The Political Economy of US Soybean Production: From Subsidies to Supermarkets

Objective(s)

• Trace US soy production from its role as an obscure cash crop to it becoming the dominant food oil seed and livestock feed source.
• Explain the US food subsidy system and how it shapes the American diet
• Offer context to the changing uses for American soybeans and the US position in the global soybean industry

Summary of Findings

• Because of their ability to make food oil inexpensive, soybean subsidies have encouraged food manufacturers to incorporate the commodity into their products at staggering levels
• Farm Bills are the primary mechanisms for implementing modern food subsidies. Despite the economic inefficiencies in food subsidies, a powerful agricultural lobby in combination with a decentralized voice of dissent has created bipartisan support for the bills.
• International demand for bio-fuels is reshaping the US role in global soy production
• The increase in soybean price as a result of bio-fuels will likely decrease the prevalence of soy products in American mass produced foods

Subsidization and the Rise of US Soy Production

In the 90 years between 1920 and 2010, the United States went from a country that consumed virtually no soy, to the world’s leading soybean producer and exporter. In that time, soy production increased by 67 times, and it accounts for 75 percent of the fats and oils used in edible oil products. Early increases in production were due largely to wartime demand during WWII. This short-term demand increase does not explain the industry’s sustained growth. The continuation of federally sponsored programs emphasizing production expansion is largely responsible. Because of the growing powers of agricultural political interests, soybean subsidies have remained a central tenant of US agricultural policy and offered a major incentive to incorporate soy into the American diet.

Before WWII the US imported almost half of its fats and oils, predominately from Southeast Asian countries as well as China and the Philippines. The increasing need for larger supplies of agricultural commodities led to a shift from programs restricting production to programs emphasizing expansion. The first price support program for soybeans was authorized for the 1941 crop. The Commodity Credit Corporations

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1 http://www.ers.usda.gov/Briefing/SoybeansOilCrops/
2 Nestle, 129
subsidized farmers through nonrecourse loans. If prices fell below a certain level, farmers could choose to place their soybeans in the support program. With the encouragement of entrenched agricultural lobbying interests, the USDA soon began to promote the production of soybeans with complicated systems of guaranteed prices and subsidies that linger in one form or another to this day. With the implementation of these price supports, soybean production increased exponentially for thirty years, before maintaining a linear (albeit steep) annual growth rate (see fig. 1).

In 2003, American farmers harvested about 145 billion pounds of soybeans. Forty percent got exported. The solids ended up as 70 billion pounds of soy meal (90% used as feed, 10% used for human consumption). The fat became 18 billion pounds of oil, nearly all processed into margarine, salad oil and cooking oil. The USDA has claimed that soy production has risen in response to increasing world demand for soybeans and the derivative products oil and meal, but in that assertion, the agency neglects the fact that the presence of an artificially inexpensive source of food oil will construct demand around that commodity.

Subsidization and the American Diet

To investigate the political economic effects of subsidized agriculture one only has to look at the ingredient labels on popular processed foods. While most bakers use sugar to sweeten their confections and butter or cream for edible fats, Twinkies contain little of any of these ingredients. Instead they are sweetened with high fructose corn syrup and fattened with vegetable oil. Given that vegetable oil is almost entirely soy, Twinkies—like most cheap supermarket food—is made predominately out of subsidized food staples. Food science is so advanced that producers of highly processed foods engineer products based on the least expensive ingredients possible. These processed foods are scandalously cheap while the prices of healthier, unprocessed foods skyrocket.

The US subsidy farming system rewards the overproduction of cheap commodities, which are then maximized in food production to keep costs low. Once soybeans were inexpensive, they flooded into the American diet. While world demand for food oil inevitably increased, the USDA claim that soy production rose exclusively because of market forces, neglects the role that subsidized prices played in substituting soy for other food commodities.

Farm Bills and the Financing of Subsidized Soy

Farm Bills are the principle modern mechanisms by which food subsidies are maintained. Depending on the purview of the previous bill, farm acts are considered every two to six

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3 Nestle, 129
4 Nestle, 129
5 Nestle, 134
6 USDA 1988
7 75% percent of the fats and oils used in edible oil products are derived from soybeans.
http://www.nass.usda.gov/QuickStats/PullData_US.jsp
years, and outline government investment and regulation in American agriculture. In 2002 soybeans became a fully subsidy program meaning farmers were entitled to loan benefits, direct payments, counter-cyclical payments, and average crop revenue election payments. In the first year of the program, $607 million dollars were paid to soybean farmers, with a total of $3.6 billion paid to farmers between 2002 and 2007.8

The 2008 Farm Act authorized $40 billion dollars in total farm subsidies. Despite the taxpayer expense inherent in the bill, the economic inefficiencies resulting from the price tampering, and the resulting flood of processed sugars and fats in grocery foods, the bill met little congressional opposition. The Senate passed the 2008 Farm Bill by a vote of 77 to 15. Citing waste and inefficiency, President George W. Bush vetoed the bill only to have the senate override the veto by an even larger margin of 80 to 14.9 Assuming financial support and lobbying is important in influencing legislator voting habits, one only has to compare the volume of financial support for the Farm Act compared to those against it to explain the bill’s bipartisan support.

According to public records, special interests (that is individuals, corporations and political action committees) in favor of the bill contributed 779 times as much money to legislative campaigns around the passage of the bill than interests opposed to it.10 Interests supporting dairy producers, cotton growers, welfare advocates, banks and lending institutions, soybean growers, and scores of others donated nearly $50 million dollars to legislative campaigns around the time the bill was being considered. Citizens Against Government Waste was the only organization that made financial contributions in protest of the bill. Reports from the United Nations and WTO in 2007 criticized the US and other developed nations for their continued farm trade subsidies. Such subsidies, according to the reports, prevent fair competition from developing nations. 11

While the agricultural lobby is entrenched in Washington—along with legislative support of subsidies—few financially viable interests are working for change.

Trends in US Soy Production and Exportation and the Interests Behind Them

While farm subsides found in US Farm Acts do increase the chances of financial viability for some family soybean farmers, the relatively recent concentration of producers has minimized the scope of subsidies on small family farms. About half the number of farms grew soybeans in 2002 compared to 1982, while the size of individual farms is growing. As demonstrated in fig. 2, large farms make up a relatively small percentage of total farms, yet they produce about 80 percent of the total harvest. Because subsidies are given based on the level of production, mega-farms benefit the most.

Despite the economies of scale maximized by large corporate farming, the industry faces significant challenges. With the fast maximization of land resources and consumer

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8 American Soybean Association
9 http://maplight.org/us-congress/bill/110-hr-6124/339333/contributions-by-vote
10 http://maplight.org/us-congress/bill/110-hr-6124/339333/total-contributions
11 Washington Post
demand, US soybean planted area has likely peaked. Further, soy based products like margarine have come under fire by nutritionists for their high content of trans-fatty acids. Despite years of advocating the health benefits of margarine compared to butter, consumers are increasingly known to prefer the latter.

Compensating for the weak food demand are rapid gains in US production of biodiesel, which uses soybean oil as a primary ingredient. Because the US is not a large consumer of bio-fuels compared to other nations, a majority of current output is being exported. Within only a few years, biodiesel has grown to nearly 20 percent of the domestic use of soybean oil. Soy bio-fuel demand is exploding in many countries, most notably China (see fig. 3). To maximize on this expanded demand, soy producers and lobbyists are highly involved in US trade policy as well as tariff and other border measures.

While the US has long supported subsidization for the sake of food production, soybean farmers are losing their international market share because legislators are not as enthusiastic about subsidization for the sake of fuel. Livestock ranchers and food manufacturers have opposed soybean fuel subsidies, contending that the increased production of ethanol will raise the price of corn, animal feed and most of the processed food products on the shelves at grocery stores. Given that 90% of soybean solids are used as animal feed, other powerful agriculture lobbies have the will to push against soy growers. The American Soybean Association, the leading soy farmer advocacy group, lobbied congress to extend a biodiesel tax incentive through 2008, which raised soybean prices at least $2 per bushel over that time, but the measure was not enough to sustain US export dominance.

Despite the fact that compared to other agricultural commodities, trade in whole oilseed, particularly soybeans, is relatively unrestricted by tariffs, the US is rapidly losing international market share to countries with a greater commitment to financing soybean bio-fuel development. In 2008, Brazil announced record farm credits to encourage Brazil’s farmers to produce more while the prices of their exports are high on world markets. Brazil offered a $49 billion credit line to farmers, up 12% from the year before. The government’s main goals are to help producers expand onto available land and increase productivity on their current land.

While the US is not expected to see its gross exports in soybeans significantly decrease in the next decade, other countries with more aggressive export strategies are absorbing the increases in global demand (see fig. 4). The United States had about 80% of the world soybean export share in 1980, but by 2020 is expected to only have about 20%. Domestic soybean production may have peaked.

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14 Opensecrets.org
15 Downie
It is unclear what the increase in soybean prices due to bio-fuels will do to the amount of soy ingredients in mass produced foods. Given that food manufacturers can largely engineer products based on the prices of ingredients, it is likely that soy oil especially will remain staples in mass produced grocery items. Unless food subsidies are able to decrease the market price, manufacturers will likely find a less expensive substitute. As seen in fig. 5, the price of soybeans is expected to remain high for at least the next five years.
Appendix – Figures

fig. 1

US Soybean Production in thousands of Bushels
US Department of Agriculture – National Agriculture Statistics Service

- 2009: 336 million Bushels
- 1941: First soy Price support program
- 1924: 5 million Bushels
Breakdown of American Harvest

Major soybean importers

Million metric tons

- Mexico
- Indonesia
- Malaysia
- Taiwan
- South Korea
- China
- Japan
- European Union

Projections

USDA, Economic Research Service.

fig. 4

Global and U.S. soybean exports

Million metric tons

- U.S. exports
- Global exports
- U.S. share (right axis)
- U.S. export projections
- Global export projections

USDA, Economic Research Service.

fig. 5
U.S. soybean price

Dollars per bushel

USDA, Economic Research Service.
Sources


