

Health, Sustainability, and the Political Economy of Food Labeling

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Public choice theory is used to explain regulation of telecommunications, transportation, and other complex production systems ([Buchanan 1986](#)). My goal is to show that public choice theory explains a set of regulations that consumers interact with on a daily basis: food labels. I argue that organic labeling serves primarily to protect the organic industry from competition.

“Organic” lacks an unambiguous definition but literally refers to the “farm as organism” ([Paull 2006](#)). In the early 20th century, English agriculturalists realized that manufactured nitrogen fertilizer depleted nutrients in soil over time. A movement began to conserve and regenerate soil by encouraging farmers to fertilize with plant residues and animal manure. Today, “organic” has a broader meaning, but the theme is that new technologies undermine the integrity of agriculture. Oregon established the first organic standards program in 1973. Between then and 1990, 21 other states adopted a heterogeneous set of organic standards. The industry believed the multiplicity of standards was causing confusion and undermining the value of the organic label. Through vehicles like the Organic Trade Organization and the American Farm Bureau Federation, the industry petitioned Congress for a set of national organic standards. The Organic Food Production Act of 1990 (OFPA) created the National Organic Standards Board (NOSB) and directed it to propose regulations to the U.S. Department of Agriculture. The USDA finalized its set of rules in 2000, which are periodically amended upon recommendation by the NOSB. ([Ellsworth 2001](#); [Pollan 2006](#); [USDA 2000](#))

Public choice theory is key to explaining the organic standards that emerged in 2000. As Cohns and Miller ([2016](#)) wrote in *Regulation* magazine, the organic label is “a valuable stamp of approval” from the government, meaning that many people stood to gain from it. No other prospective regulation has received as much input from the public. The USDA was forced to withdraw its first proposal in 1997 after it received an unprecedented 275,603 comments ([USDA 2000](#)). The National Organic Program (NOP) is also a striking example of a regulation demanded by its target industry. Consider Secretary of Agriculture Dan Glickman’s comments at the unveiling of the NOP: “The organic label is a marketing tool It is not a statement by the government about food safety. Nor is [it] a value judgment by the government about nutrition or quality” ([USDA 2000](#)). Organic labeling is a transparent rent-generating scheme. The question is whether the rents increase social welfare. For this reason, public choice theory is the best way to understand why we have organic standards.

The Organic Standards: Reality and Perception

Like any marketing tool, an organic label is a form of product differentiation. In 2015, organic food sold for an average 47 percent premium ([Marks 2015](#)). Clearly, consumers believe it is a better product. But, as Secretary Glickman said, labeling is about managing perceptions, not objective criteria. In this section, I discuss what the organic label means and whether it corrects an externality or information asymmetry problem.

Organic standards are complex but fall into three broad categories: crop standards, livestock standards, and handling standards. Crop production standards prohibit the use of most synthetic pesticides. Synthetic pesticides are organic compounds not produced by a known living organism. Organic pesticides, on the other hand, are typically inorganic metals, like copper and sulfur, or organic plant toxins. Exceptions to the prohibition are granted based on “need” by the NOSB. In addition, organic crops cannot be genetically modified in a lab, or irradiated, a sterilization process that prolongs shelf life. According to the regulatory text that governs the NOP, published in the Federal Register, organic farms must obtain certification from an accredited private body to confirm that farming practices “maintain or improve the physical, chemical, and biological condition of the soil and minimize soil erosion” ([NOP 2011](#)). This determination is made at the discretion of the certifying body. Livestock and poultry producers must meet additional standards. The animals must be fed 100 percent organic feed, and ruminants must receive 30 percent of their dry matter intake from pasture. Animals can’t be given hormones or antibiotics unless sick or malnourished and must have “access to the outdoors.” Finally, handling standards require that *certified organic* products contain 95 percent organic ingredients and prohibit commingling of organic and nonorganic products.

Consumers seem to desire products produced to these standards, yet understand them poorly. The overwhelming majority of consumers purchase organic food out of health concerns, especially perceived deleterious health effects of pesticides, genetically engineered crops, and irradiation ([Hughner et al. 2007](#); [Rollin, Kennedy, and Wills 2011](#)). Consumers also believe that organic food tastes better and is more nutritious, although they may simply infer this because it is more expensive. Concerns regarding personal health tend to trump concerns for the environment and animal welfare. However, there is a small subset of consumers that purchases organic food for altruistic reasons as well ([Hughner et al. 2007](#))

The evidence suggests that consumers’ motivations are largely unfounded. Smith-Spangler et al. ([2012](#)), in an extensive review in the *Annals of Internal Medicine*, concluded that certified organic products are indistinguishable from conventional ones with respect to safety and nutrition. Consider the public’s primary concern: pesticides. Although there is a perception that organic agriculture is free of pesticides, organic standards allow the use of more than 300 different herbicides and insecticides. Synthetic pesticides, which are not produced by any organism, are generally prohibited, although they may be used when organic pesticides are ineffective. But there is no basis for the distinction between synthetic and natural toxins. In high doses, they exhibit equivalent toxicity and carcinogenicity ([Ames, Profet, and Gold 1990](#)). Gold et al. ([1992](#)) also found that the potential danger of pesticides is inconsequential amid the background of natural toxins we consume daily. What about the over-application of pesticides and supply-chain contamination? Although conventional produce was 30 percent more likely to

contain trace pesticides, organic products were just as likely to have pesticide contamination exceeding maximum allowed limits ([Smith-Spangler et al. 2012](#)). In the end, both conventional and organic produce are subject to the same consumer safety standards when it comes to chemical residues. Adherence to these standards is the purview of the EPA. Additional regulation might address childhood exposure to areas where pesticides are stored ([Muñoz-Quezada et al. 2013](#)), but there is very little evidence that harmful exposure currently occurs through food.

The NOP's absolute prohibition of genetic engineering and irradiation is just as misguided and potentially counterproductive. In fact, when the USDA originally proposed organic standards in 1997, it allowed both methods. The proposal was amended only after a large number of negative public comments ([USDA 2000](#)). There is widespread agreement among respected scientific bodies that genetically modified crops are safe for consumption ([AMA 2012](#); [AAAS 2012](#); [Key, Ma, and Drake 2008](#); [NAS 2004](#); [WHO 2014](#)). Yet, 39 percent of the public disagrees ([Pew Research Center 2016](#)). This poses a problem because GM crop production may have positive externalities. Researchers found, for instance, that on average, GM technology adoption has reduced chemical pesticide use by 37 percent, increased crop yields by 22 percent, and increased farmer profits by 68 percent ([Klümper and Qaim 2014](#)). In addition, researchers from the EPA and USDA found that herbicide-resistant GM crops prevent topsoil depletion by eliminating the need for tillage ([Fernandez-Cornejo et al. 2012](#)). They also found that GM technology has reduced the amount of pesticides used in farming and the toxicity of these pesticides. Glyphosate, for instance, the herbicide most commonly used with GM crops, is less toxic and not as likely to persist in the environment as the herbicides it replaces ([Williams, Kroes, and Munro 2000](#)). Like genetic modification, no available scientific evidence suggests that irradiation is dangerous to human health, and it may actually enhance the safety and quality of food ([Bruhn and Wood 1996](#)).

Environmental and animal welfare concerns were the primary impetus for the activists who sought an organic certification program. However, organic farming produces a mixed bag of environmental effects, largely because it shuns promising technologies. I have already discussed how organic practices may lead to increased pesticide use and topsoil depletion when compared with conventional best practices. Organic yields are also 34 percent lower, meaning that an organic farmer must plant an acre and a half for every acre planted by a conventional farmer to achieve the same yield ([Seuvert, Ramankutty, and Foley 2012](#)). One of the ecological arguments for organic farming is that it promotes genetic diversity, but widespread adoption of organic agriculture would devastate hundreds of millions of acres of forestland. New techniques in genetic engineering, such as the CRISPR-Cas9 system, have even greater potential to create designer crops that will yield more food using less land and energy. To be sure, many organic farming practices have benefits. The use of manure, crop rotation, and cover crops leads to higher soil carbon content, which promotes microbial diversity and drought-resistance ([Gattinger et al. 2012](#), [Trewavas 2001](#)). Even so, organic production is inefficient compared to an integrated approach that would combine the best practices of both systems.

Similarly, it is not clear that organic livestock standards are effective or objectively improve the lives of animals. Livestock and poultry are required to have *access* to the outdoors. This is the only welfare requirement, and it is up to certifying agencies to interpret. To be fair, the subject is

difficult to standardize and involves a number of dilemmas. There is a tradeoff between health, affect, and natural living ([Fraser 2008](#)). For instance, organic standards prohibit the use of prophylactic antibiotics, but this leads to higher incidence of parasite-related diseases in organic cattle ([Lund and Algers 2003](#)). Some animal welfare advocates approve, wanting to provide as natural a life as possible. Others believe our duty is to spare animals from the agony of disease ([Fraser 2008](#)). Intensive systems can provide more shelter and bedding, ration food and water more fairly, and give animals more attention. Not all farmers treat animals well—endemic abuse is well documented. However, organic livestock is treated just as badly as conventional livestock ([PETA 2017](#)). Organic food seems to be a luxury good that possesses no advantages over its alternative for humans, animals, or the environment.

By now, I have identified the key organic standards and argued that they cannot be justified by market failure. The organic label does not provide useful information or nudge consumers toward welfare-enhancing products. Because consumers are misled into paying up to 300 percent more, it may even be welfare-reducing. In this case, why do we have these standards and what would be a better way to address food safety, animal welfare, and the environment? These are the subjects of the next two sections.

Who Benefits?

The USDA has never claimed that organic foods are safer, healthier, or superior to conventional foods in any way. Yet Americans spent \$43 billion on organic products in 2016, and the category has averaged 15 percent growth since 2000 ([OTA 2017](#); FiBL and IFOAM n.d.). How can this be? A representative from the United Kingdom’s largest agribusiness consulting firm may have answered that question at the 1999 Organic Food Conference. She said, “If the threats posed by cheaper, conventionally produced products are removed, then the potential to develop organic foods will be limited” ([Schroeder et al. 2016](#)). In the years since, the organic industry has erected barriers to entry, stacked its own oversight board, and funded advocacy of dubious science and self-serving legislation. This section examines how and why organic labeling policy is influenced by special interests.

What does the industry have to gain from these activities? The answer should not surprise you: profits. A review of the worldwide organic market in 2014 estimated that organic farmers had 21 percent higher gross returns, 24 percent higher benefit–cost ratios, and 35 percent higher net present values ([Crowder and Reganold 2014](#)). Organic farming is also subsidized to the tune of \$160 million, as of the 2014 Farm Bill ([USDA 2014](#)). Given the higher net present value, conventional farmers should be rushing into the organic market and driving down the relative price of organic produce. However, significant barriers to entry prevent this from occurring. The most important barriers are the costs of compliance and access to organic markets ([Damewood 2015](#); [Strochlic and Sierra 2007](#)). Market access is a barrier because the organic market is only 4 percent of the domestic food market and concentrated. There is a risk that organic producers won’t be able to find purchasers ([Strochlic and Sierra 2007](#)). Compliance costs include the certification fee, record-keeping costs, liability, and the three-year transition period during which produce cannot be labeled “organic.” Although record-keeping and inspections costs can amount to thousands of dollars per year, the price premium outweighs these costs. However, violating the regulations may lead to a \$100,000 penalty and imprisonment for up to five years,

consequences that are far more devastating for small, unincorporated producers ([Cohrsen and Miller 2016](#)). The transition period imposes a large barrier because farms must absorb lower yields per acre without the offsetting price premium. Like the rest of the law, there is no scientific basis for the three-year transition because common pesticides degrade in weeks or months and need to be sprayed directly onto plants to function. During this period, gross incomes, benefit–cost ratios, and net present values are 10, 7, and 23 percent lower, respectively ([Crowder and Reganold 2014](#)). Disease carries an increased risk, because farmers may have to choose between using a pesticide and starting over or losing the entire crop. This requirement is so onerous that some large buyers of organic produce are beginning to offer long-term supply contracts and purchase at a premium during the transition period in order to increase supply ([Strom 2015](#)). Whole Foods Inc., the largest buyer of organic produce, tried to create a rating system independent of the organic label that would reduce compliance and liability costs while retaining many of the standards. One supplier complained, “becoming organic is a big investment of time and money and this ratings system kind of devalues all that” ([Strom 2015](#)). As George Stigler wrote in 1971, incumbents in regulated industries come to demand regulations. From their point of view, reform would be unfair to those that first ponied up for access to rents.

Organic producers have used regulation to insulate themselves from competition despite controlling only 1 percent of the food market. This is because the organic food market is emblematic of what Mancur Olson ([1971](#)) called “concentrated benefits versus diffuse costs.” I have discussed how organic producers benefit, but there is also a subset of organic consumers who strongly *believe* that they benefit from organic certification. Advertisers call these people the “LOHAS” and estimate that they make up 18 percent of their market ([Schroeder et al. 2016](#)). LOHAS are “early adopters and influencers” of policy. At the other end of the spectrum, the group least likely to support organic labeling is the “unconcerneds,” who by their very nature do not exhibit strong preferences one way or the other. Conventional producers may also have weak preferences regarding labeling. So far, there is no literature on the effect of OFPA on conventional food prices, but the organic market may still be too niche to affect the world market for produce. The American Farm Bureau Federation supports or tolerates organic labeling, even as it strongly opposes GMO labeling ([Duvall 2017](#)). From its point of view, OFPA benefits 1 percent of farmers without hurting the other 99 percent. The costs instead fall on consumers.

Players in the organic market influence policymaking in several ways. One common mechanism is to fund advocacy groups that lobby for legislation that would help the industry. [Table 1](#) identifies prominent donors from the organic industry that support such groups. Advocacy groups typically seek to influence public opinion by funding and marketing research that portrays conventional agriculture as dangerous. For example, one researcher published a study shortly after Stanford researchers Smith-Spangler et al. ([2012](#)), claiming to have found “a 94 percent reduction in health risk from the selection of organic brands.” As phrased, the statement is almost nonsensical and cannot possibly be accurate given the complexity of estimating environmental risk over a lifetime. It didn’t matter that the researcher was a lead scientist for the Organic Trade Organization and the publication was only meant to obscure the issue and undermine the Stanford study ([Benbrook 2012](#); [Schroeder et al. 2016](#)). Companies in the industry also join together to file lawsuits and organize lobbying campaigns for legislation against conventional or biotech agriculture. Anti-GMO labeling campaigns are particularly common

([Schroeder et al. 2016](#)). Studies have shown that food labels easily influence consumers due to what is known as “framing” ([Levin and Gaeth 1988](#)). Organic labels trick consumers into believing that organic food is healthier, safer, and tastier; and mandatory GMO labeling would enhance this perception. The industry is also engaged in direct lobbying of policymakers, as noted by Henry Miller and Julie Kelly ([2015](#)). They found that the Environmental Working Group, which advocates against biotechnology and receives donations from 20 organic producers, spent \$1.4 million to lobby U.S. House and Senate members in 2013 and 2014. During the same time period, the Center for Food Safety spent \$1.1 million lobbying, and since 2008 the Organic Trade Association has also spent more than \$1 million on lobbyists. The Organic Consumers Association and Organic Trade Organization, both industry groups, have their own political action committees (PACs) for campaigning on behalf of politicians. Individuals in the industry also contribute money to the political process. One example is the CEO of Stonyfield Farms, who contributed \$419,000 to political campaigns between 2008 and 2014 and was a “bundler” for President Barack Obama. Whole Foods co-CEO Walter Robb also contributed \$164,000 during the same period. This is only a sample of what Miller and Kelly ([2015](#)) call the “money trail,” but it establishes that lobbying and influence peddling are common in the organic food industry.

TABLE 1
PLAYERS IN THE ORGANIC MARKET

Anti-GMO/Pesticide Advocacy Organization	Funders and Campaign Supporters
Beyond Pesticides (2012 budget \$1.1 million)	Amy's Kitchen, Horizon Organic, Earthbound Farms, Stonyfield Organic, Choice Organic Teas, Whole Foods Market, United Natural Foods, Organic Valley, Vitamin Cottage Natural Foods, Annie's Homegrown, Rudi's Organic, Nature's Path, Kamut International, Oregon Tilth, National Cooperative Grocers Association, Dr. Bronner's, Frey Organic Vineyards, Good Earth Natural Foods, Organic Foods International, Demeter Association, Lundberg Family Farms, Organic Seed Growers and Trade Association
Center for Food Safety (2011 budget \$2.9 million)	Horizon Organic, Earthbound Farms, Stonyfield Organic, Whole Foods Markets, United Natural Foods, Organic Valley, Amy's Kitchen, New Chapter Organics, Annie's Homegrown, Big Carrot Natural Foods, Lundberg Family Farms, Eatmore Sprouts and Greens, Organic Seed Growers and Trade Association
Cornucopia Institute (2012 budget \$669,000)	Organic Valley, Frey Organic Vineyards, Demeter Association, Organic Seed Growers and Trade Association
Environmental Working Group (2011 budget \$5.9 million)	Earthbound Farm, Stonyfield Organic, Whole Foods Market, Organic Valley, Applegate Organic, Lundberg Family Farms
Food and Water Watch (2011 budget \$11.1 million)	Stonyfield Organic, Organic Valley, National Cooperative Grocers Association

(Continued)

TABLE 1 (Continued)
PLAYERS IN THE ORGANIC MARKET

Anti-GMO/Pesticide Advocacy Organization	Funders and Campaign Supporters
Institute for Agriculture Trade Policy (2012 budget \$3.9 million)	United Natural Foods, Organic Valley, Nature's Path Food, Dr. Bronner's, National Cooperative Growers Association, Good Earth Natural Foods, Organic Seed Growers and Trade Association, Nature's Path Food, Lundberg Family Farms, Organic Valley, Natural Grocer Company, New Hope Natural Media
Non-GMO Project (2011 budget \$455,000)	Stonyfield Organic, Whole Foods Market, United Natural Foods, White Wave Foods, Organic Valley, Nature's Path Food, Big Carrot Natural Foods, Dr. Bronner's, National Cooperative Grocers Association, Lundberg Family Farms, Natural Grocery Company, New Hope Natural Media
The Organic Center (2012 budget \$728,000)	Organic Trade Association, Horizon Organic, Stonyfield Organic, Whole Foods Market, United Natural Foods, White Wave Foods, Organic Valley, Rudi's Organic, Annie's Homegrown, Nature's Path Food, Kamut International, Lundberg Family Farms
Organic Consumers Association (2011 budget \$2 million)	Attune Foods, United Natural Foods, Organic Valley, Amy's Kitchen, Nature's Path Foods, Traditional Medicinals, Dr. Bronner's, Demeter Association, Lundberg Family Farms, Stonyfield Organic
Pesticide Action Network (2011 budget \$2.3 million)	Stonyfield Organic, Organic Valley

TABLE 1 (*Continued*)
PLAYERS IN THE ORGANIC MARKET

Anti-GMO/Pesticide Advocacy Organization	Funders and Campaign Supporters
Sierra Club (2011 budget \$97.8 million)	Stonyfield Organic, Whole Foods Market, Organic Valley, Frey Organic Vineyards
Just Label It (Organic Industry Coalition formed in 2011 that has not yet reported expenditures)	Stonyfield Organic (founder), Horizon Organic, Attune Foods, Earthbound Farm, Silk Soymilk, United Natural Foods, Organic Valley, KeHe, Amy's Kitchen, New Chapter Organic, Frontier National Products, Rudi's Organic, Nature's Path, Annie's Homegrown, Wholesome Sweeteners, Pure Brands, Kamut International, Mom's Organic, Dr. Bronner's, National Cooperative Grocers Association, Earth Source, Good Earth Natural Foods, Organic Foods International, Demeter Association, Lundberg Family Farms, Country Choice Organic, New Hope Natural Media, SunFood, Country Choice
Rodale Institute (2011 budget \$3.7 million)	Earthbound Farms, Attune Foods, Stonyfield Organic, Whole Foods Market, United Natural Foods, Organic Valley, Amy's Kitchen, Frontier National Products, Rudi's Organic, Nature's Path, Traditional Medicinals, Wholesome Sweeteners, Lundberg Family Farms

SOURCE: Adapted from Schroeder et al. (2016: 20).

The industry also exerts influence through its oversight board, the National Organic Standards Board. The NOSB is responsible for compiling the list of allowed and prohibited substances, issuing exemptions, and recommending new rules and amendments. The 15-member board ostensibly reserves seats for organic producers, processors, and retailers, as well as environmentalists, consumer advocates, a certifying agent, and a scientist. In reality, I found that 13 of 15 current members previously worked for, owned, or served on the board of directors of corporations in the industry, trade groups, or advocacy organizations funded by the industry. In the past, representatives for Whole Foods (twice), Driscoll's, Campbell's Soup, Earthbound Farm, Horizon Organic, and Smucker's held seats on the NOSB while concurrently working as organic compliance officers at their companies. The "scientists" on the board worked for General Mills, Earthbound Farms, or California Certified Organic Farmers, a trade group. "Consumer/Public Interest" advocates and "environmentalists" have frequently included marketing consultants for organic producers, representatives of organic advocacy organizations,

and owners of companies that qualify as organic producers, handlers, or retailers. Realistically, the only people with an incentive to serve on the NOSB work in the organic industry and benefit from organic standards. That is why even “consumer advocates” tend to have vested interests in maintaining food-labeling regulation. The NOSB is no exception to the revolving-door phenomenon.

Through the NOSB, direct lobbying, and public opinion campaigns, the organic industry maintains a profit-generating regulatory fiefdom. Using public choice theory, this explains why the National Organic Program exists despite the lack of compelling evidence that it corrects a market failure. The next section will focus on how a better system might work, and the political hurdles of implementing one.

Conclusion

I take the view that the National Organics Program should be repealed. That does not mean that information asymmetries do not exist in the food market, but that the NOP does not fix them. The first-best option is a system that would convey perfect information to the consumer at the point of purchase. Since that is not available, we have to choose between a government standard and a market-based labeling scheme. A government standard provides an opportunity for rent-seeking and regulatory capture. The disadvantage of a market-based scheme is that quality is difficult to evaluate. A multiplicity of different criteria will likely confuse consumers and undermine the value of the label to producers. However, concerned consumers would rely on discovery, and private firms would have an incentive to compete for the best criteria. Examples of private food labels already exist and include Oregon Tilth, Free-Range, Grass Fed, and Animal Welfare Approved.

The argument for keeping the status quo notes that the NOP is completely voluntary. No one forces organic standards on farmers or organic products on consumers. Those customers seem to gain some utility from the USDA label. Who are we to evaluate their purchases for them? This argument assumes rationality, but we know that consumers can be “nudged” in subconscious ways. If they knew that the standards did not address safety, they might resent this kind of manipulation. And for those who completely disagree with my assessment of the standards, private labels like Oregon Tilth could step in.

The USDA should never have engaged in marketing on behalf of a small market segment. It may have been a rational response to the political landscape, but it is cynically redistributive and distorts market incentives. The NOP should be repealed but likely will not be because the benefits of doing so would be more diffuse than the costs.

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