



PHOTOS BY CYNTHIA VAGNETTI

4 | THE HIGH COST OF CHEAP FOOD

Summary

This session addresses how policies impact the price and cost of food. Through a game-like simulation, you will examine the hidden environmental and social costs of producing food in different ways. Guided reading selections help you understand some basic ways the U.S. Farm Bill impacts food production and food prices.

Author's note: The issue of subsidies and their impacts is too complex to address in a single session. This session provides an introduction with the aim of familiarizing you with some of the basic economics of price and cost. An additional session on subsidies is tentatively planned as part of potential curriculum expansion. This session is designed to provide a deeper look at corn subsidies and their role in meat production, the environment, food prices, consumer health, and foreign trade policy.

Guiding Questions

- What is the difference between price and cost?
- What policy factors affect the price of food?
- What is the U.S. Farm Bill? What type of programs does it support?
- What has value in the food system? What is worth supporting?

Activities

- 1) Price, Cost and Value: What's the difference? (discussion)
- 2) The Real Cost of a Meal (subsidies game)
- 3) What's Worth Supporting? (small group activity)
- 4) Before the next session (optional)

Activity 1) Price, Cost, and Value: What's the difference?

- Think of the best meal or eating experience you ever had. What made it memorable?
- Now think of the most expensive meal you've ever had. Is it the same as your response above? If your responses are different, what made the 2nd meal expensive?
- What observations can you make on the difference between the satisfaction you get from something and the price you pay for it?

Price, Cost and Value

Imagine you are a fruit lover with a bowl of freshly picked berries. You savor each one and indulge in the delicious flavors and aromas. The fruit is more than nourishment; it is pleasure and delight. Chances are the overall enjoyment you gained from it outweighed the actual price you paid.

This example highlights three important economic concepts: **price, cost and value**.

- **Price** is the amount of money paid for a good or service.
- **Costs** are the impacts on workers, the environment, and the community that are not directly reflected in the price. (Example: Carbon emissions are a negative environmental cost of transporting the berries.)
- **Value** represents overall worth or benefit (“utility”) gained from a product or service. This is called “use value” by economists, and is differentiated from “exchange value,” which represents what an item could be exchanged for. (Example: The berries’ exchange value was two peaches, or perhaps a dollar.) “Exchange value” is closely related to price. Note, however, that not all things with a high “use value” have a price (examples: family, beauty, kindness) (Daly & Farley, 2004).

In the following activities, you will examine how public policy impacts the economics of food, the prices consumers pay, and the indirect costs within food systems. In doing so, you will also consider what elements of the food system have true value for you, and the choices you can make to support this.

Activity 2) The Real Cost of a Meal (Subsidies Game)

Set Up:

This activity explores the real cost of two meals:

- **Meal A** represents a fast food meal of a burger, fries, and soda or milkshake.
- **Meal B** represents pasture-grazed meat, bread made with organic wheat, and local vegetables.

You will play with a group of four people, with two people each representing Meal A and Meal B. Your pair will receive a set of cards that lists specific items that contributed to the **Total Cost** of your meal.

Find your “TOTAL COST OF MEAL” card (it’s shaded) and place it face up in front of you. Then shuffle the rest of your cards and place them face down in front of you. (Cards follow; your facilitator will have copied and cut them out ahead of time. Do not look at cards ahead of time.)

You will also receive a set of ten tokens to represent your pair’s Private Money; A and B pairs each receive ten different tokens. Your group of four will also receive and share ten other tokens placed into a cup labeled **Public Wealth**. In this game, **Public Wealth** a general category that includes public funds (such as tax money) and public well-being (such as environmental health, strong communities, etc.).

The Play:

Meal A and Meal B teams will take turns placing one of their meal cards face up on the table and reading it aloud. (Meal A plays a card, then Meal B, etc. The order the cards come up is not important.) Each time, players must follow the action prompt on the card. As noted, each card lists a specific item that contributed to the **Total Cost** of the meal. This includes direct **price** items (such as the price of the wheat for the bun), **subsidies**, or **indirect costs** (negative impacts), or **benefits**.

Types of cards and prompts are as follows (and are summarized on the cards):

Type of card	Action prompt
Price: These are items that directly contribute to the price the consumer (you) pays.	Pay one of your Private Money tokens onto the Total Cost card.
Subsidy: These are items that are supported by public funds (i.e., from the Public Wealth pile).	Take a token from the Public Wealth pile and add it to your Total Cost card. This represents the “payment” from the public funds.
Indirect Cost: These are items that have an indirect negative impact on the environment and/or society (i.e., public wellbeing).	Take a token from the Public Wealth pile and add it to your Total Cost card. This represents the indirect way the public “pays” for these impacts.
Benefit: These are items that directly or indirectly benefit or add value to the environment and/or society.	Pay one of your Private Money tokens into the Public Wealth cup. This represents your contribution to public well-being.

After all cards are played, continue by tallying up the different categories as shown on the following page.

Debriefing after the play

After all the cards have been played, you will report out the following figures as the facilitator records on the board. (You can record figures below or just follow along.)

Item	Meal A	Meal B
Price (The total number of tokens you “paid” from your Private Money and into the Total Cost pile.)		

- Which meal was more expensive from a price standpoint? Why?

Total Cost (The number of tokens on your Total Cost pile; these are tokens “paid” from your Private Funds as well as from the Public Wealth piles.)		
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- Which meal had a higher total cost? Why?

Subsidies and Indirect Costs (The number of tokens taken out of the Public Wealth pile and placed into your Total Cost pile.)		
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- Which meal had more subsidies?

Benefits (The number of tokens you paid from your Private Money into the Public Wealth pile.)		
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- Which meal contributed more to public well-being? How?

Discussion questions:

- How could you change the game so that Meal B is less expensive from a price standpoint?
- What else could you do to make the price of each meal more accurately reflect the cost of each meal?
- What do you think might happen if more people chose Meal B?

After the game, continue with the one-page summary of key concepts that follows the cards.

Cards for Meal A: Cut apart. See references section for citations and additional explanations.

Meal A	Meal A	Meal A	Meal A
Price: The price of corn-based feed for the cow contributes to the amount you pay for the meal. Pay one Private Money token into the Total Cost pile.	Subsidy: The corn in the animal feed received federal subsidies. You paid for these subsidies indirectly through public taxes. Take one token from Public Wealth pile and "pay" into the Total Cost pile.	Subsidy: High fructose corn syrup in the milkshake is made from corn that received subsidies. Take one token from the Public Wealth pile and "pay" into the Total Cost pile.	Price: The price of the potatoes for the French fries contributes to the amount you pay for the meal. Pay one Private Money token into the Total Cost pile.
Meal A	Meal A	Meal A	Meal A
Indirect Cost: Grain-fed cows in feedlots produce more methane gas than pasture-raised cows in a well managed system. Methane contributes to climate change, which creates environmental impacts that everyone "pays" for. Take one token from the Public Wealth pile and "pay" into the Total Cost pile.	Indirect Cost: Subsidized corn production contributes to use of high fructose corn syrup in processed foods. Diabetes and obesity negatively impact public health. Take one token from the Public Wealth pile and "pay" into the Total Cost pile.	Indirect Cost: Potential reduction in property values in homes located near a Confined Animal Feeding Operation (CAFO) where the cows were raised. Take one token from the Public Wealth pile and "pay" into the Total Cost pile.	Benefit: Fast food restaurant pays property taxes to local community and provide jobs. Pay one Private Money token into the Public Wealth pile.
Meal A	Meal A	Meal A	Total Cost of Meal A
Indirect Cost: Carbon emissions are created from manufacturing nitrogen fertilizer to produce conventional corn for animal feed. Take one token from the Public Wealth pile and "pay" into the Total Cost pile.	Indirect Cost: If not managed effectively, diversion of contaminated run-off from nutrient-rich livestock operation can empty into waterway and cause a fish kill. Take one token from the Public Wealth pile and "pay" into the Total Cost pile.	Indirect Cost: Working conditions in some meat-packing facilities contribute to a high rate of injuries. Take one token from the Public Wealth pile and pay into the Total Cost pile.	Place tokens here for Total Cost pile

Cards for Meal B: Cut apart. See references section for citations and additional explanations.

Meal B Price: Added labor costs for organic farming directly contributes to the amount you pay for the meal. Pay one Private Money token to your Total Cost pile.	Meal B Price: The pasture-raised cows need additional space and time to be raised. This directly contributes to the amount you pay for the meal. Pay one Private Money token to your Total Cost pile.	Meal B Price: The farmer requires extra time and new inputs to transition to a pasture-fed and organic system. This contributes to the amount you pay for the meal. Pay one Private Money token to your Total Cost pile.	Meal B Subsidy: Farmers benefit from public infrastructure including roads, sewers, and storm drains. Take one token from the Public Wealth pile and "pay" into your Total Cost pile.
Meal B Indirect cost: Carbon emissions are created through the transport of food to market and processing facilities. Take one token from the Public Wealth pile and "pay" into your Total Cost pile.	Meal B Benefit: Many organic farming methods can help to maintain biodiversity and water quality. Pay one Private Money token into the Public Wealth pile.	Meal B Benefit: Pasture-raised cows in a management intensive grazing system release less methane gas than cows raised in a feedlot, reducing a greenhouse gas that is more potent than carbon dioxide. Pay one Private Money token into the Public Wealth pile.	Meal B Price: Organic bread is made from a large-scale organic wheat farm. The price of the grain to make the bread directly contributes to the amount you paid for the meal. Pay one Private Money token into your Total Cost pile.
Meal B Benefit: Extra labor needed for organic vegetable production employs more people and increases the local rate of employment. Pay one Private Money token into the Public Wealth pile.	Meal B Benefit: The local economy is strengthened as the farmers work with a local food processor and cooperative grocery to process and distribute their product. Pay one Private Money token into the Public Wealth pile.	Meal B Benefit: Vegetables from local farms available at a farmers' market benefit consumers' health by increasing their access to fresh and healthy foods. Pay one Private Money token into the Public Wealth pile.	Total Cost of Meal B Homemade dinner of pasture-raised meat, organic bread and vegetables. Place tokens here for Total Cost pile

A review of concepts raised in the subsidy game simulation

The simulation illustrated some basic concepts related to the economics of food, especially as it affects U.S. consumers. By comparing two meals, the goal of this activity was to reveal how subsidies can impact the price of food and mask many of the indirect costs embedded in a food system. A summary of key concepts appears in the table:

Concept: Definition	Example from the Subsidies Game Simulation
Price is the amount of money paid for a good or service.	<p>The tokens paid from your Private Money pile to the Total Cost of your meal, represents the amount of money an individual consumer would pay for that meal. Consumers of Meal B paid more from their Private Money pile in total because the meal involved more direct costs (time, inputs, labor to produce pasture meat and local and organic ingredients).</p> <p>On the other hand, the price paid for Meal A was lower because some items were subsidized by the government. In addition, many of the indirect costs associated with this meal were not directly reflected in the price.</p>
Costs are indirect impacts on workers, the environment, and the community that are not directly reflected in the price a consumer pays.	<p>Negative health impacts (such as obesity) that are more likely to arise from Meal A are an indirect cost that affects individuals and the public because the public helps pay for health care through programs such as Medicare and Medicaid. In 1998, for example, public expenditures to treat conditions associated with obesity were \$24.5 billion (Finkelstein et al., 2003.) In this activity, the indirect cost of health care to treat increasing rates of obesity was not an individual's personal expense, but one that was "paid" for by the Public Wealth.</p>
Subsidy is financial support (either direct or indirect) that offsets the price of an activity. This activity focuses on federal subsidies.	<p>Corn, an ingredient in animal feed and soda (in the form of high fructose corn syrup) is subsidized through payments to farmers. This has the effect of lowering the price of items made with the corn.</p>

Related concept

Tax is a fee that must be paid to the government.

Taxes are one of many policy tools that can be used to adjust prices so they better reflect full costs. For example, some health experts have proposed a health tax on "junk" foods to help pay for the health impacts that can result from excessive consumption of these foods.

Activity 3) What's Worth Supporting?

Overview

The game in activity two introduced some basic economic concepts of price, cost, and value in the context of a food system. It highlighted many of the indirect costs and benefits that impact the environment, public health, and community wellness that are not reflected in the actual price of food. The game also highlighted the concept of subsidies: payments by the government which support specific practices or activities. In this activity, you will apply this knowledge to consider what types of food system approaches are worth supporting, and how you would allocate federal dollars if given the chance. The activity begins with a basic introduction to the U.S. Farm Bill, the major piece of federal legislation impacting the food system, and highlights the role of subsidies to support commodity crops such as corn. Review the reading as instructed by your facilitator, then continue to Part B.

Part A: Introduction to the Farm Bill: *What does the government support?*

Why is “junk” food often so cheap? Why does pasture-fed meat cost more than corn-fed meat? Why is soda pop often less expensive than bottled water?

The price of food is affected by many factors including the cost of inputs, weather conditions, and supply and demand factors (prices tend to rise when supply is down and/or demand is up)¹.

Governmental policies (law and regulations) can also affect prices in the food system. In the US, the Farm Bill is the major piece of federal legislation that affects how food is grown and the economics of price and cost. The first Farm Bill dates back to 1933 during the Great Depression, and the legislation typically been revised every four to six years; the latest Farm Bill (as of this writing) was passed in May 2008. (Source: United States House of Representatives)

The Farm Bill provides funding for a variety of programs; the 2008 Farm Bill has a \$300 billion budget through 2013. Some Farm Bill programs directly affect consumers and families; examples include food stamps and nutrition programs. These programs account for the largest share of the Farm Bill’s budget. Other Farm Bill programs affect farmers; these programs include conservation, crop insurance, agricultural research, and production of commodities. The following section focuses on the programs affecting farmers, as these programs relate to the concepts of subsidies, price, and cost introduced earlier in this lesson.

Programs affecting farmers

Conservation, Disaster Relief and Commodities are among the key programs impacting farmers.

- *Conservation programs* includes efforts to support restoration of wetlands or grasslands, with the goal of reducing floods, improving water quality, reduce soil erosion, or providing recreation. The 2008 Farm Bill increases spending in this area by over \$4 billion (American Farmland Trust, 2008).
- *Disaster relief programs* provide compensation for crop or livestock losses from drought, insect infestation or other “natural disasters.” The 2008 Farm Bill allocates \$23 billion for crop insurance through 2013.
- *Commodities (crop) subsidies programs* provide support for staple crops such as corn, soy, wheat, cotton and rice. As of 2007, these crops received more than 90% of all farm subsidies (Riedl, 2007).

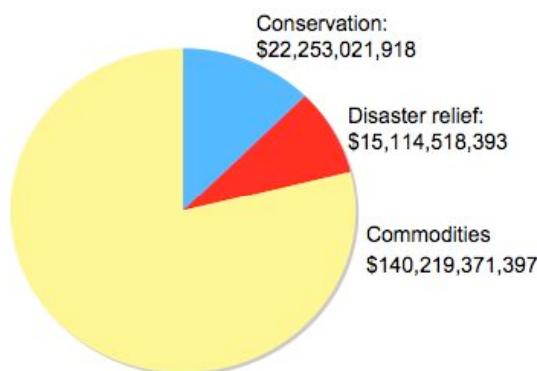
¹ Over the past decades, many aspects of food industry (especially meat production and seeds) have become increasing concentrated in the hands of fewer corporate players, calling into question the extent to which there is a “free market” in which supply and demand function well (Hedrickson & Heffernan, 2002).

Broadly speaking, the subsidy programs aim to support prices, supplement farmers' incomes, and manage supplies.

Of these three categories of subsidy programs, commodity (crop) subsidies have historically received the heaviest share of support. The pie chart compares the spending on budget for each area between 1995 and 2006. Within that time (1995—2005), corn producers received \$50 billion and soybean producers, \$13 billion (Environmental Working Group, 2006).

Supporters of these commodity (crop) subsidies say that they help ensure an abundant supply of reasonably priced food while helping family farmers.

USDA Subsidies for Farms in the US from 1995-2005; Conservation, Disaster Relief and Commodities



But critics point out that the majority of subsidies go to farms with an average income of \$200,000 (Riedl, 2007; Wise, 2005; Environmental Working Group 2006). As of 2006, large family farms (defined by the USDA as those with revenue of more than \$250,000) accounted for 7% of all farms, yet received about 50% of government subsidies (USDA ERS 2006; Gaul et al 2006). Supporters say these payments are justified since these large farms account for about 60% of agricultural production (as measured in price) (American Farm Bureau, 2008).

The distribution of the commodity (crop) subsidies is not the only criticism; opponents also point to unintended environmental, health and social impacts (costs) that are “paid” for indirectly by consumers, farmers, animals and the environment. As illustrated in this lesson’s simulation game, some of these criticisms include:

- Environmental impacts of growing corn with synthetic nitrogen fertilizers. In addition to requiring fossil fuels to produce these fertilizers, excessive nitrogen can run off into waterways where it stimulates excessive algae growth that can choke off other life forms.
- Environmental impacts from raising beef cattle in confined animal feeding operations. The manure from these facilities is rich in nitrogen and can pollute waterways if not managed effectively.
- Health impacts of diets rich in unhealthy foods. Obesity and diabetes have emerged as major health problems in the US that studies have shown to be affected by diet.

Changes in the 2008 Farm Bill

At the time of this writing, early analysis of this bill indicates that there has not been significant reform in the distribution of commodity subsidies. For the most recent information and news about the 2008 Farm Bill from the US Department of Agriculture, visit their website at: <http://www.usda.gov>; choose or search for 2008 Farm Bill. The USDA Natural Resource Conservation Service also has information and updates about the conservation programs of the 2008 Farm Bill on their website at: <http://www.nrcs.usda.gov/programs/farmbill/2008/>. The complete text can be found at <http://agriculture.house.gov/inside/FarmBill.htm>. The Congressional Budget Office has an overview of spending by program area (“title”): <http://www.cbo.gov/showdoc.cfm?index=9061&sequence=0&from=6>

See the references for additional sources of analysis.

Activity 3) What's Worth Supporting?

Part B: Budget allocation

Overview: In this activity, you will allocate a fictional budget to support elements of the food system you most value.

Directions

1. On another piece of paper, jot down some of the practices or approaches you most value in a food system. Use these questions as prompts:

- Which practices or approaches would bring the greatest benefit to you? To your community? To farmers? To other stakeholders you value?
- What practices, approaches or program would strengthen individual health, environmental well-being, and the local economy?
- What specific types of programs would you create to carry out your values?

2. Now imagine you controlled the federal budget for supporting food- and agriculture related programs. If the entire budget is represented by \$100, what would you spend it on? Who would benefit? How would you divide the funds?

Create a pie chart or bar graph that shows your budget allocations and who or what would benefit. You can come up with your own programs or categories or use some of the ones below. Be ready to present and justify your choices. Sample categories:

- Conservation programs: Programs to help farmers implement methods that protect soil, land and water.
- Emergency relief: Programs to help farmers overcome drought, floods, heat waves, ice storms and related events that can affect animals and crops.
- Commodity subsidies: Financial support to encourage specific crops or animal-raising practices. (What crops or practices would you choose?)
- Health and nutrition: Programs to help individual consumers purchase healthy food.
- Community programs: Examples: Programs that would support farmers' markets or farm to school programs, or program that would establish local grocery stores in areas lacking them.

4) Before the next session: Extend your learning (optional)

- Learn more about the Farm Bill using the resources in the following section.
- Find out about programs or policies at the state or local level that are affecting your community or family right now. Examples of policies: local support for farmer's markets; regional or state farm-to-school programs; state programs for farmers to promote conservation farming practices; local programs to promote access to fresh food. (See Session 6 for additional topics). Find a promising practice or program and bring in information to share with other participants at your next session.

References for Session 4: The High Cost of Cheap Food

Note: Citations on cattle raising are presented first in support of the subsidies game, with additional explanation provided as needed. Additional analysis on the Farm Bill is presented next, followed by a general list of citations for the session.

Cattle Raising in Confined Animal Feeding Operations (CAFOs)

Tonsor, Dr.G. (2007). Animal Agriculture and the Environment: Economic Impacts of Hog Operations. Michigan State University Extension. Retrieved July 1, 2008, from http://www.msue.msu.edu/objects/content_revision/download.cfm/revision_id.432774/workspace_id.-30/Economic%20Impacts%20101607.pdf/

Harrigan, Dr.T., Davis, Dr. S., Jacobs,L., & Rose, Dr. J. (2008). Animal Agriculture and the Environment: Water Quality. Michigan State University Extension. Retrieved July 1, 2008, from http://www.msue.msu.edu/objects/content_revision/download.cfm/revision_id.376789/workspace_id.27335/Tech%20Bulletin%20Water%20Quality.pdf/

For more information, please visit the following websites:

Association of State and Interstate Water Pollution Control Administrators: www.state-cafos.org

Congressional Research Service (“Animal Waste and Hazardous Substances”):
www.ncseonline.org/nle/crsreports/07May/RL33691.pdf

Indiana Land Resources Council – Model Ordinances: www.in.gov/isda/2586.htm

Livestock and Poultry Environmental Stewardship: www.lpes.org/CAFO.html

Purdue University - Concentrated Animal Feeding Operations: <http://128.210.145.21/CAFO/index>.

U.S. Centers for Disease Control and Prevention: www.cdc.gov/cafos

U.S. Environmental Protection Agency: www.epa.gov/guide/cafo

Cattle raising and methane production by cows: summary explanation

Summary: Fermentation of food in the gut of beef and dairy cattle produces methane (CH4) gas. This methane is lost feed energy that could have been used to produce meat or milk. Methane is also a gas contributing to climate change, and is about twenty times more potent than carbon dioxide (EPA, 2006). In general, improving nutrition and management of cattle can reduce the amount of methane produced, and divert more of the food energy to production of meat and milk. A well-managed pasture-fed cattle can be healthier than a cattle fed an intensive grain-based diet in a confined feeding situation, largely because the animals' digestive system is designed for grazing; this means better digestion and health, and less intestinal gas. Methane from grain-fed cattle can be reduced by not overfeeding, using high quality ingredients, and maintaining proper animal health.

Cattle Raising and Methane

Boadi, D. & Wittenberg, K. (March 4, 2004). Feeding practices can reduce methane production from cattle operations! Department of Animal Science. University of Manitoba. Retrieved July 1, 2008, from <http://www.umanitoba.ca/afs/fiw/040304.html>

Henderson, G. (2007, October 16) Livestock's long shadow? *Drovers* ("American's Beef Business Source"). Retrieved July 1, 2008, from
http://www.drovers.com/news_editorial.asp?pgid=717&ed_id=4354

United States Environmental Protection Agency Methane Science page (2006). Retrieved July 6, 2008, from <http://www.epa.gov/methane/scientific.html>

2008 Farm Bill: Additional analysis

- Well-known activist and writer Michael Pollan shares his initial impression of the 2008 Farm Bill: "After many, many months of wrangling, the bill was just passed by Congress, overriding a veto by the President. In my view, it is not a very good bill-- it preserves more or less intact the whole structure of subsidies responsible for so much that is wrong in the American food system. On the other hand, it does contain some significant new provisions that, with luck, will advance the growing movement toward a more just, sustainable, and healthy food system."
(<http://gristmill.grist.org/story/2008/6/4/43736/55179>)
- "The Center for Rural Affairs opposed passage of the new farm bill because it commits the federal government to subsidizing the destruction of family farming for another five years and invests little in the future of rural communities. The bill does have some good provisions – including a rural microenterprise program, livestock reforms, beginning farmer provisions, grants for value added agriculture, and strong conservation programs. Those positive features are overwhelmed, however, by subsidies for mega farms to drive smaller operations out of business."
(<http://www.cfra.org/newsletter/2008/05/overview-2008-farm-bill>)
- The American Farm Bureau supported the passage of the 2008 Farm Bill and has their summary of the bill on their website at: <http://www.fb.org/issues/docs/farmbill08.pdf>

General references for this session:

Becker, G.S. (2002). Farm Commodity Programs: A Short Primer, a Congressional Research Service Report for Congress. Farm and Foreign Agriculture Services. Retrieved June 20, 2008, from
http://www.edf.org/documents/4993_CRSReport.FarmCommodityProgramsPrimer.pdf

Chite, R.M. (1998). 98-682: Farm Disaster Assistance: USDA Programs and Recent Legislation Action. National Library for the Environment. Retrieved June 29, 2004, from
<http://digital.library.unt.edu/govdocs/crs/permalink/meta-crs-639:1>

Drewnowski, A. & Specter, S. E. (2004). Poverty and Obesity: The Role of Energy Density and Energy Costs in the American Diet. *American Journal of Clinical Nutrition* 79 (January 2004), 6-16.

Environmental Working Group Farm Subsidy Database (2006). Retrieved July 1, 2008, from
<http://farm.ewg.org/farm/regionsummary.php?fips=00000>

Finkelstein, E.A, Fiebelkorn, I.C, & Wang, G. (2003). National medical spending attributable to overweight and obesity: How much, and who's paying? *Health Affairs*; W3; 219–226. Retrieved June 12, 2008, from <http://content.healthaffairs.org/cgi/content/full/hlthaff.w3.219v1/DC1>

Calculations are based on data from the 1998 Medical Expenditure Panel Survey (MEPS) merged with the 1996 and 1997 National Health Interview Surveys, and health care expenditures data from National Health Accounts (NHA). MEPS estimates do not include spending for institutionalized populations, including nursing home residents.

Gaul, G., Cohen, S.M. & Morgan, D. (2006). Federal Subsidies Turn Farms Into Big Business. *Washington Post*. Thursday, December 21.

Gurian-Sherman, D. (2008, April). CAFOs Uncovered. The Untold Costs of Confined Animal Feeding Operations. Union of Concerned Scientists. Cambridge: UCS Press.

Halwell, Brian. Why no one wins in the global food fight. *Washington Post*, Sept. 21, 2003.

Hendrickson, M. & Heffernan, W. (2002). Concentration of Agricultural Markets. Department of Rural Sociology, University of Missouri.

Hendrickson, M. and W. Heffernan (2005). Concentration of Agricultural Markets. Columbia, MO, Department of Rural Sociology, University of Missouri: 4.

Hoppe, R.A., Korb,P., O'Donoghue, E.J. & Banker, D.E. (2007). Structure and Finances of U.S. Farms: Family Farm Report, Economic Information Bulletin No. (EIB-24) 58 pp (2007, June). United States Department of Agriculture. Retrieved June 29, 2008, from <http://www.ers.usda.gov/Publications/EIB24/>

United States Department of Agriculture. (2006). Budget Summary 2006- Farm and Foreign Agriculture. Retrieved June 12, 2008, from www.usda.gov/agency/obpa/Budget-Summary/2006/06.FFAS.htm

United States Department of Agriculture Economic Research Service, Agricultural Resources Marketing Survey. (2008). Corn Prices Near Record High, But What About Food Costs? *Amber Waves*, February 2008. Retrieved June 16, 2008, from www.ers.usda.gov/AmberWaves/February08/Features/CornPrices.htm