights. But basically he is stuck, he's going to continue to feed the hogs to a marketable weight. Meanwhile, other farmers must do the same thing. With higher corn prices, the optimal weight for market hogs falls. Therefore, more hogs come to market sooner. If the new cost situation is expected to continue, farmers will also liquidate breeding stock, bringing even more pork to market. Short run demand for hogs is very inelastic (the quantity demanded does not change much when price changes), so the price of hogs falls. In the short run, an increase in production costs has led to a decrease in farm output prices. This is obviously no way to pass along costs. But this is a **short run phenomenon**. If farmers expected corn prices to remain high, they would plan on fewer hogs the next time around and prices would begin to rebound over time. (Of course higher corn prices would encourage corn growers to plant more corn.)

In the second case, suppose that one state, say Illinois, decides to tighten its environmental regulation of hog farms. Suppose the state passes regulations that are more stringent than those in other states. This would cause the costs of growing hogs to increase in Illinois, but would not affect the costs in other states. What happens to the price that Illinois farmers get for their hogs? Nothing much happens. The price for hogs is set in the national market by national level supply and demand. The impact of Illinois' regulations on the national supply curve is slight, so prices do not change much. Again, the farmers are not able to pass along the increase in costs because they apply only to the state market, not to the national market and we have free trade between the states. This is a **local market phenomenon**.

Third, suppose that national environmental standards are applied to all farms and that time is given for everything to adjust. Costs increase for everyone. The national supply curve shifts and prices increase. Because the national demand curve, say for pork, is very inelastic, prices increase almost as much as the increased costs of production. Farmers are able to pass along almost all of the increased costs of production through the adjustments

that take place in the free market. In fact, total income will increase due to the inelasticity of demand. One reason that supply will eventually shift is that some higher-cost farmers will find it uneconomical to adapt and they will be driven out of business. As prices rise to cover the "average" cost of reducing pollution, low-cost producers will tend to expand. This is the way a market economy works; the most efficient firms survive because they can produce at the lowest costs.

The important thing to remember is that most of the costs of regulations applied to the **entire market** will be passed along in the **long run** (when time is allowed for adjustment). This is why it is important to establish national standards rather than leaving them to the individual states. Otherwise, a state with slack environmental controls would give its farmers a cost advantage.

Even the long run scenario above fails to provide for something; it assumes that technology stays fixed as other factors adjust to the new regulatory climate. In reality, farmers will demand more efficient (cheaper) ways of reducing pollution. Firms looking to make money will try to find these cheaper ways. Some will succeed. The large numbers of farmers who desire these systems will help the firms achieve economies of scale in their own production. Competition will also help to lower prices of the systems.

Most economists believe that it is important to allow some flexibility for farmers to choose their own means of controlling their pollution. One method can be low cost for one farm in one kind of situation, but can be very costly in another situation. Allowing each farmer to choose what is the lowest cost method of meeting standards for his farm should ensure that pollution control is achieved at the least possible total cost.

Who Should Pay for Pollution Control?

Farmers think that they should not have to pay all the costs of new systems that will reduce pollution from farms. One reason is because of the widely held belief that costs cannot be passed along in higher prices. The section above contradicts this assumption.

Economic theory is neutral on the question of who should pay to eliminate an "externality," or a cost imposed on one group or individual by another group or individual's actions. According to the Coase Theorem, as long as property rights are assigned to one party or the other, the optimal level of production will take place. If the farmers have to pay the costs, they will reduce production to the optimal level. If the public has to bribe the farmers to reduce pollution, the same optimal level will be achieved. So the question of who pays becomes political and will be decided in the political process. In reality we have numerous federal cost-share programs, and both Federal and state technical assistance. It has recently been proposed that South Carolina offer environmental cost-share programs that add leverage to Federal ones.

Voluntary Versus Regulatory Programs

Economics tells us that voluntary programs cannot work. Suppose that two farmers have the same costs of producing hogs. If one farmer spends money to improve his pollution control, he has higher costs than his neighbor who doesn't. They both receive the same price when they market their hogs and the farmer who pollutes makes more money. This is the same as case two above where one state has regulations and the others do not. In a highly competitive market where profit margins are thin, there is great pressure to keep costs as low as possible. Only when the additional costs are imposed on all producers will compliance be achieved.