

The Modern Food Industry in the U.S.: A case study of industrial sabotage

Geoff Schneider, Bucknell University

AFEE@ASSA Session

January 3, 2021

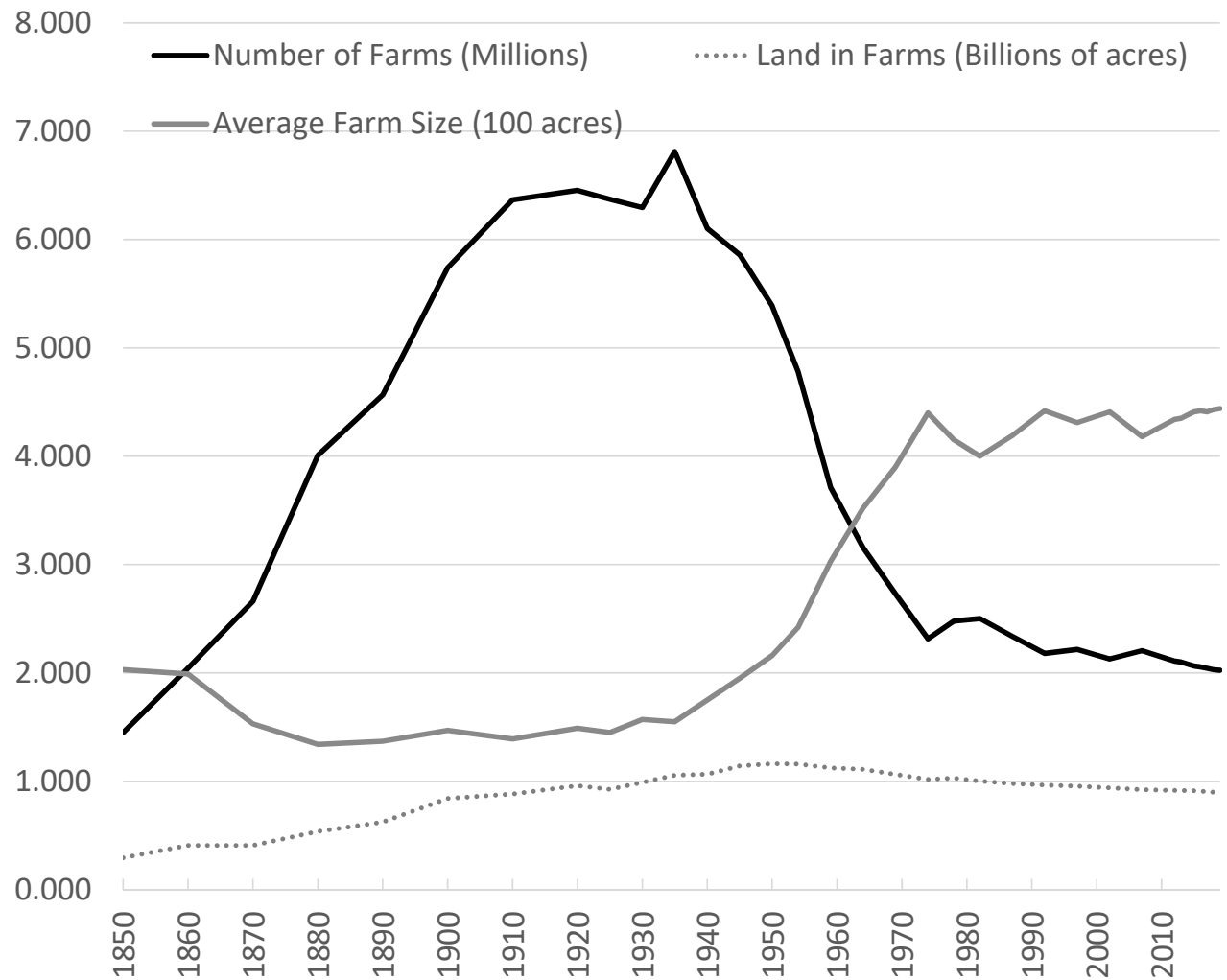
The Food Industry is a perfect example of the problems with modern U.S. capitalism

- Industrial sabotage of big agriculture and big food
 - Increasing monopoly power in farming, farm inputs, food manufacturing
 - Supported and even encouraged by the USDA, FDA
 - Government works at the behest of industry
 - Industry lobbyists write legislation
 - Massive subsidies for big players
- Modern Food Industry:
 - Produces flavorless, unhealthy, inexpensive meat and vegetables in an unsustainable manner
 - Shapes those flavorless, unhealthy items into irresistible, unhealthy, flavored, ultra-processed “food-like” items sold in supermarkets and restaurants

Dramatic changes in farming from 1850-2019

- 70 years ago, most Americans got their food in small markets from local family farms
- Move to industrial farming was rapid and dramatic
- Similar to other shifts from small business production to mass production
 - Small shops to national retailers to Amazon
- 2019, largest 3.9% of farms owned 25.4% of farmland, generated average sales in excess of \$1 million on property averaging 2910 acres in size, received most subsidies

Figure 1. Farms, land in farms, and average acres per farm, 1850-2019.



Industrialization, & the Alienation of farmers from nature

- Farmers used to be intimately connected to land, animals
- Huge, conglomerate farms employ industrial methods
 - 10,000+ acres
 - Specialized, low-wage labor utilizing heavy machinery
 - Specialization and de-skilling
 - Monoculture
 - Heavy use of nitrogen fertilizer
 - From petroleum
 - Heavy use of pesticides
 - Heavy use of herbicides (Roundup, Dicamba)
 - To eliminate weeds
 - No attention to soil health, environment



Problems from industrial agriculture

- Sustainability
 - IPCC: Agriculture contributes 21-37% of total greenhouse gases
 - Nitrogen fertilizer (petroleum), destruction of forests, machinery, shipping, methane from feedlots & rice, reductions in carbon sequestration in soil
- Soil erosion and reduction in soil productivity
 - Huge amounts of topsoil wash away each year
 - Soil needs more than a decade to recover from industrial practices
- Destruction of beneficial insects, especially pollinators (bees, butterflies)
 - Bee colony collapse
 - Monarch butterfly collapse
- Toxicity
 - Increasing cancer rates
 - Tied to Glyphosate (Roundup), Dicamba pesticides
 - Celiac, gluten intolerance (Roundup)



Decline in quality of meat

- Each year, 100 die from E.coli and 420 from salmonella, mostly from industrial meat
 - Even though we wash industrial meat with bleach
 - Other countries do not have these problems
- To increase profits, companies emphasize:
 - Speed of weight gain, volume
 - Schatzker (2015, 25): “If humans grew as fast as broilers, a 6.6-pound newborn baby would weigh 660 pounds after 2 months.”
- What is left out:
 - Nutrition
 - Much higher fat content; less nutrients
 - Flavor
 - Baby chickens much less flavorful than older chickens
 - Animal well-being
- Results:
 - Cheap meat
 - Disease outbreaks



“Free Range” chickens

Decline in quality and nutrition of vegetables

- To increase profits companies emphasize:
 - Volume of production
 - Sturdiness in shipping, long shelf life
 - Cosmetic appearance
- What is left out:
 - Flavor & Texture (bland, woody fruits, veg)
 - Nutritional value:
 - 6-38% decline in vitamins and minerals
- Results:
 - Flavorless tomatoes picked green and ripened with ethylene gas
 - Flavorless strawberries with a tough texture
 - Mealy apples coated and polished with wax



“Farm fresh” tomatoes

Rise of Ultra-Processed Foods (UPFs) & Obesity

- UPFs primarily consist of rearrangements of high fructose corn syrup, soybean oil, rice and wheat
 - Flavored with salt and copious amounts of chemical flavorings
- UPFs now dominate US diets, accounting for 57.5% of calories
 - But, UPFs are associated with less protein, fiber, vitamins and minerals, and more sugars, carbs and saturated fats.
- NIH Study comparing health people given UPF or whole food diet
 - Diets were matched in terms of percentages of carbohydrates, fats, proteins, sugars, fiber, sodium and nutrients
 - Participants were allowed to eat as much as they wanted on either diet
- Subjects on UPF diet consumed 508 more calories per day, gained one pound per week
 - Which they lost when they switched to the whole food diet
- Other studies also found a significant link between UPFs and being overweight
 - Obesity is a leading cause of heart disease, stroke, type 2 diabetes, certain types of cancer

Drive to maximize “stomach share” results in products designed to be addictive

- Evolutionary process shaped human beings
 - Stock up on food when it is plentiful, so you can weather the lean times
 - Cravings for sugar, fat and other high calorie foods
 - When you diet, your body thinks a famine is happening, reduces your metabolism
- Companies manipulate this very effectively in “hyperpalatable” UPFs
 - Add sugar to everything
 - Yogurt and spaghetti sauce have more sugar than ice cream
 - Add fat into everything
 - Fast food companies add extra fat to meat (McDonald’s hamburger was once 50% fat!)
 - Add salt and flavoring to everything to find the “bliss point”:
 - “pique the taste buds enough to be alluring but don’t have a distinct, overriding single flavor that tells the brain to stop eating” (Moss 2013)
 - Flavors are now added to fruits, vegetables, raw meat, butter

Vanishing caloric density using soy, wheat, corn

- Engineer foods to be light and airy so our bodies tell us we haven't eaten anything
 - Cheese puffs, potato chips, cookies, snacks
- Use the crops most heavily subsidized in the farm bill (soy, wheat and corn)
 - Most processed foods are endless re-combinations of these three ingredients



Lie about health content of foods

- “Fritos Corn Chips Can Fit into a Healthier Lifestyle. Fritos corn chips are cooked in corn oil. Corn oil, like olive, canola and sunflower oil, is predominantly made up of unsaturated fats...”
 - Sun chips are labeled “Heart Healthy”
- Distortions of health literature demonstrating that vegetable oils are slightly better than lard and other saturated fats when it comes to heart disease



Nutrition Facts	
Serving size	About 16 chips (28g)
Amount per serving	
Calories	140
	% Daily Value*
Total Fat 6g	8%
Saturated Fat 0.5g	3%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 110mg	5%
Total Carbohydrate 19g	7%
Dietary Fiber 2g	9%
Total Sugars 2g	
Includes 2g Added Sugars	3%
Protein 2g	
Vitamin D 0mcg	0%
Calcium 10mg	0%
Iron 0.6mg	2%
Potassium 70mg	0%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Is Industrial Organic Food Better?

- E.g., are natural toxins better than artificial toxins?
 - Sometimes yes, but in many cases, no
- Industrial organic crops are now mass produced just like non-organic groups
 - Using monocrops, huge sprayers, etc.
- Still better for our health, but not necessarily much better
- Industrial “natural” flavorings are not generally healthier or safer than chemical “artificial” flavorings
 - Vanillin from pine cones is no better for you than Vanillin from chemicals

Results of industrial food

- Poor quality, unsafe food
- Obesity, diabetes, high blood pressure, other health problems
 - Our bodies are fooled into thinking this is food
 - But we are still hungry after eating because the food does not meet our nutritional needs
- Climate change
- Devastation of rural farming communities



Movement towards alternatives

- Polanyi: Social progress occurs when coalitions form within communities to demand change
- Consumers demanding healthier options
 - Consumer cooperatives
- Workers demanding better conditions
 - Cesar Chavez and United Farm Workers
- Communities developing alternatives
 - Farmer's markets increasing rapidly
- Farmers offering alternative options
 - Community Supported Agriculture
 - 3700% increase since 1980s
 - Networks of CSAs
- Restaurants offering alternatives
 - Farm to table
 - Fast casual



Additional efforts

- Hospitals prescribing healthy food to address health conditions
 - Geisinger Fresh Food “Farmacy”
- Employers subsidizing CSA shares to encourage healthy eating as part of wellness campaigns
- Taxes on sugary drinks in cities
 - Removal of sugary drinks from schools, hospitals
- Warning labels on UPFs (France, EU)
- Universities with farms (Dickinson)
 - Design technology for organic farming

Food can serve as a rallying point for alternative economic models

- Elk Creek Café & Aleworks, Millheim, PA
- Groundworks Farm CSA cooperative in Millheim
 - Vegetables, fruits, raw milk, cheeses, meats, herbs, flowers, breads
- Bucknell Farm / Student CSA Work
 - Teaching about Food has been much more effective in persuading students of the need for a different type of economic system



Thank you!