THE ECLIPSE OF THE AMERICAN SMALL FARM: US AGRICULTURAL POLICY AND THE INDUSTRIAL AGRIFOOD SYSTEM

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by

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DEDICATION

Thank you, Mitchell Reese, for your support, antagonism and love. Someday, perhaps you and I will piece together a decent picture of the world.
The myth that bigger is better might be a harmless curiosity if it were only an academic prejudice or an article of faith among some farmers. But it is so widely accepted that it penetrates both public policy and individual behavior.

--Marty Strange

Family Farming
ABSTRACT OF THE THESIS

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This paper analyzes the impact of US agricultural policy—commodity programs (or farm subsidies), international food aid, federal income tax policy and federal farm credit programs—on the farm sector from 1933 to 1996. In these years, farm policies and programs had intricate effects on the pace and direction of farm modernization, the viability of the American small farm, and the development of modern agribusiness. Primarily, farm programs have sustained abundant surplus of certain farm commodities, mainly grains. Prices for these commodities have been kept low due to their abundance. This has profited the agribusiness firms that purchase and process them while returns to farmers have dwindled. Programs have sustained surplus by de-coupling production levels from production incentives through the supplement of farm prices and incomes. They continue to do so to this day. Farm subsidies are the beating heart of the industrial agrifood system. Though farm programs have been deployed with the ostensible aims of protecting small farms, they have actually created the conditions under which small farms languish and agribusiness thrives.

Other aspects of US agricultural policy have fueled the overcapitalization of the farm sector by incentivizing the mechanization and growth of farms beyond the dictates of efficiency. The decline of small farms is often justified in popular and academic discourse as a defeat by farms that are larger and more efficient. This is untrue, as larger farms are in fact less efficient but have been rewarded by the skewed distribution of commodity program payments since 1933. The advantages of programs for larger farms are sizable; most production in the industrial agrifood system occurs on farms which are large, less efficient and heavily subsidized, while the majority of small farms receive no government support. This conclusion directly contradicts prevailing theories concerning agricultural development in the 20th century, which mark capitalist development, the Green Revolution, and economies-of-scale as the source of growth in the farm sector, and the reason for the eclipse of the American small farm. This conclusion renders useful information for analysts of the industrial agrifood system and its attendant social, economic and environmental problems. This analysis shows that above all, the industrial agrifood system is not simply the due consequence of economic development, but the product of specific US agricultural policies and programs.
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CHAPTER 1

INTRODUCTION

The industrial agrifood system is the current system of the production and distribution of food in the US (Magdoff, Foster, and Buttell 2000, 11). It is marked by an oligopoly of powerful, integrated agribusiness corporations in nearly every sector of agriculture and food. Critics of the industrial agrifood system point to detrimental effects on consumers, agricultural employees, and the environment. Its most contested aspects are the concentration of agribusiness power, the decline of family farms, the drop in the overall number of farms, and growth of industrial (or large-scale, input-intensive) agriculture. Industrial agriculture has developed massive economies-of-scale; farm size and output have grown while the number of farms has declined. Analysts refer to this decline and to general problems in agriculture as the farm problem. Since 1933, the US has deployed farm programs and subsidy regimes to alleviate the farm problem and aid the small farmer.

However, US agricultural policy has nearly completely failed to help small farms. This failure goes beyond simple irony. This thesis is a case study of the impact of US agricultural policy on developments within the agricultural sector in 20th century America, from 1933 to 1996. I analyze the impact of four aspects of US agricultural policy—commodity programs, international food aid, federal income tax policy, and federal farm credit programs—on the farm sector. In particular, I examine how these policies influenced the pace and direction of farm modernization, facilitated the growth of agribusiness, and accelerated the decline of the American small farm. These policies and programs had

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1 In the industrial agrifood system, the production of food is primarily commercial, large-scale, and input-intensive. Food products are increasingly processed, reconstituted, or derived. Agricultural commodity markets and retail is dominated by large firms.

2 The term agribusiness refers to corporate and/or industrial firms in the agricultural and food sectors. The term was first used by John Davis, assistant agricultural secretary, but the term was popularized in the early 1970s in the Earl Butz confirmation hearings (Lauck 1996, 205).

3 The often indefinable categories of “small” farm and “family” farm are combined in this analysis and used interchangeably. Chapter five outlines these categories and their transient meanings throughout the 20th century.
immediate and long-term effects on the farm sector which, when taken together, show that US agricultural policy was instrumental in the development of the industrial agrifood system.

**THE FARM PROBLEM**

The US Congress developed modern agricultural policy to protect the small farm and the livelihood of the agricultural sector. Since the first farm programs in 1933 under the Agricultural Adjustment Act (AAA), federal farm policy is deployed to fix commodity prices, control production levels, and subsidize farmers. US farmers have been particularly susceptible to the vagaries and uncertainties of the free market, so much that the concept of an eternal farm problem was patented in the era of recurring farm crises between World War I and the Great Depression to refer to chronic problems in the agricultural sector. Economists and policy analysts blamed price volatility, supply variability, and inelasticities of demand for farm products as problems inherent in agriculture (Sumner, Alston, and Glauber 2010, 405). Liberal, capitalist America soon came to terms with the need to make exceptions to its free-market rhetoric and actively employ the power of the state on behalf of farmers. As the decades passed, US agricultural policy expanded in scope and legislators enhanced agricultural trade through export programs and food aid. The US has been able to leverage its global position to promote free trade in the global market while utilizing trade protectionism at home (Josling and Moyer 1990).

In one way, US agricultural policy has succeeded. Legislative programs have managed to protect domestic agriculture and keep the US a dominant figure in the global food trade. But it has failed in its most articulated objective, the protection of the American small farm. From the beginning of the twentieth century, small and medium farms have been disappearing. The number of farms in the US declined from 7 million in the 1930s to 1.8

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4 This objective of the first “farm bill” is well known and has dominated legislative rhetoric for decades.

5 This particular definition of the farm problem informed early policy decisions and has persisted to the present day.

6 Policy scholars call this the notion of agricultural exceptionalism, and policymakers use it to formulate both domestic and foreign agricultural policy. The survival of “interventionist” agricultural policy beyond the New Deal remains a curious inconsistency in the US political landscape, both for the role of the US in the World Trade Organization and its commitment to breaking down trade barriers abroad, and for the resilience of subsidy programs to periodic waves of conservative reform.
Grouped million in the 1990s (Magdoff, Foster, and Buttel 2000, 13). The decline was most marked in the decades after World War II, after scientists developed the new technologies and synthetic inputs of the “Green Revolution” and farmers adopted them. This decline is shown in Figure 1. Rural sociologists and agrarian enthusiasts bemoaned the decline of the American family farm in the 1960s and 1970s and attributed the trend to a growing concentration of capital, expanding agribusiness, and a productive scale in which small farms could not compete.

Figure 1. Number of farms 1910-2011. Note. Adapted from US Department of Agriculture Economic Research Service (USDA ERS 2012).

Notions of capitalist development, especially those rooted in the neoclassical vein, have typically insisted that these changes are necessary and inevitable. These notions endure

---

7 Also, the market share of farms (primary producers in agribusiness) declined from 40 cents per food dollar in 1910 to about 7 cents per dollar in 1997 (Halweil 2000, 155).

8 The Green Revolution was the transformation of agricultural production techniques in the 20th century. After World War II, synthetic fertilizers, volatile pesticides and herbicides were developed and promoted within the demobilizing wartime infrastructure. Synthetic inputs allowed for the growth of industrial monoculture (single-crop agriculture). This package of technological developments is often credited as the basis of the current industrial agrifood system and originate in the research and development efforts of the Rockefeller, Ford, and Carnegie foundations in Latin America, the Philippines, and India from the 1940s to 1970s. See Ross (1998).

9 “Neoclassical economics” refers to the free-market economic theory originating from theorists David Ricardo and Adam Smith. Neoclassical economics is closely related to the political philosophy of “liberalism.” The term “neoliberal” describes the more recent reemergence of free-market ideology as a guiding political principle.
because they employ free-market capitalism, a fundamental ideology in American political culture. Prevailing theories of capitalist development (neoclassical and neo-Marxian alike) insist that the decline of small-scale farming is unavoidable and necessary, as new technologies have produced greater economies-of-scale and productive efficiencies. These theories have shaped popular, official, and academic discussions of the farm problem. Economic theories have advanced the general notion that overall improvements to agriculture have been sweeping away only inefficient farms (Dixon and Hapke 2003). 10

Still, farmers have always had a special place in US political culture (Dixon and Hapke 2003). 11 Farmers are symbols of entrepreneurial capitalism, independence, and a healthy democracy. Jeffersonian philosophy is an agrarian ideology that celebrates the independence and prosperity of yeoman agriculture; this philosophy is also embedded in American political culture and reflected in the framing of the farm problem. Both farm policy advocates and critics of the agrifood system have adopted the mythos of the family farm (Holland and Carvalho 1985). 12 Agrarian cultural myths were part and parcel of the first farm legislation. They remain an important component of farm policy to this day, though the 1930s farm crisis has long passed and the benefits to farmers have been questionable (see Dixon and Hapke 2003). Subsidy proponents have touted Jefferson’s reflections on

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10 Authors Dixon and Hapke describe a cultural value of a “general libertarian understanding of the marketplace,” which circulates among government officials, the public, and media during legislative debate (2003, 144). This notion is best highlighted from the early 1970s to the early 1980s, when free-market economists and government officials rallied for reform of farm programs, and expressed the benefits of competition, expansion, and economies-of-scale. USDA head Earl Butz proclaimed in 1971 that farmers should plant “fencerow to fencerow” and “get big or get out” (Pollan 2006, 52). Though the reforms were inconsequential in the long run, this touting of free-market ideology in government led to notable reforms in 1973 and 1981.

11 Dixon and Hapke (2003) examine cultural agrarianism in discourse regarding the formation of agricultural legislation in the US. Tweeten (1989) characterizes agrarian values in US culture as divided along two camps: Democratic Capitalism (celebrating the entrepreneurial spirit of the farmer and arguing against regulatory or interventionist fetters) and Farm Fundamentalism (holding the maintenance of the small farm and farming as a legislative imperative, deeming market intervention by the state as necessary). Vogeler (1981) describes several myths at work that conflate capitalist values with agrarian values in US political culture.

12 Holland and Carvalho identify “populist” leanings of many such critics: “Essentially the main thrust of the populist concern is over the destruction of the values and social relations attendant with agricultural production relations in which the family is the principle production unit” (1985, 2). See also Hightower (1975) and Berry (1977). This populist perspective is alive in new social and consumer movements against the industrial agrifood system.
agriculture as a rationale to protect farming as a public good, and to cheer commodity programs (see Browne et al. 1992).

US agricultural policy is mired in conflict. Many policy analysts and economists insist that farm subsidies are outdated and inefficient. But in a way, their endurance is logical considering the impact of modernization upon small farms, and the American cultural imperative to protect them. Both agrarian and capitalist values are strong in US political culture, and their unique combination leads to a fractious approach to the farm problem. The two conflicting values lead to complex, even ironic attitudes about policy by legislators, the public, and farmers. Farmers who are generally hurt by programs in the long run tend to fight vehemently for entitlements (despite a general ascription of “farm” states to conservative values and the Republican Party) (Orden, Paarlberg, and Roe 1999). Policymakers have increased farm benefits during prosperous years when programs are not needed, and some of the biggest increases in farm program spending have occurred during conservative administrations (Orden, Paarlberg, and Roe 1999).13 Interest groups and think-tanks criticize farm policy as the source of high food costs, yet programs have lowered the price of many farm products over time (see James and Griswold 2007).14 These conflicts and the general debate over US agricultural policy are highly nuanced. It is beyond the scope of this thesis to fully explore these political aspects of agricultural policy, but the ironies that surround it are of the utmost importance. The trend of state intervention in agriculture highlights a fundamental discomfort in the US: an ideological commitment to, yet practical ambivalence towards, free-market capitalism.

13 During the Nixon, Reagan, and Bush administrations, farm subsidies escaped massive cutbacks and retrenchment. There have been significant cuts to farm programs at times (notably 1973, 1981, and 1996). Retrenchment scholars (Coleman, Atkinson, and Montpetit 1997; Patashnik 2003; Sheingate 2000; Skogstad 1998) argue that certain periods of change, like the 1996 FAIR Act that ended supply management, or cutbacks during the early 1980s are tantamount to retrenchment. But over time, commodity subsidies have grown in size and spending has increased. Cutbacks were effectively reversed, new programs or policy tools added, or spending shifted to other commodities or programs, often under “emergency” spending bills.

14 Milk is an example of the very few agricultural commodities that are protected by price “floors,” mandated minimum market prices that are paid to farmers. The majority of price support programs are been paid directly to the farmer. The 2007 report by the CATO institute, Freeing the Farm: A Farm Bill for All Americans, is a good example of this type of criticism (see James and Griswold 2007).
the farm problem deepened (as it did, for example, in the farm crisis of the 1980s), but have not appreciably helped small farms. This failure goes beyond simple irony. The effects of US agricultural policy have in fact been fundamental to the formation of the industrial agrifood system. The rise of industrial agribusiness and the decline of small farms have been the consequences—both direct and indirect—of US agricultural policy.

In chapter two, I continue with a review of two theoretical perspectives on the farm problem—neoclassical and neo-Marxian economic theory—and their core philosophies about capitalist development and agriculture. These theories have important limitations and typically omit the impact of state policy on agricultural development. I begin an examination of US agricultural policy and its many consequences in chapter three, which analyzes the impact of commodity programs on the farm sector from 1933 to 1954. Chapter four continues an analysis of commodity programs from 1954 to 1972, as well as the effect of international food aid and the federal income tax code on the farm sector. Chapter five examines the consequences of commodity programs and federal farm credit programs from 1973 to 1996.

**METHODS**

I employ many analytical tools to determine the effects of US agricultural policy on the farm sector. Mainly, I perform a case study of developments in the US farm sector from
1933 to 1996. The year 1933 marks the beginning of federal agricultural programs, and the year 1996 marks the beginning of the latest phase of agricultural policy. This case study is based on analysis of secondary data. I have studied existing empirical research on agricultural development, the economics of the agricultural sector, the farm problem, and agricultural policies and programs in the US. The analysis draws from the disciplines of political economy, economics, history, and policy analysis. The development of the industrial agrifood system in the 20th century has been a complicated political, economic, and social process, and the employment of a range of perspectives is an intentional effort to compile a fuller account.

I consider the main features of the industrial agrifood system and the process of agricultural modernization in the 20th century to be: (1) powerful agribusiness (and closely related, a powerful agricultural processing sector) (2) large-scale industrial farms (3) a decline in family or small farms. Theories of capitalist development typically explain these features as the result of logical improvements or of economies-of-scale in agriculture. I sought an alternative explanation for these phenomena and collected information on the impact of US agricultural policy upon each one.

My research consisted of empirical analyses of federal agricultural programs and policies, agricultural economics, and rural sociology. I sought evidence that programs had (1) a marked effect on the number, size, or economic viability of farms (2) an effect on the development of agribusiness (3) a structural impact on the modernization of farms. Modernization is an important criterion, for the adoption of new farm technologies and equipment has been the most important source of increasing agricultural productivity. Modernization is related to increasing economies-of-scale which have had important impacts on farm numbers and sizes. If capitalist entrepreneurialism and market competition are indeed the guiding forces of modernization, it is most important to highlight any independent effects that policy has had on the modernization process.

I identified four categories of policies and programs that fit the above criteria: (1) commodity programs (2) international food aid (3) federal income tax policy (4) federal farm

15 The concept of economies-of-scale assumes that as enterprises expand they can produce at a lower per-unit cost. The fixed costs of farming, for instance (infrastructure, materials, wages, etc), can be spread among more units of production. This is also sometimes called “economies-of-size.”
Commodity programs is by far the most substantial of these categories and is the main component of US agricultural policy. It encompasses nearly 80 years of legislative programs (policymakers refer to this legislation simply as the “farm bill,” which is typically temporary and renewed by Congress about twice a decade). Legislators designed commodity programs to serve as hedges against uncertainties in the agricultural market. They support the prices of specific agricultural commodities (crops, livestock and livestock products) or the incomes of the farmers who produce them. Since the first program in 1933, the farm bill has evolved to include much more than just commodity programs. I focus strictly on pieces of farm legislation (out of the 45 major pieces of agricultural legislation between 1933 and 2002) which initiated, changed, or reinforced mechanisms of payment-dispersal in commodity programs (Becker 2002). I also include pieces of legislation that accomplished significant spending increases for commodity programs. I chose these two criteria because they reflect those pieces of legislation that had the highest potential impacts on the farm sector through the injection of cash or the modification of commodity supply.

Analysts typically refer to commodity programs from 1933 to 1996 as “supply management policy,” as they entailed some form of production controls. The first commodity programs heavily emphasized the control of supplies, and so made price supports (payments to farmers in compensation for low market prices) contingent on a farmer’s participation in acreage reduction or idling (conservation) programs. Gradually, legislators relaxed production controls and then eschewed them altogether (Orden, Paarlberg, and Roe 1999). I identified three important departures from the original payment-dispersal mechanism of price supports. These changes were events in a gradual trend of “de-coupling” in the commodity programs, where production controls were relaxed in relation to price support levels.

De-coupling is a very important phenomenon in commodity programs. A central aspect of this analysis is the consequences of sustained overproduction in US agriculture. As de-coupling in the commodity programs proceeded, strict production controls declined but the support of commodity prices and farmer incomes has swelled over time, and remains high. De-coupling has gradually skewed the production incentives of farmers and encouraged

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16 Conservation programs remained in place after 1996 and were an important component of the 2008 bill, and these have the effect of reducing the production of some farm commodities (Orden, Paarlberg, and Roe 1999).
many to produce more of government-supported commodities than can be absorbed by market demand. Essentially, production incentives are dissociated from real (open-market) commodity prices; farmers of government-supported commodities are often no longer dependent upon a “checked” supply and favorable market prices for their livelihoods. Instead, the incomes of many farmers have gradually become guaranteed with government payments, and the result has been the sustained abundance of certain crops.

From 1933 to 1954, commodity programs emphasized the use of price supports coupled tightly to production controls; I refer to this period of programs as *supply management policy*. From 1954 to 1972, production controls were relaxed but price supports remained high; I refer to this period as *price support policy*. From 1973 to 1996, programs organized a system of deficiency payments, where the difference between a government-determined “target” price and the actual market price was paid to the farmer and controls were mostly ineffectual; I refer to this period as *deficiency payment policy*. From 1996 on, program payments are direct income supports to a farmer based on their historical production; I refer to this period as *direct payment policy*.

*International food aid* (Public Law 480) falls in the category of agricultural export, trade policy, and international aid. I focus strictly on the international food aid program in the years 1954 to 1972, to highlight its impact on the development of agribusiness in these years. The *federal income tax code* has bestowed certain rules, exemptions, and privileges to agricultural operators and businesses since the income tax was initiated in the Revenue Act of 1916. Because of its significant impact on the farm sector, especially in structuring farmer business decisions, I consider it part of US agricultural policy. I restrict my analysis to the tax code prior to 1986, when Congress significantly reformed many rules for agriculture. While *federal farm credit programs* were in place before the first farm bill, I focus mainly on important programs in the 1970s and 1980s, when expansive lending contributed to a significant farm crisis. A study of these four programs and policies reveals that they have affected the farm sector in several different ways. Some effects were immediate, some long-term. Some are economic in nature, and some are social. Some are direct, and some indirect.

I separated these variables into two categories, one *primary effects*, the other *epiphenomena*. *Primary effects* are direct effects of policy and are generally economic, although the 1933 AAA had a direct effect on the social changes within farm labor. *Primary
effects include: (1) commodity surplus (2) agricultural labor displaced (3) farm debt (4) farmland value (5) agricultural capital investment (6) export subsidies (7) real commodity price. Epiphenomena are indirect effects of policy, and are the social or economic results of the primary effects. Epiphenomena can also be thought of as secondary effects of US agricultural policy, and include: (1) number of farms (2) average farm size (3) cost of farming (4) contract farming (5) farmer market share (6) agribusiness growth (7) monopoly and oligopoly in agrifood sectors (8) over-capitalization of agriculture. Both primary effects and epiphenomena are variables dependent in some way upon US agricultural policy. The relationships between these variables are complex and multidirectional. They are the effects of more than one policy, and in turn, affect one another. I demonstrate the general causal relationships between the four policies and programs, their primary effects, and epiphenomena in the diagram, Figure 31 in Appendix A. Appendix A provides a comprehensive representation of the analysis of policy, primary effects, and epiphenomena that spans chapters three, four, and five.

As discussed previously, the centrally important primary effect of agricultural policy has been the growth of agricultural surplus, for sustained overproduction is the source of many epiphenomena and a key feature of the industrial agrifood system. Commodity programs have produced a “ratcheting” effect—where agricultural production has been driven ever higher—by sustaining incentives for farmers to outstrip demand. As a result the US produced overwhelming commodity surpluses of certain crops (mostly grains, oilseeds, and beans) for most of the 20th century. Programs also influenced the pace and direction of farm modernization, which exacerbated overproduction in agriculture. Commodity surpluses caused real commodity prices to drop over time. In turn, low prices eroded the vitality of American small farms while cheap abundant commodities have been a major source of growth for the agricultural processing sectors and modern agribusiness firms.

**Implications of the Study**

The problems of the industrial agrifood system are many, and are increasingly under scrutiny. The US produces overwhelming amounts of food. Over a third of the population is obese, yet many in the US suffer from a lack of nutrition. The US produces enough grains to
feed its population and generate a significant surplus for export, yet it is the largest net importer of food in the world (Astyx and Newton 2009, 44). Industrial agriculture has high environmental costs. Systematic study reveals overall declines in system productivity (degraded soil, depleted water resources, etc), high negative externalities, and poor efficiency. Many analysts have argued that small and medium farms are in fact more efficient than large-scale operations, though conventional wisdom propounds the opposite (Altieri 2008). In the end the efficiency of smaller farms is overcome by commodity support programs that reward production by volume. Mostly, food quality and consumer health are at the center of growing social opposition to the industrial agrifood system.

This work is an attempt to collect empirical research from multiple disciplines and weave it into an explanatory analysis of the industrial agrifood system. The consequences of agricultural policy are dispersed across several disciplines and literatures. Consequences have been primarily economic, hence typically studied by economists. Their quantitative analyses can be inaccessible to the qualitative social sciences, such as rural studies and sociology. Conversely, many economists summarily dismiss agricultural policy as exogenous and simply factor the impact of policy into multivariate descriptions of the agricultural economy (Sumner, Alston, and Glauber 2010). This thesis is an attempt to reconcile generally exclusive accounts of US agricultural policy and its consequences. It is also an attempt to revisit basic assumptions about the agrifood system, specifically the subject of the modernization of US agriculture (mainly the Green Revolution) in the 20th century.

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17 About 30 million Americans receive inadequate nutrition and a portion of those are chronically hungry. Stranger still, the US is plagued by an overabundance of food and and about a third of adult Americans are obese (Center for Disease Control 2010). The global hunger problem is just as irrational, as enough calories are produced to feed each global citizen, yet hundreds of millions suffer from chronic malnourishment (Rosset 2008).

18 The average yield-for-input ratios in developed nations are lower than developing nations (overall agricultural efficiency is lower). This is due to the use of energy/input-intensive agriculture in developed nations. Small scale polyculture has yield ratios 20% to 60% higher than conventional monoculture. In the US, small and medium farms are more efficient and show higher yields than large farms (Altieri 2008, 2).

19 This is because the dispersal of farm subsidies is inequitable. For example, the largest 10 percent of farms receive 74 percent of government payments (Griswold and Young 2010, 389).

20 Although subsidies have been typically dismissed as exogenous or taken for granted in agricultural economics, the subject of policy consequences is very well-explored in the discipline of economics.
Was this key developmental era in the US, which yielded the industrial agrifood system, due simply to the unyielding forces of capitalism and the momentum of internal improvement? Or was it a function of human intervention and state policy? One thing that systematic study of agricultural development has revealed is that agriculture and capitalism are inherently somewhat incompatible; across time and across countries, agriculture has demonstrated resistance to the capitalist paradigm. Wedded to the finite capacities and unpredictability of nature, it is ill-suited to the productive demands of capitalism in general (and industrial capitalism in particular) (see Goodman, Sorj, and Wilkinson 1987; Mann and Dickinson 1978). Science and technology have mediated these historical incompatibilities and advanced development by leaps and bounds, especially in the 20th century. This would seem to indicate that agriculture is adapting to capitalism. However, these developments did not happen in a political vacuum. State intervention has been necessary at key points to foster capitalist development in agriculture. There is a logic to the development of agriculture, and it is not solely economic but also political and social.

The most prevalent forms of emerging social opposition to the industrial agrifood systems are what I refer to as consumer food movements. They are: the “Localist” movement (which seeks to revitalize local agrarian economies, support small farms, increase local food security, and reduce food transport impact on the environment); the “Anti-Genetic Engineering” movement (which stresses the unknown health, environmental contamination, and biodiversity hazards of genetically-engineered food varieties); the “Organic” movement (which seeks to opt out of the industrial agrifood system by adhering to natural production methods); and the “Fair Trade” movement (which seeks to rectify the rampant resource and labor exploitation by transnational corporations and governments in the global economy). These groups are not entirely discrete, as there is much overlap in their interests, members, and stated objectives. They share the goals of revitalizing and protecting small farms and rely mainly on consumer power to influence the food system through the market.

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21 Gestation periods of farm animals, growing times, weather changes, and the exhaustibility of soil all make it difficult for agriculture to conform to the demands of industrial capitalism (Mann and Dickinson 1978).

22 What I refer to as the “Localist” movement is also referred to as “civic agriculture” (Lyson 2005). It is also referred to broadly as the “local food” movement.
The symbol of the small farm is caught between two opposing viewpoints on the industrial agrifood system. It is touted by those who promote subsidy programs as a safety net for vulnerable small farms, though it is well established by now that benefits are inequitable and favor larger farms. *Consumer food movements* and critics who seek fundamental changes to the industrial food system and wish to revive agrarian values in the US also employ the symbol of the American small farm. My initial analysis of these movements yielded a critique of their emphasis on consumer power as a means of inducing change, rather than a political fight against the policies and institutions that reinforce the industrial agrifood system. This criticism is echoed by many academics, and some even charge the movements with elitism and bourgeois consumerism (Johnston 2008, 95).23 However, their shortcomings and their strengths are much more nuanced than that.

The *consumer food movements* draw significantly from the “populist” social movement tradition, which reemerged in the 1970s to confront the latent effects of industrialization. “At one time an important political movement, the agricultural portion of populist analysis focuses on a concern over the financial destruction of the ‘family-type’ farm and its associated culture” (Holland and Carvalho 1985, 2). This agrarian perspective exalts the role of the family farm in the US. The populist critique is also limited, in my view, by a blanket criticism of the status quo, a general recoil against modernization and its impact upon agriculture as if it were a force unto itself, free of human intervention. Populist critics focus on the cultural aspects of farming and ignore neoclassical economics and the important empirical work it yields; neoclassical economists in turn dismiss populist critiques (Holland and Carvalho 1985, 2). Ironically, these perspectives are consistent in assumptions about the agrifood system, because both consider the destruction of small farms economically inevitable. The neoclassical perspective dismisses the loss of small farms for the same reason that the populist perspective laments it: capitalist agricultural development is an inescapable course.

Consider a quote from Wendell Berry’s 1977 populist polemic, *The Unsettling of America:* “We continue to suffer loss of community, the devaluation of human work, and the

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23 *Consumer food movements* have been charged by some liberal political analysts with “bourgeois piggery,” or “bourgeois-bohemian” consumerism, for their emphasis on niche or artisanal food at high costs (Johnston 2008, 95).
destruction of nature under an economics dedicated to the mechanistic pursuit of products and profits” (Berry 1977, 4). I see in neither the populist critique nor the neoclassical account an adequate analysis of agricultural development with respect to the structural impact of state policy. In the following chapters, I assert that US agricultural policy is a fundamental component in agricultural development. Farm subsidies are the beating heart of the industrial food system, plain and simple. This assertion has implications for critiques of the agrifood system. The populist critique seems to posit human agency against an omnipotent capitalism. Consumer food movements would do well to reframe their usage of the populist critique and emphasize policy reform, given its formative role in the agrifood system. Agrifood activists could accomplish meaningful policy change if they could evolve beyond simple agrarian values and move the locus of activism out of the marketplace. Analyses like this could help such movements revisit their core assumptions and prioritize policy reform.

Despite the shortcomings of populist critiques used by the consumer food movements, it is becoming clear that consumer activism is a successful strategy for inducing change. These movements have important potential value as social movements, though they are inadequately studied as such (see Wright and Middendorf 2008). Their gains have thus far been significant. First, the sheer market power they command is contributing to a large growth in demand for organic, fair-trade, natural and local products, as well as a nationwide growth of farmers markets and collectives (Lockie 2002, 278).

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24 Empirical analysis of agricultural modernization is foremost in the Political Economy of Agriculture (also called the “New Sociology of Agriculture”). This vein evokes Marxist theories on the nature of capitalism, which alienates it from populist perspectives that typically conflate agrarian values with “American” values of capitalism, democracy, and liberty. In other words, capitalism is not a target of populist critiques. Populist critiques of agriculture have incorporated some structural analysis but this has not displaced the emphasis of agrarian and capitalist values (Holland and Carvalho 1985, 2). See Hightower (1975) for a populist critique of the food system within a structural analysis.

25 The social sciences are contending with consumer food movements. “Seldom have we seen in the social science agrifood literature cogent attempts to grapple with these initiatives as a comprehensive form of social change” (Wright and Middendorf 2008, 6). Also, Goodman and DuPois charge that production-centered frameworks dominate agrifood analyses about consumer behavior; they explain that scholars in rural sociology are overly concerned with the “production” side of the agrifood system and tend to consider consumer behavior to be exogenous: “The consumer escapes theoretical attention because she or he does not appear to act politically” (2002, 6).

26 Lockie explains: “An explosion in consumer demand is widely held to be responsible for recent growth rates in the organic food sector” (2002, 278). Alternative market schemes for organic produce, farmers markets and collectives, are also on the rise (community-supported agriculture schemes rose from 1,700 in 2005 to 12,500 in 2007, an astounding increase) (Press and Arnould 2011, 169).
markets these movements are changing values in society about food and agriculture and redefining them in opposition to the industrial agrifood system. Value shifts that occurred because of the actions of past social movements have led to long-term policy change (Hassanein 2003; Starr 2010). Consumer food movements are inducing change in societal values of food and agriculture, and this can cause long-term policy or structural changes.

For the first time in a century the number of small farms in the US is growing (United States Department of Agriculture National Agricultural Statistical Service [USDA NASS] 2007).\(^\text{27}\) This attests more than ever to the need to redefine theories and expectations of agricultural development. The trajectory of the agrifood system and the fate of small farms are not bound to the prevailing theories which prescribe their demise. The potential for human agency to reshape the industrial agrifood system is strong, perhaps stronger than these important gains indicate because human agency was instrumental in shaping the system in the first place. The industrial agrifood system is not an inheritance of fortuitous history, but one of our making. This thesis will examine the role of human agency, in the form of state policy, in the genesis of the industrial agrifood system. The conclusion of this examination has many implications, the most important of which is a second opinion on the terminal diagnosis for small farms.

\(^{27}\) From 2002 to 2007, there was an increase of 18,467 farms in the “small” category alone (those with $250,000 or less in annual sales) (USDA NASS 2007).
CHAPTER 2
THEORIES OF AGRICULTURAL DEVELOPMENT

I refer often to the explanations for the rise of the industrial agrifood system in government, popular discourse, and academia. The common thread between approaches to the farm problem and the agrifood system is a narrative of inevitable capitalist development in agriculture. This narrative is supplied mainly by neoclassical economic theory. Neoclassical economics has guided the formulation of farm programs and shaped popular discourse. Another important strain of research on the farm problem, the Political Economy of Agriculture, is informed by neo-Marxian economic theory. This field has yielded important empirical findings on agriculture and capitalism, yet it is equally hindered by the concept of inevitable capitalist development. Together, these economic theories dominate discussion of the farm problem, yet their diagnoses are highly problematic. They discount the role that state policies have played in agricultural development throughout history and in the US.

The concept of inevitable capitalist development is most problematic because it is predicated on the assumption that free-market competition is at work in US agriculture. As I shall demonstrate, nothing could be further from the truth. Still, the theme is frustratingly common in popular discourse and it worthwhile to outline the concept and all its components. The theme of inevitable capitalist development purports that capitalism is omnipotent. It is the guiding force of the modernization of agriculture. Capitalist entrepreneurship has spurred development of agricultural technologies, such as chemicals, high-yield seeds, and mechanization. These technologies are beneficial to the farm sector and

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28 Holland and Carvalho (1985) identify neoclassical and neo-Marxian as the two theoretical traditions that inform understandings of agricultural development in the US. From the traumatic enclosures of 18th century England, to the spate of broken farmers feeding the hyper-urbanization of today’s developing nations, the effects of capitalist development have been especially felt in rural areas, and these disciplines have sought to explain this phenomena.
have led to greater efficiencies in high-volume production (economies-of-scale). Large-scale production has rendered small, family or traditional farms uncompetitive and they are being phased out. Capitalist development in agriculture has resulted in the industrial agrifood system, and its unfortunate side-effect is the farm problem. Yet, the decline of small farms has slowed in recent decades and in the most recent years has even reversed (Starr 2010, 479). This begs a reexamination of the farm problem and the fundamental assumptions about it.

**NEOCLASSICAL ECONOMIC THEORY**

Neoclassical economic theory is synonymous with Enlightenment ideals and political liberalism. It is the narrative of the scientific, the technological, the rational—the narrative of progress itself—and most importantly, the ideological premise for the superiority of capitalism and modern institutions. The neoclassical approach provides an explanation of the origins and nature of capitalism, that it is “the highest stage of progress, [and] represents a maturation of age-old commercial practices (together with technical advances) and their liberation from political and cultural constraints” (Wood 1999, 12). Simply put, capitalism is a superior form of economic organization that, given the chance, any rational person would adopt, for all individuals are naturally benefit- and profit-maximizing individuals (what Smith called “economic man”). “Only the wrong religion, the wrong kind of state, or any kind of ideological, political, or cultural fetters tying the hands of urban classes have prevented capitalism from springing up anywhere and everywhere” (Wood 2000, 23).

Capitalism has a logic unto itself, an internal momentum and therefore a predictable course of development. This assumed course, when applied to agriculture, prescribes a development in which increasing economies-of-scale gradually eliminate small producers.

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29 Neoclassical economic theory informs not only the social sciences on the subject of agricultural development, but is also the root of important cultural values in the US concerning agrarian capitalism. These values are important to understand the contentious debate over interventionist agricultural policy between agrarian/populist values and neoclassical or liberal values, and also of formulation of US agricultural policy. See Dixon and Hapke (2003).

30 Also, Mielants describes that in this narrative, capitalism supplants all other irrational or archaic forms of economic organization and deems everything before to be “pre-modern” (2007, 8).

31 For example, Wood puts it best when she describes “How we understand capitalism’s history has a lot to do with how we understand the thing itself. The old models of capitalist development were a paradoxical blend of transhistorical determinism and ‘free’ market voluntarism, in which the capitalist market was both an
The neoclassical perspective is embedded in the modern academic discipline of economics. Agricultural economists in the early 20th century were instrumental in framing the farm problem for policy makers and the general public. Policymakers and agricultural economists first defined the farm problem after World War I when recurring crises raised special concern for the vitality of farming and the fate of family farms. Concern for protecting the family farm was the basis of the original “farm bill” and has remained an enumerated goal of subsequent bills. Early economic analysis featured the persistent problems of prices, production, and farm income that are specific to agriculture (Holland and Carvalho 1985, 4). Sumner, Alston, and Glauber (2010) document the evolution of economic theory and research that informed agricultural policy throughout the decades. “The core observation, going back to the 1920s, was that agriculture suffered from low returns on human and other capital, low incomes for farm families, and undue variability” (Sumner, Alston, and Glauber 2010, 405). These characteristics were lumped into the idea of agricultural exceptionalism, a term which suggests these problems are just inherent conditions of agriculture. This definition endured in the discipline and remains a guiding force. In a more recent discussion of agricultural economics, Tweeten (1989) defines the farm problem as one of chronic low returns (income), price volatility, and an altogether imperfect market (supply and demand).

Limitations of deductive thinking are evident in the neoclassical view. Agricultural economists observed the temporarily low farm incomes of the early 20th century and

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32 The first “farm bill” was the 1933 Agricultural Adjustment Act.

33 The neoclassical perspective highlights the inconsistencies within the agricultural sector between supply and demand, and the inability to keep prices consistent. “The solution to such problems in the neoclassical paradigm is to get prices right, if necessary by the proper combination of taxes and subsidies” (Holland and Carvalho 1985, 4).

34 T.W. Schultz’ 1945 assessment of agriculture had a long-term effect on the characterization of the farm problem for economic policy analysis. Early agricultural policy was informed by this problematic definition of the farm problem, one that used the temporarily low incomes of farmers (low due to depressed world markets and the ensuing Depression) to deduce chronically low incomes and a market volatility of agriculture in general. See Sumner, Alston, and Glauber (2010).

35 Agricultural exceptionalism is the rationale that the farming sector is special because it is subject to imperfect markets, weather, nature or other unforeseeable conditions and warrants special treatment by government. It includes the belief that agriculture is a fundamental component of the national economy and integral to the public interest (Skogstad 1998, 468). The concept is also common in the European Union.
developed a model of agriculture in which low incomes and low returns are universal. In
turn, legislators have designed policy programs around that conception. Also, neoclassical
economics has yielded narrow “reductionist” views of agricultural development which do not
include the origins of or social significances of technological changes in agriculture
(McMichael and Buttel 1990). That is, economic theory assumes that new technologies or
production techniques emerge as an internal improvement to capitalism rather than being
induced by social forces. This is not factually correct, as research and development for
agricultural technologies is overseen by public and private institutions with very specific
goals in mind. When it comes to the influence of politics or state institutions, economists
often deliberately ignore the role of the state and authoritative institutions in development.
36 Tweeten’s analysis describes the political outcome of farm policy as the result of two
conflicting (cultural) ideologies—democratic capitalism and farm fundamentalism—but
omits the creed of *agricultural exceptionalism* (1989, 73). 37 Tweeten implicitly assumes
exceptionalism is an economic truth rather than an ideology.

Economists tend to summarily dismiss acrimony over the social consequences of
development of agriculture—upon rural economies or the environment— as a cost of
progress. The decline of small farms and growth of agribusiness are perfectly normal due to
the improvement of efficiencies and development of economies-of-scale in agriculture, and
“the relationship between culture and increased factor productivity must be seen as a trade-
off” (Holland and Carvalho 1985, 2). 38 Agricultural economists asserted that the nature of
economic development was difficult for rural areas because of periods of resource drains

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36 For example, Thies and Porche insist that “In typical econometric models, the effects of politics are
largely endogenous…The effects of the political system, including its institutions and actors is discussed but
assumed determined by underlying structural features of the economy” (2007, 117).

37 The term “democratic capitalism” refers to the cultural values and myths associated with capitalism,
democracy, and entrepreneurialism. “Farm fundamentalism” encompasses both *agricultural exceptionalism* and
agrarian values.

38 Consider the eminent agricultural economist Tweeten’s comments on the subject of agribusiness
monopoly: “The proposition that the farm problem is due to a conspiracy in the market sector…is a
myth…Some feel that the solution to farm problems is to make the marketing industry atomistic. This is not
possible [nor] desirable. Economies in production and sales are large enough so that costs would rise if the
industry were atomized, and consumers would end up paying more for a lower quality of food” (1989, 243).
This is completely contrary to the fact that the gains from economies in production have been completely offset
by oligopolies in the food buyer industry and the costs to consumers have grown over time (see chapters four
and five).
during which the rest of the economic sectors industrialized; the pains felt in the countryside were of a transient nature and would remain until developmental processes were completed and inefficient farms were outcompeted (Sumner, Alston, and Glauber 2010, 407).

Economists also deployed the concept of the “technology treadmill,” which explains the macroeconomic conditions of farming with the microeconomic choices that a farmer faces. In the “treadmill” metaphor, a farmer adopts new technologies to improve efficiency and productivity and maximize individual profit. Unfortunately, many other farmers do the same, and this causes a downward pressure on prices. As prices are squeezed, the marginal gains made by that farmer dwindle. In these conditions, large-scale producers become more economically viable than smaller ones, because they can produce at lower marginal costs (Blank 2008, 15). The price squeeze favors larger farms, and small farms have no option but to adopt the same technology, expand or be out-competed. The treadmill metaphor narrates the decline of farm numbers as an internal choice (adopt technologies, expand or die) made within exogenous conditions (technologies are available, and rational actors must respond to market conditions as they are). The treadmill theory is very useful in describing the market conditions and choices impressed upon farmers, but it ignores overarching factors that influence both the market (macroeconomic conditions) and private decisions of farmers (microeconomic conditions). The theory does not account for the impact of agricultural policy, which reinforces downward pressure on prices and has structured the microeconomic decisions of farmers in many ways since 1933.

The neoclassical perspective assumes that markets are autonomous, and free of intervention by the state they will reach natural equilibrium (the invisible hand). Market logic is eternal, a force as predictable and reliable as gravity. Faith in the invisible hand and the free market is inextricable from this narrative and economic analysts have used it to account for structural changes in agriculture, the growth of industrial agribusiness and the decline of small farms through competition. This account has become ubiquitous as it has been absorbed, via political liberalism, into American culture. But this explanation of structural change is incomplete. Any vestige of a free market in US agriculture ceased to exist long ago, if indeed it ever existed as such. The neoclassical account and modern agricultural economics treat the agricultural sector as eternally exceptional in the industrial economy, one
sector where state intervention is necessary to correct systematic market failure, without a satisfactory explanation of why this is so.\textsuperscript{39}

**NEO-MARXIAN ECONOMIC THEORY**

The modern *farm problem* evokes a longstanding debate about the modernization of agriculture. This is the “Agrarian Question,” which is a concern in the Marxist tradition over the nature of capitalist development in agriculture and the fate of small farmers. In Marxist theory, agriculture is a unique sector that has been resistant to or has lagged behind industrial development. Marxists conceive capitalism as a system born in the cities that subsequently spread to the undeveloped rural areas (just as they conceive it as born in the West and spreading to the undeveloped world) (Wood 2000). But this process was neither easy nor quick, and in some cases the capitalist penetration of the non-capitalist countryside proceeded with difficulty or failed altogether. Peasant agriculture, small farms (which Marx termed petty commodity production), and family farms stubbornly remained in rural areas long after industrial capitalism was introduced.

The post-World War II Green Revolution was an unparalleled event in the modernization of agriculture. It had considerable consequences—the marked decline of small farms and the rise of industrial agribusiness in the 1960s—and exacerbated the *farm problem*. A new critical rural sociology—the Political Economy of Agriculture—revived the “Agrarian Question” and applied Marxist theory to investigate the nature of development and the future of farming.\textsuperscript{40} As industrialization proceeded, Marx and others assumed agriculture would industrialize as well. The “dual” nature of agriculture—comprised of traditional or subsistence farms and large commercial farms—would eventually cease to exist. Subsistence (peasant) agriculture would phase out entirely as producers embraced commodity production,

\textsuperscript{39} There have been some attempts in the Political Economy of Agriculture at explaining the chronic problems of agriculture by its natural features, or by difficulties in marketing which make it impossible to balance supply and demand for products. These explanations mirror the Mann Dickenson thesis, which I discuss in the next section.

\textsuperscript{40} The Political Economy of Agriculture is a critical vein of rural sociology that emerged in the 1970s. Some scholars identify this literature as “agrarian political economy” (Mann 1990). “This milieu exhibits superficial continuity with that of the late 1890s when Lenin and Kautsky wrote their seminal works. The 1970s’ concern about the status of the family farm mirrored the late 19th- and early 20th-century preoccupation with the fate of the peasantry during capitalist development” (McMichael and Buttel 1990, 96).
the distinguishing feature of capitalism. Then, “Marx argued that market competition would result in differential rates of accumulation, whereby producers either survived by adopting the capitalist mode of producing or were gradually ruined through the erosion of their market viability—an erosion that would eventually lead to their proletarianization” (Mann 1990, 10). Mann (1990) describes how Lenin considered the effects of capitalist development on Russian and American agriculture. Around the turn of the century he noted the prevalence of a “rural proletarian who has been allotted a patch of land” but insisted they were destined to disappear (Mann 1990, 13).

Well into the 20th century three things became clear. First, in the late stage of agricultural development, the number of small farms in the US was indeed declining. Second, agricultural development had some particularly unfavorable effects, especially upon the environment and consumer health. Third, small farms did not disappear altogether. Negative responses to these conditions tended to be rooted in the “populist” narrative, which was especially concerned with “the destruction of values and social relations…the values of a Jeffersonian world; individual independence, the dignity of physical work, egalitarianism, a respect for nature, and a suspicion of city life” (Holland and Carvalho 1985, 2). The populist political movement would inform the consumer food movements discussed in the previous chapter. They express the same agrarian values and for the most part offer a limited structural account of the industrial agrifood system. The Political Economy of Agriculture,

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41 Marx’ views of small producers are colored by his views of the peasantry, who he typically represented as anti-progressive in the bourgeois revolutions. Lenin and Kautsky also concentrated on the Agrarian Question because they sought the best ways to incorporate the peasantry into socialist revolution. “Yet…the critics of Marx in American rural sociology seem not to have noticed his harsh remarks about the petty producers. Rather, they were considerably more disturbed by the specter of capitalist development resulting in the dissolution of family farms” (Mann 1990, 12).

42 Family farms and small farms have declined drastically in number, yet they remain the most common form of farm in the US today. Their persistence and status throughout the 20th century has been the source of many internal debates in rural sociology and political economy. “Debates over the capitalist development of American agriculture too often degenerated into statistical battles over how many capitalist versus non-capitalist farms were currently in operation in the US” (Mann 1990, 15). This is a complex subject and is the main subject of chapter five.

43 Holland and Carvalho continue describing populism: “while glorifying the role of the petty bourgeoisie farmer does depart from ideology of liberal capitalism in certain respects” (1985, 2). Populism is critical of the effects of industrial agriculture, the concentration of market power and monopoly in agribusiness, and other modern forces that are detrimental to the small farm. See also Vogel (1981).
equipped with Marxist analysis and empirical rigor, is closely related to but separate from populist critiques of the agrifood system.44

Some theorists in the Political Economy of Agriculture attempt to explain the resilience of the family farm by insisting its endurance is a special transitional condition on the road to eventual capitalization. By the end of the 19th century, Karl Kautsky had noted the endurance of family farms. He identified certain social or cultural conditions that tended to slow down the advance of agricultural industrialization, conditions that could become permanent features in industrial agriculture (Mann 1990, 14).45 Later theorists who wrestled with the state of family farming in the US employed Kautsky’s thesis. For the most part, these theorists labeled family farms a temporary feature of agriculture that would either be resolved or simply remain as persistent anomalies. The labeling of family farms as anomalies also denoted them as irrational, archaic, or cultural (McMichael and Buttel 1990, 94).46 In other words, the family farm was a relic that existed in the present for one reason or another before eventual dichotomization into labor or capital; it might persist, but always as an abnormality.

McMichael and Buttel (1990) identify a glaring deductive weakness in the Political Economy of Agriculture. By presuming that the disappearance of small farms is inevitable, theorists explain away their endurance as a temporary or conditional anomaly. In other words, this line of inquiry seeks to explain why empirical reality does not fit the supposed model of agricultural development. It does not ask whether the model itself is fit for conceptualizing reality. Theorists tends to label family farms as abnormalities in capitalist development, often without validating any extra-economic raison d’être for their existence.47

44 For a treatment of cultural agrarianism, populism, and consumer food movements, see Press and Arnould (2011).

45 Kautsky ([1899] 1976) and Bonnano (1987) noted that family farms would remain when capitalist enterprises were unable to acquire contiguous land or when the enterprise somehow benefited capitalist production (as a cheap labor source, for example).

46 See Chayanov (1966), Mooney (1983), and Friedmann (1982). According to McMichael and Buttel, these theorists characterize family farms as an “illogical resistance to a more ‘logical’ proletarianization” while other theorists (Davis 1980; Mooney 1983; von Werlhof 1988) argue that ‘non-wage’ forms of labor like the family farm exist because they are an avenue to accumulation of surplus value (1990, 93). Mann (1990) argues that non-wage farm labor exists as a feature of the modern landscape, unconquerable by capitalism in the modern age but not necessarily at a later time.

47 Headlee’s (1991) analysis is an exception to this, as she identifies the desire for land and independence,
Kautsky explained the resilience of family farms because of special social or cultural conditions, and dismissed any economic rationale for their organization. Chayanov (1966) deemed peasant agriculture inherently illogical, non-rational, and resistant to capitalist logic; Mooney (1983) extended Chayanov’s theory to American family farms (McMichael and Buttel 1990, 94). Most of these explanations evoke Weberian analysis to account for non-economic motivations that do not fit into prescribed “rational” behavior. I will examine this critique further in my discussion of “high modernism” later in the chapter.

Despite these conceptual shortcomings the Political Economy of Agriculture has yielded important empirical research about agricultural development. The “Agrarian Question” emphasized not only the impermanence of peasant or small-scale (petty commodity) agriculture, but also the quandaries of agriculture in capitalism. These quandaries have been well explored in the newer scholarship which has revealed that agriculture and capitalism are essentially incompatible. Agriculture is not well suited to the conditions of capitalism, and is even less suited to industrial scales of production. Nature itself is unpredictable and varying, and so is agriculture. Agriculture has shown resistance to capitalist development, which has not happened as quickly or completely as theorists in both the neoclassical and neo-Marxian perspectives projected. Mann and Dickenson (1978) identified several aspects of the natural world that are at odds with the capitalist paradigm. Gestation periods of farm animals, growing times, weather changes, and the exhaustibility of soil all make it difficult for agriculture to conform to the high demands and large scales.

Marx had noted the unfortunate effects of capitalism on the agricultural sector, especially the constant degradation of productive capital and the exhaustion of soil nutrients. Though he considered soil depletion problematic, he showed ultimate faith in the transformative power of technology to mitigate these effects. Marx recognized issues in the burgeoning field of agronomy and soil science and linked them to capitalist production. Intense monocrop (single-commodity) production exhibits a tendency to quickly rob soil of nutrients, causing trouble for producers as yields subsequently dwindled. As early as the mid-18th century the industrialized nations experienced a soil fertility crisis which spurred
demand for supplemental fertilizers and eventually for synthetics (Foster and Magdoff 2000, 46). Imported, nutrient-rich guano and animal bone abated the problem for Britain in the early 1800s, as did the “guano imperialism” of the mid-1800s for the United States (Foster and Magdoff 2000, 45). These early alternatives kept the agricultural capacities of industrializing nations apace with their growth. Marx foresaw great potential in technical solutions like the application of synthetic fertilizer for the “rational” improvement of capitalist agriculture (Foster and Magdoff 2000, 52).

Just as the guano market abated the soil fertility crises of the industrial nations in the 1800s, Green Revolution technologies solved many more problems of capitalist agriculture in the second half of the 20th century. The problem of soil fertility, and the pestilence, weed problems, and unwanted variation to which monocrop agriculture is constantly vulnerable were spirited away with chemical fertilizers, pesticides, herbicides, and hybrid or genetically-engineered seeds. The slow gestation times of stock animals were surmounted by advances in fertility science (Mann 1990). Goodman, Sorj, and Wilkinson (1987) deem such technologies “appropriation” of nature, which speed up or bypass natural processes. They also identify the modern prevalence of “market substitutionalism” for agricultural products. A central aspect of the industrial agrifood system is the substitution of real or whole foods for synthetic alternatives (there are countless chemical or derived substitutes for foods, or food additives, like High Fructose Corn Syrup, artificial sweeteners, or Soy Lecithin).

Scholars in the Political Economy of Agriculture recognized that some aspects of agriculture were more or less adaptable to industrial conditions than others. Some commodities (like grain or beans) are more durable and less perishable than others (like fresh produce). Also, some crops are favored as inputs to certain industrial sectors of the economy,

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48 The early monopoly on Peruvian guano secured by Britain, and this led to the 1856 “Guano Island Act” in the United States. Ninety-four islands were annexed by the U.S. under the act between then and 1903. The soil fertility crisis was also recognized by economists in North America (Foster and Magdoff 2000, 45).

49 Mann notes advances of artificial insemination and “superovulation” in cows (1990, 44).

50 Recombinant bovine growth hormone (rBGH or rBST) is a recent example of this appropriation of nature. It is a growth hormone given to lactating cows to increase their output by about 15 percent, but with the side effects of increased infections and health problems for the cows, and in turn, increased amounts of antibiotics and pus in their milk. rBST has been the subject of much consumer backlash and nationwide bans in several countries (Gumpert 2009).

like soy for animal feed or rendered seed-oil for manufacturing. Some commodities are more suited for manipulation or appropriation, and these are the targets of emerging biotechnologies that engineer for uniformity, durability, cosmetic appeal, or size. Of course, biotechnology has yielded crop varieties that are tailor-made for industrial purposes, to be derived into countless substances for industrial input. A perfect example is the most common form of corn that is grown in the US—“number 2” field corn—which is inedible but engineered for a high starch content that can be transformed into countless industrial and food products (Pollan 2006, 58).

Marx’ confidence provided a basis of faith in science and technology for succeeding theorists. Later, neo-Marxian researchers would stress that science and technology are necessary to overcome obstacles of nature and conform agriculture to industrial conditions (Goodman, Sorj, and Wilkinson 1987; Mann and Dickinson 1978). Such developments are indeed necessary to develop agriculture in the capitalist mode. But that does not necessarily mean that such developments are inherently rational, or even beneficial. Because of the fundamental incompatibility of agriculture and capitalism, technological solutions may have been necessary to spur development, but their excessive downfalls suggest that they were not necessarily correctly chosen. The costs and externalities—pollution, human health, food quality, soil erosion, and countless other consequences—of poorly chosen technical solutions are becoming increasingly dear and ever-more contested. Overgenerous synthetic fertilizer application is decimating waterways like the Gulf of Mexico (Altieri 2000, 82). Pesticides and herbicides have harmed humans and the environment in countless ways. This is a challenge to any indiscriminate faith in the redemptive potential of technology for capitalist agriculture (at least in its current trajectory).

For better or worse, the industrial agrifood system features in overwhelming abundance those crops that are adaptable to industrial conditions. Corn, soy, and wheat are ubiquitous in processed food and industrial products. That the industrial agrifood system features these crops so prominently makes sense within theories of capitalist development. But at the same time these are also the crops that have been supported and promoted by US

52 50 to 70 percent of nutrients that seep into surface waters in the US originate from synthetic fertilizers. The Gulf of Mexico hosts a monumental “dead zone” where ocean life is impossible due to algal blooms and lack of oxygen (Altieri 2000, 82).
agricultural policy throughout pivotal decades of development. Were these commodities supported by policy programs because they were so highly desirable? Or are they so highly desirable because they have been guaranteed cheap and plentiful by decades of government support and subsidies? This question is paramount in understanding the industrial agrifood system, and I ask the reader to keep it in mind throughout the analysis.

Embedded in the neoclassical and neo-Marxian analyses is another bias, the bias of “high modernism,” in which observers deem all forms of production that are not capitalist as pre-modern, inefficient, or irrational. Note that in both neoclassical and neo-Marxian theory family farms, small farms, petty commodity production, and even peasants take on the same connotations and serve similar roles in the analysis of history. They are deemed inefficient, illogical, irrational, traditional, outdated, and stubbornly resistant to capitalism. This connotation is also applied to alternative agricultures like indigenous production methods or polyculture by proponents of cash crop production. McMichael and Buttel (1990) are correct in their charge of deductive limitations in the Political Economy of Agriculture. The two traditions often dismiss all that does not fit their assumptions of the course of development as irrational or cultural. Both arbitrarily dichotomize progress and anti-progress, lumping the superiority of the large over the small, the urban over the rural, and the technological over the traditional into opposing categories in the development of capitalism and the course of history.

The neoclassical and neo-Marxian perspectives exalt the capitalist paradigm of agricultural production over “traditional” forms, asserting that such techniques and technologies are inefficient and backward. These labels originated from the observations by Marx, Lenin, and others of democratic revolutions in which the peasant classes or rural inhabitants played conservative or anti-revolutionary roles. In the grand narrative of progress, Marx and others bound the conservatism of the peasantry to conceptions of not only

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53 For example, author Scott describes high modernism: “It originated, of course, in the West, as a by-product of unprecedented progress in science and industry” (1998, 4). He describes it in terms of statism, but notes that its best promoters were capitalist entrepreneurs. It is embedded in American cultural values of liberalism and capitalism. Thinking that “bigger is better,” and that all technological advances are progress is illustrative. Modernist ideology is ubiquitous in debates over agricultural development.

54 See Wright (1990) for a discussion of indigenous agricultures by the proponents of agricultural modernization in Mexico.
antiquated political views but also antiquated ways of life (Mann 1990, 10). This assertion fits nicely within the grander narrative of modernization in the neoclassical tradition, a narrative that conflates traditional agriculture with feudalism, slavery and serfdom (and pre-revolutionary restraints on society). It also echoes the neoclassical tendency to dub all that is not capitalist as primitive. These notions were also instrumental in the era of Western imperialism when colonizers dismissed indigenous (traditional or subsistence) agricultures, or even targeted them for eradication as they threatened the extractive potential of the subordinated colonies. These sentiments would be repeated long after the colonial age, when First-World scientists and development advocates promoted Green Revolution techniques in Asia, Latin America and elsewhere. Advocates of progress across these historical narratives dubbed subsistence, traditional, and small-scale agriculture inefficient. This idea persists today in discussions of modern small farms.

Policymakers, scholars, and farmers often hail the Green Revolution as the pinnacle of agricultural development, a process they apparently assume to have sprung from capitalist entrepreneurialism. In reality, the US government facilitated and promoted the development of these techniques and technologies. The federal government converted hundreds of wartime chemical and energy plants to fertilizer, pesticide, and herbicide facilities. It was an intentional choice to stimulate industry in the economic downturn after World War II and a boon to oil and chemical corporations that would come to dominate the agrichemical industries (Ross 1998). Magdoff, Foster, and Buttel (2000) insist that the Green Revolution cemented an irrational approach to rectifying agriculture’s natural resistance to industrial production. This undermines the widely unquestioned faith in transformative technology demonstrated by neoclassical and neo-Marxian theorists. To critics, industrial agriculture is ultimately irrational, for it piles on organic wastes and pollution on one end while starving the other end for inputs. As early as 1901 Lenin observed that the substitution of artificial

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55 Mann explains “In some of his writings Marx appears to welcome the demise of traditional forms of production as a progressive development,” and criticizes the “idiocy of rural life” (1990, 10). The inevitable decline of the petty producer was a central point of Lenin’s as well, and he suspected it was already in progress in America (14).

56 See Note 65.

57 Ross (1998) cites that the main agency responsible for these conversions was the Tennessee Valley Authority.
fertilizers was already damaging the water and air while excess manure and refuse was not being utilized, and he found this irrational (Magdoff, Foster, and Buttel 2000, 50). The utilization of science and technology in its chosen forms—agrichemicals, biotechnology, input-hungry seed strains—encouraged the development of a disintegrated ecology in agriculture. Capitalist agricultural development has proceeded in an irrational manner. The mounting costs of development are ever-more a rallying point against the modern food system.  

**Structural Aspects of Agricultural Development**

Scholars in the Political Economy of Agriculture reveal a resistance to capitalist penetration. What are the implications of that finding? Science and technology have mitigated these incompatibilities, but to results that are increasingly problematic. I insist that agricultural development is not proceeding according to models of capitalist development. So how, then, did it proceed? The typical answer is that it was advanced by capitalist entrepreneurs. I assert that this answer is incomplete, for the conditions in which business operates are heavily influenced by the state. The models of capitalist development in both traditions examined here are incomplete without a structural analysis of the state on agricultural development.

For over 10,000 years, agriculture has been a primary source of wealth and sustenance (from human labor) for human beings. The advent of agriculture often marked the end of egalitarian forms of society and the advent of social hierarchies, hierarchies that were necessary to mediate the accrual of wealth from agricultural activities (Ponting 2007, 53). Societies changed as the social relations between those who worked the land (peasants) and the elites that held power over them in whatever capacity changed or “improved.” The social

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58 While it is beyond the scope of this thesis to examine fully, this points to irresolvable problems of agricultural production within capitalism, something that is not approached in neoclassical and neo-Marxian economics because it undermines the legitimacy of capitalism. But writers in post-developmental and post-modern discussions of sustainable agriculture, world hunger, and food justice are examining the possibility of an irresolvable agricultural capitalism (see Magdoff, Foster, and Buttel 2000).

59 Ponting explains that leaders emerged (chiefs, etc.) from egalitarian societies to control and redistribute agricultural surpluses. In some cases, these societies developed into coercive states, though adopting agriculture did not necessarily lead to coercive states (2007, 53).
relations between peasants and elites centered on how wealth was mediated, and mediation quickly became appropriation. The appropriation of wealth became an exclusive privilege of the state. In pre-capitalist societies, wealth has generally been appropriated “by what Marx called ‘extra-economic’ means…coercion, exercised by landlords and/or states employing their superior force, their privileged access to military, judicial, and political power” (Wood 1999, 24). Capitalist societies, however, rely upon the law (with the state as arbiter) to legitimize the means of appropriating wealth. This is, of course, based upon the inalienable right of property. Ostensibly, the rule of law indicates that the means of wealth extraction are now “economic,” that is, free of arbitrary power relations or coercion. The great democratic revolutions were meant to bring forth the capitalist state, one under which the market could thrive, and one that was free of the old socioeconomic fetters.

The development of capitalism happened alongside great social transformations, the development of the modern state, and the development of a new ideology to legitimate it all (liberalism). Political scientists, historians, and economists often analyze these events as separate phenomena. Much is lost in this disaggregation. In accounts of capitalist development scholars often overlook the structural impact of state policy. But agricultural productivity was indispensable to developing states, and state policies were therefore aimed at promoting or facilitating it. This often meant that states developed policies to subsume traditional, presumably less-productive agriculture. These policies consisted of restructuring land use, incorporating the rural peasantry into the new state (nationalism and colonialism studies are replete with such accounts), or by fostering national identities. Taxation was an effective policy as well as it forced insular agricultural peasant communities to participate in the market so they could raise cash with which to pay state taxes (Headlee 1991, 25).

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60 See Moore (1966) for an account of the dawn of the modern state. The origins of capitalism are studied in economics and history. See Mellants (2007) for an account of the origins of capitalism and Wood (2000) for an account of the “agrarian” origins of capitalism.

61 Wood (2000) omits the role of state policy in the important process of “enclosure” in her account of agrarian capitalism in England.

62 This is a reason why French peasants retained land ownership and English peasants did not. The French state wished to generate revenue rather than allowing all of the revenue from agricultural activities to go to landlords, so it initiated legal proprietorship for peasants. Fostering national identities and taxation were both deployed in France after the revolution to incorporate the atomized peasantry into the new state (see Weber 1976).
agrarian policies have been specific to the needs of the state, whether it was an industrializing nation whose agriculture was tailored to feed its industrial growth, a colonized nation whose agriculture was oriented to export commodities, or a nation whose domestic agriculture was threatened by global competition.

The most illustrative example of capitalist agricultural development occurred in England in the 16th and 17th centuries. As capitalism developed, the landed aristocracy created political pressure to dispatch with communal landholdings and traditional property rights (Wood 2000). Traditional rights to subsistence on common lands were inhibiting national agricultural production. Liberal ideology, emerging to legitimize many such social developments that facilitated capitalism, tied the concept of property as the natural right of ownership to the logic of “improvement” of the land. In liberal ideology, “Unimproved land, land not rendered productive and profitable (such as the lands of indigenous peoples in the Americas), is ‘waste,’ and it is the right, even the duty, of improvers to appropriate it” (Wood 2000, 33). The result was the process of enclosure, first in the 16th century to facilitate sheep grazing for the lucrative wool trade, and again in the 18th century after the Glorious Revolution. The modernizing British state mostly abolished traditional or common property usage and privatized common land. This was meant to free “unproductive” land for capitalist agriculture but had the added bonus of creating a source of cheap urban labor to feed the maw of burgeoning industry (Wood 2000, 34). The result was a burst of agricultural productivity which also fed England’s industrialization, something that would not have been possible without the state’s land policies (Wood 1999, 102). At the same time, these policies caused upheaval and social dislocation as many people were forced off of land.

While England’s domestic agriculture prospered, it also introduced the capitalist paradigm to the world through colonialism. “The new dynamics of this growing capitalist system produced a new form of colonial imperialism…not just the age-old pre-capitalist hunger for land and plunder but an outward expansion of the same capitalist imperatives that

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63 Wood explains, “This could mean various things: it might mean disputing communal rights to common lands and claiming exclusive private ownership; it might mean eliminating various use-rights on private land…property as not only private but also exclusive” (2000, 32).

64 A great part of England’s growth was due to colonialism, of course. But without these key agrarian policies, there would not have been a large, dispossessed and poor work force providing a demand for cheap consumer goods and a market for industrial products (Wood 1999, 102).
were driving the domestic market, the imperatives of competitive production and expanding consumption” (Wood 1999, 102). Colonial agricultures were drastically transformed as a result. Indigenous agricultures all over the world were supplant by monocrop (cash crop) production. The transformative impact of colonialism and imperialism of all types had untold effects.

Central American nations (El Salvador, Guatemala, Nicaragua, Costa Rica) achieved independence in the mid-1800s, and quickly became dominated by wealthy agrarians who sought to expand their wealth and productive power; state agrarian policies reflected this. “The ruling liberals came to view the Indian ejidos (publicly owned lands) and tierras comunales (community held lands), as well as church- and state-owned lands, as barriers to the continued development of commercial coffee production, economic progress, and the private accumulation of wealth, and began pressuring for their elimination” (Faber 1993, 22). What followed was a series of reforms that were much like England’s enclosure, the privatization of communal lands, titling laws, and of course, a boom in coffee production (Faber 1993, 23). The social process of rural dispossession was very problematic. It would be repeated throughout Latin America and the developing world in different forms. But this is the essence of capitalism; labor power must be a commodity and the ties of producers to land must be “severed for good” (Patriquin 2004, 199). The dislocation of peasants from land has been enforced by the state, the entity with the power to define fundamental property rights. “Whether the dislocation was swiftly healed or whether it caused an open wound in the body social depended primarily on the measures taken to regulate the process. Powerful factors of change and adjustment were introduced by the governments themselve” (Polanyi [1944] 2001, 189).

While the initial conversion of colonial agricultures was difficult, as the Central America example highlights, the modernization of post-colonial agricultures has been just as vexing. Latin American governments have guided the modernization of their national agricultures through land tenure policies, dissolving communal landholdings or reconstituting them as needed. On the promise of a short-cut to industrial development, Latin American governments aligned themselves with the missionaries of the Green Revolution, the research-and-development teams from the Rockefeller, Ford, and Carnegie foundations. These governments intentionally deployed and subsidized the tools of industrial monocrop...
agriculture with clear development goals in mind (see Ross 1998). Many Latin American governments have since tailored their national agricultures for export in vain attempts to raise enough cash to import industrial capital (Green 2003). Many Latin American nations have developed national agricultures to include tropical produce for export and an importation of cheap grains from the US (Barry 1987).

When the governments of developing nations apply agrarian policies it is often under the stated intention of fostering capitalist development, something that is needed because of extra-economic inhibitors. Development economists often accept the negative consequences of forced development as indications of poor developmental policies, of the wrong strategies to foment capitalist development. But this should not obscure the fact that these are examples of the need for state intervention on behalf of capitalist agricultural development.

McMichael (1997) argues that the capitalist development of agriculture is a political process. The change to capitalist modes of production did not occur sporadically, but was induced or adopted by state governments and the bourgeoisie as the global market developed. This is the ultimate shortcoming of the developmental models I examined, for they insist on an internal momentum or logic to capitalist production. This is not true of capitalism in general and certainly not for agricultural development. Trade intensified, distances shortened, and interaction heightened, creating a global market. This increased the proximities of direct competition between states and made it necessary for state governments to facilitate the transition to capitalism (Wood 2000).

In the modern global market, state agricultural

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65 The Mexican Agricultural Program (MAP) was a joint venture between the Mexican government and the Rockefeller Foundation. It aimed at modernizing agriculture and accomplished a reversal of previous land reforms. The MAP was replicated in Columbia and trained agronomists from Ecuador, Peru, Central America, and Chile (Ross 1998, 443). In the post-WWII era, the Mexican government facilitated agricultural development by financing irrigation systems, roads and railways for shipping, developed subsidy programs for fertilizers and pesticides, and employed tax advantages and tariffs to induce the development of industrial agriculture (Wright 1990, 184).

66 Examples of such policies can be found in the disastrous developmental paradigms of Latin American governments (bolstered by developmental programs, loans from the World Bank, and structural-adjustment programs) from the 1960s onward. These include the failed import-substitution industrialization, in which agricultural prices are kept purposefully low, or agricultural sectors that are oriented to tropical produce for export. See also Barry (1987) and LaFeber (1986).

67 Barry evokes the example of Central America, “Because of uneven land tenure and land use patterns, Central America is now an agricultural region that does not feed its own people…Since 1950, when the push for new agroexport production started, total food imports to the region have increased sevenfold” (1987, 12).

68 Wood explains, “International trade was essentially ‘carrying’ trade, with merchants buying goods in
policies aim specifically to support or protect certain crops (as the US protects and supports the grain sector but allows the importation of tropical produce). Other policies aim to promote a national agriculture that will be competitive in the global market, or one that will facilitate a state’s developmental needs.

**CONCLUSION**

The neoclassical and neo-Marxian traditions suffer from deterministic assumptions. These theories propound the faulty narrative of *inevitable capitalist development* in agriculture; this narrative has permeated popular and legislative debate over the *farm problem*. But capitalist agricultural development is not an inevitable process. It is a process that must be, for lack of a better term, cultivated. The neoclassical view of the *farm problem* is that it is an unfortunate side-effect of agricultural development, and also that it is due to chronic market failure, low prices and low farm incomes. This regrettable interpretation was the basis of the first farm programs and has dominated discourse about them ever since. Scholars in the Political Economy of Agriculture fail to question their assumptions about development when faced with countervailing trends. Both traditions continually dismiss the staying power of small and family farms and label them anomalies (permanent or transient) in agriculture, instead of revisiting their core assumptions.

Few eras in the history of agricultural development have been as pivotal as 20th century America, which spurred the Green Revolution and resulted in the industrial agrifood system. But these monumental changes, like those of the past, did not occur in a political vacuum. The historic role of state policies like those deployed in the enclosure movements of England and Central America, or the intentional promotion of the Green Revolution by Latin American governments, attests to that. The neoclassical and neo-Marxian economic theories of development omit the important structural impact of state policies on developmental processes. Both champions and critics of the industrial agrifood system pay insufficient

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one location to be sold for a profit in another…there was no single or unified market” (2000, 26). This did not happen because of an internal momentum of capitalism, but because global changes necessitated it. As global trade patterns intensified, the mercantilist pattern of profit accumulation (buy cheap in one market, sell high in another) was confronted by redundant competition. Producers needed to gain advantages on the production side of a good (by lowering costs, exploiting labor, etc), and earn a comparatively better profit, so they adopted the capitalist mode of production out of necessity.
attention to state policy and the role it has played in its genesis. In the following chapters, I outline an alternative account for the rise of the industrial agrifood system.
CHAPTER 3
SOLVING THE FARM PROBLEM

This chapter focuses on the formative era of US agricultural policy, with a discussion of commodity programs from 1933 to 1953. I categorize these commodity programs as supply management policy. These programs sought to remedy the farm problem through mechanisms of commodity production controls and price supports. Supply management policy had important immediate and long-term effects on the farm sector and set important precedents for future legislation. These commodity programs had immediate effects on the farm sector, prices, incomes, and the adoption of new farm technologies. They also had long-term consequences which I indicate here and further develop in chapters four and five.

SUPPLY MANAGEMENT POLICY

Modern US agricultural policy was born during the Great Depression, during an agricultural crisis of overproduction, shrinking world markets, and collapsed prices. US agriculture had enjoyed a veritable boom during and after World War I. A subsequent slowdown in overseas demand began in 1920. The US agricultural trade balance slipped into deficit for the first time and would remain negative for nearly two decades (Orden, Paarlberg, and Roe 1999, 9). While prices dropped, the onset of the depression exacerbated a collapse that was especially felt by small and low-earning farms (Orden, Paarlberg, and Roe 1999, 15). During the collapse of the 1920s, farmers were not politically organized and legislation that proposed federal support for farm products repeatedly failed (Orden, Paarlberg, and Roe 1999, 17). Farm organizations and congressmen who sought price supports were countered

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69 The slowdown of the world economy and overproduction may not have been the main culprits in the collapse of farm problem in the 1920s. A concurrent collapse of the money supply, brought on by the “tight money,” deflationary policies of the new Federal Reserve, may have been to blame for collapsed farm prices (Orden, Paarlberg, and Roe 1999, 9). These policies were championed by the dominant Republican Party. Oddly, the same deflationary monetary policy would preclude the next farming crisis in the early 1980s.

70 Even before the Depression, farm prices and income were falling sharply in the 1920s, by as much as half in a single year (Orden, Paarlberg, and Roe 1999, 15).

71 The 1933 Agricultural Adjustment Act (AAA) was the first successful agricultural intervention
by a Republican majority in Congress, and the coalition of industrial interests and agricultural processing sectors they represented. Agricultural processing entails granary storage, milling, transport, meatpacking, and any enterprise that purchases raw farm products, adds value to them in some way, and captures part of the retail value. When farm prices plummeted in the 1920s, the processing and industrial sectors particularly benefited from the low prices and fought any efforts to support them.72

Eventually an emerging farm coalition found political support for government action in agriculture (Orden, Paarlberg, and Roe 1999, 12).73 In the context of the lingering depression, and after the 1932 election brought changes in Congress and the presidency, the atmosphere was ripe for such a bill. “The workings of the ‘free market’ had been so thoroughly discredited in public perception by three years of depression that Roosevelt pressed interventionist programs as a remedy” (Orden, Paarlberg, and Roe 1999, 19).

Formulating the best understanding of the farm problem, agricultural economists and legislators identified a scourge of market failures based on irresolvable supply-demand issues as the source of the farm problem (Sumner, Alston, and Glauber 2010). Legislative analysts viewed commodity overproduction as the cause of low prices and low farm incomes, so that was the target of the first “farm bill” (Orden, Paarlberg, and Roe 1999, 20).74

The 1933 Agricultural Adjustment Act (AAA) entailed programs for price supports, production controls, federal farm credit, and crop insurance. The initial commodities

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72 This early political position of the agricultural processing sector will remain important throughout this analysis. It is important to make clear the conflicting interests of farmers and those of the agricultural processing sectors. Processors benefit when farm prices are low, and when prices are low, farmers often suffer.

73 Agricultural interests were unorganized throughout the 1920s and had difficulties advancing their interests in national policy. The first farm lobby group was the American Farm Bureau Federation which in 1922 had some 450,000 farm families and supported an emerging “farm bloc” in Congress that sought to raise prices (Orden, Paarlberg, and Roe 1999, 12). They would not make legislative gains until the 1932 elections.

74 Technocrats from Roosevelt’s “brain trust” recommended production restraints to boost prices.
included were hogs, wheat, corn, cotton, tobacco, rice, and milk. Other commodities like fresh produce were subject to arrangements that limited amounts bound for market (Winders 2007, 8). Land-idling was a favorable program because it gelled nicely with conservation interests. Farmers were paid some $1.1 billion to fallow 35 million acres between 1933 and 1936 (Orden, Paarlberg, and Roe 1999, 21). Production controls were coupled with price supports; these supports did not entail price “floors,” which are mandated minimum market prices for commodities. Instead, price supports were paid directly to farmers. It is not clear whether this chosen mechanism of direct payments to farmers for price supports was a compromise, since the processing sector had so stringently fought price supports. In any case, the mechanism of price supports did not directly harm the processing sector because it did not raise real prices. But the other central mechanism of supply management policy, production controls, did effectively raise commodity prices.

To pay for the program the government sought an effective price floor through a tax on agricultural processors (Winders 2007, 60). This aspect of supply management policy incurred much objection from the processing sector. The tax was the difference between market price and “parity” price (Winders 2007, 55). The parity price was a fair price level for a product. Parity was first determined by a large index of industrial product prices, and was later defined by income levels, as “the ratio of purchasing power of the net income per person on farms to net income per person not on farms” in a defined period (Becker 2002, 2).

The AAA created a new entity, the Commodity Credit Corporation (CCC), to administer the price supports. The CCC issued nonrecourse loans to farmers, who put their crops up for collateral, at the parity price determined by the government. Farmers could sell their crops at a favorable price on the open market and repay the loan, but if prices were too low they could simply forfeit their collateral crops and face no penalties (Orden, Paarlberg,

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75 For other commodities (like perishables) were subjected to regulation and marketing agreements that limited quantity. Also, rye, barley, sorghums, peanuts, sugar, potatoes, and cattle were added to supply management policies shortly afterward (Orden, Paarlberg, and Roe 1999, 21).

76 I have not observed an assessment of the 1933 AAA that fully highlights this formula for the processing tax. However, the formula is very important. When real commodity prices drop, processors profit relative to farmers. The tax would have ensured that processors be denied that marginal profit, because it would, in effect, be returned to farmers through government parity payments. With the processing tax, the price supports were effectively price “floors.”
Initially, commodity prices were set at 60 to 70 percent parity. Eligibility for the loans was dependent upon a farmer’s participation in acreage-reduction programs. The Supreme Court objected to this, stating it was tantamount to economic coercion (Winders 2007, 55). The nonrecourse loan program was initially successful. Market prices were auspiciously high from 1934 to 1936 and farmers were able to sell their products and repay their loans (Orden, Paarlberg, and Roe 1999, 22).

Perhaps the most illustrative example of supply management policy was the immediate government attempt to reduce supplies already bound for market. Government officials purchased, held off the market, or simply destroyed goods, livestock, and produce. The infamous Pig Purchase Program in 1933 offered fair prices to farmers to remove six million young pigs and 200,000 pregnant sows from the market, sending them immediately to slaughter. Though small portions of the hogs were donated to food relief efforts or were converted to fertilizer or feed, most went entirely unused and were burned or land-filled. Growers of fresh produce who were not supported by programs formed collectives and agreed amongst themselves to destroy parts of their crops or harvests to meet quotas (Winders 2007, 12). Cotton farmers plowed under a quarter of the 1933 cotton crop and destroyed another four million bales of harvested cotton under government mandates. While these actions put many agricultural laborers out of work, they barely made a dent in cotton surpluses (Winders 2007, 53). These actions were particularly ironic amidst the widespread want and hunger of depression. Unfortunately, there were no established government food relief programs until 1938, and bureaucrats feared that large donations would cause further price drops. Market excesses were destroyed rather than go to relief efforts.

The courts declared the processing tax of the AAA unconstitutional in 1936. The Supreme Court ruled in the favor of appealing processors, stating that the “expropriation of money from one group for the benefit of another” (a statement that would grow more poignant as the decades passed and farm subsidies grew) was unconstitutional (Orden, 77).

Footnotes:

77 The amount paid for crops was determined by the CCC and later by Congress.
78 The 1936 Soil Conservation and Domestic Allotment Act created payment for fallowed land for “conservation purposes” in an attempt to link farm payments to a redeeming public good (Becker 2002, 2).
79 The cotton carry-over from 1933 was still 100 percent. Farms could refrain from planting cotton for an entire year and still fully meet market demand (Winders 2007, 53).
Paarlberg, and Roe 1999, 21). The Court also stated that supply controls which were necessary to receive payments for price supports were tantamount to economic coercion. This was an important precedent, and highlights the conflicting economic interests of farmers and the processing sector. Farmers are an atomized group, and tend to rally with their respective sectors (by crop and geographic location), while the agricultural processing sectors are often more tightly knit and successful at organizing politically (Browne 1988). The 1936 ruling was only a temporary setback for US agricultural policy (Winders 2007, 66).\textsuperscript{80} While other parts of the New Deal did not survive challenges of constitutionality, and the AAA was intended to be a temporary relief program, it would far outlive the early farm crisis.

The 1938 Agricultural Adjustment Act continued supply management and price support policies. This package reflected legislators’ encouragement at the initial success of the CCC. Congress set price support loan amounts at 70 percent parity, high enough to exceed long-term projections of farm commodity prices. Suddenly, the cost for farm programs rose to $763 million, more than doubling the combined expenditures of the previous three years. The 1938 bill also linked fallow programs to conservation efforts, and made participation voluntary but still necessary for CCC loan eligibility (Orden, Paarlberg, and Roe 1999). The 1938 bill added many more commodities to price supports (Becker 2002).\textsuperscript{81} This was mostly at the behest of a newly vital farm coalition, strengthened by the years of the Depression and a tripling of farm organization membership from 1933 to 1940 (Winders 2007, 23).

The Steagall Amendment in 1941 pushed price support levels further to 85 percent parity. The primary reason for the raise was the onset of World War II. The war boosted demand for farm products and raised real prices, making the high support levels temporarily affordable. Policymakers made support for non-basic commodities mandatory, to ensure that wartime demand was met at all times (Becker 2002, 2).\textsuperscript{82} The Steagall Amendment also

\textsuperscript{80} This ruling hampered the AAA significantly, but Congress was quick to counter with the AAA of 1938, which contained new provisions that accomplished the same thing (Orden, Paarlberg, and Roe 1999, 22).

\textsuperscript{81} The 1938 Act made price supports mandatory for corn, cotton, and wheat. It also granted optional eligibility to butter, dates, figs, hops, turpentine, rosin, pecans, prunes, raisins, barley, rye, grain sorghum, wool, cover crop seeds, mohair, peanuts, tobacco. The Agricultural Act of 1938 is also considered permanent legislation (Becker 2002, 2).

\textsuperscript{82} Also, it is at this point where commodity programs became tied to issues national production and food
made even more commodities eligible for price supports. In 1942, the Stabilization Act pushed price support levels even further to 90 percent parity, and eventually to 95 percent in 1944 (Winders 2007, 81). By 1945, supply management policy applied to 166 commodities.

The end of cumbersome rationing in the domestic market, and the rebuilding of war-torn Europe kept demand high for farm products after WWII (Winders 2007, 70). High prices curbed the costs of high price support levels. Production levels were increased in the midst of the war effort; during the war supports and controls were not really necessary. The Agricultural Act of 1948, the Agricultural Act of 1949, and a 1952 amendment kept parity levels at 90 percent. The Agricultural Act of 1948 also made price supports mandatory for basic crops (corn, wheat, and rice). Commodity programs remained unchanged until 1954. Agricultural prices began to drop around 1950 for a number of reasons (Orden, Paarlberg, and Roe 1999).  

Officials lowered price support levels slightly in the Agricultural Act of 1954, though they remained relatively high (Winders 2007, 82). Production controls remained in place until the Agricultural Act of 1964 implemented more flexible control measures (Becker 2002, 3).

Immediate Consequences

The 1933 AAA was immediately popular, as it injected badly-needed income into the farm sector. Farm prices and incomes rose. Commodity prices doubled and even tripled between 1932 and 1936, and average farm income increased nearly 65 percent during the same period. From 1932 to 1935, corn production fell 10 percent, wheat fell by 25 percent, and cotton fell about 20 percent (though part of this reduction was due in part to severe drought in the Corn and Wheat Belts). Farm income increased from $6.5 billion to $21 billion from 1932 to 1947 (Winders 2007, 59). Figure 3 demonstrates the recovery of returns to farmers after 1933. The recovery was bolstered by high wartime demand and price levels.

security, rather than simply farmer livelihoods (Blank 2008, 438). Throughout the 1960s and 1970s, legislators would emphasize food security and nutrition as reasons for farm programs, especially after the “food stamp” or nutrition program title was added to the “farm bill.”

83 This was due to a combination of factors, increased productivity after the dissemination of Green Revolution technologies, the recovery of Europe, and of course, the skewed production incentives induced by generous price supports and inefficient supply management (Orden, Paarlberg, and Roe 1999).

84 Price support levels were in fact set at 82.5 to 90 percent of parity (on a sliding scale) for 1955, and from 75 to 90 percent for proceeding years (Winders 2007, 82).
But these first promising years for commodity programs obscured the weaknesses of the program and their more ominous effects. Early assessments of the AAA highlight its inability to target small struggling farms over medium and large farms. The programs were “of dubious equity in the 1930s and [have] since become even more conspicuously inequitable” (Orden, Paarlberg, and Roe 1999, 38). Agencies administered price supports in a way that favored larger farms. Officials based acreage controls on acres previously farmed, currently farmed, and total acreage (Winders 2007, 73). This meant that big farms could fallow a portion of their large acreage and still produce a fair amount. Small farms had to set aside a portion of their small acreage and still make do. Sometimes, even generous price supports were not enough to keep them viable. The AAA initiated a decline in the number of farms, as some could not make ends meet on the amount of land they were allowed to farm (Alter 2006, 284). Price supports guaranteed benefits to higher-volume producers. “That is, a farmer who produced six thousand bushels of corn received greater price supports than did a farmer who produced four hundred” (Winders 2007, 73). It was immediately apparent that supply management policy favored larger farms. The overall number of farms began to decline in 1936 (see Figure 1, p. 3).

The most glaring inequity in the distribution of farm program funds was found in the issuance of price support payments directly to landlords who did not share them with their

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85 Also, Gisolfi notes that when small farmers were subjected to controls, it “dug into their very existence,” while “large farmers reduced acreage, turned profits, and received large allotment checks from the government” (2006, 174).
tenants. In turn, tenants were forced to comply with acreage reductions and make do on the land they had to farm and still pay rent. Historically, the capitalization of government payments to farmland values has been around 92 percent (Rosine and Helmberger 1975, 725). This is due in part to production control measures, which though largely ineffective, have taken significant amounts of agricultural land out of production (about 20 percent on average for every year since 1933). This has given a boost to remaining farmland prices, as is apparent in Figure 4. Active farmlands became more valuable after farmers idled millions of acres.

![Figure 4. Farmland value (dollars per acre) 1910-1954. Note. Adapted from USDA ERS (2012d).](Figure4.png)

Compounding the misery of tenant farmers was the fact that landlords raised rents as land values increased. Farmland rental rates more than doubled from 1933 to 1938, far outpacing the increase in farmland value. In the 1930s, more than half of all farmers in the South were tenant farmers, share-tenants (who owned some productive capital like animals and machinery), and sharecroppers (who owned nothing but their labor) (Conrad 1965, 6). Southern planters often refused to share their payments, keeping 90 percent of them from their tenants or sharecroppers despite provisions in the AAA that mandated sharing. A great

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86 This is from an analysis of programs from 1948 to 1970. This is determined as the difference between the hypothetical “free market” price and the price affected by the farm programs, and as a percentage of the total amount of government payments (92 cents for every government payment dollar inflates farmland value) (Rosine and Helmberger 1975, 725).
number of evictions were common as landlords reduced tenancy to cope with acreage reductions. Federal subsidies encouraged landowners to dispossess tenant farmers and hire wageworkers (Winders 2007, 113). An internal memo in 1935 to the Secretary of Agriculture stated that landlords overwhelmingly captured income benefits. For example, landlords of cotton farmers saw their incomes increase an average of two and a half times those of their tenants, share tenants, and sharecroppers (Conrad 1965, 183). Figure 5 highlights the rise in farmland rental rates in the US following the AAA. Note that at the same time the total amount of rent paid in the farm sector rose, the number of farms was steady or declining (see Figure 1, p. 3).

![Figure 5. Farmland rent (in billions) 1929-1954. Note. Adapted from USDA ERS (2012c).](image)

**THE AAA AND FARM MODERNIZATION**

Land-idling and conservation programs exacerbated the outmigration of labor in farming. Since the end of the war these programs have idled as much as 20 percent of cropland in any given year (Orden, Paarlberg, and Roe 1999, 41). This has reduced the demand for on-farm labor and for labor in related sectors like farm supply. A great deal for the labor reduction in farming was due to the profusion of technology and increase in acreage

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87 A great number of evictions occurred in the South in 1934-1935. Over half of Alabama landlords polled said they could not afford to keep all of their tenants; the Texas Bureau of Business Research noted that 450,000 people on state relief were due to the AAA programs (Conrad 1965, 77). A study of 500 Tennessee families found that 15 to 20 percent had been evicted due to AAA programs (Conrad 1965, 82).
productivity, but at least part of that growth, as is apparent in the changes to the cotton farms of the South, was due to the infusion of cash payments in farm landlords’ hands. Farm labor declined during the 1930s and 1940s. It continued to drop nearly every decade thereafter. During the 1940s, 1950s, and 1960s, the agricultural labor force shrank by about 3.5 percent per year (Orden, Paarlberg, and Roe 1999, 26). “Price support programs did little to cushion this difficult labor transition, because their benefits were capitalized into asset values with little effect on the incomes of farm labor or returns to farm capital” (Orden, Paarlberg, and Roe 1999, 2). Figure 6 highlights the cost of farm labor as a portion of net farm income.

![Employee compensation (portion of net farm income).](image)

From 1933 to 1935, the cost of farm labor declined from 24 to 14 percent of net farm income. Faced with a reduction in labor, landlords sought to increase their productive capacity with new farm capital and machinery. The infusion of income to landlords led directly to the increase in the accumulation of capital, in the form of mechanized farm technology (Winders 2007, 114). “As landlords cast aside tenants, they began to purchase automobiles and farm machinery using federal money” (Gisolfi 2006, 175).\(^8\) Many vacant tenant buildings were converted to chicken houses; the AAA contributed directly to the booming chicken industry in the 1930s in the Georgia Upcountry. Merchants who had

\(^8\) For example, the number of automobiles in Georgia grew from 310,684 to 397,685 from 1932 to 1934 (Gisolfi 2006, 175).
previously supplied the inputs for the cotton crop found themselves at a loss under the acreage reductions, and sought new avenues in the poultry business. Merchants extended credit, chicks, and feed to farmers in efforts to furnish new business for themselves (Gisolfi 2006, 179). New tractor sales nearly doubled in the decade from 1929 to 1939. These investments were also made attractive by the newly-ensured price stability of farm products. “New Deal programs also had much to do with the ‘pace and shape’ of the revolution in farm productivity after 1940” (Orden, Paarlberg, and Roe 1999, 34).

In short, subsidies to farms in this era were converted to new technologies or inputs, at the same time that production controls made it necessary to cut back on farm labor. The conversion of government payments into investments in farm capital is called ‘capitalization.’ Most analysts use the term capitalization to describe the conversion of subsidies to farmland values, but it is a useful term for quantifying the amount of government payments channeled into other types of farm capital like machinery, buildings, and livestock. Figure 7 illustrates the increase of farm capital expenditures which began in 1933 and continued through the 1940s.

![Figure 7. Farm capital expenditures (in millions) 1910-1954. Note. Adapted from USDA ERS (2012e).](image)

Enforcement of production controls was ineffective. The Farm Bureau recognized the problem in an internal memo in 1954, stating that “the shifting of acreage from protected crops under government control programs creates serious problems for producers of these crops and has serious implications for producers of unprotected crops” (Winders 2007, 86).
Production controls limited the amount of acreage that farmers could plant with any certain crop, but not the actual volume that they could grow on that acreage. This spurred incentives to adopt new technologies that could maximize production volumes on a given amount of land. Ineffective production controls had an incongruous relationship to price supports. A very important distinction about price supports was that they were administered directly to farmers and did not affect market prices. Price supports guaranteed income regardless of price, and fundamentally skewed the nature of farmer production decisions. Farmers, paid for volume produced but restricted in the amount of land farmed, had every incentive to produce as much as possible on their allotted acreage.

The unique combination of supports and ineffective controls, along with the high prices during the war years, all contributed to the increased capitalization of farms. “Higher prices and a seemingly unlimited demand for farm products, combined with a shortage of farm labor and appeals from the government to increase production, led farmers to adopt technological advances” (Rasmussen 1962, 588). For example, new hybrid seeds that were available by the 1930s had led to a sharp rise in corn production amidst fixed acreage allotments. Others still turned to growing different market crops on idled land for extra income. An interesting consequence of planting limitations of cotton was the increase in soybean and corn production in the South. Soybean production grew in tandem with concentrated Southern livestock operations. By the 1960s, soybeans would replace cotton as the dominant crop in the South and become a staple feed grain for the entire nation (Winders 2007, 113).

**FARM PRODUCTIVITY AND SURPLUS**

In the 1930s, surplus production was not a widespread problem, but as Green Revolution technologies came to the fore, artificial fertilizers and high-yield seed varieties made it possible to maximize output. Throughout the late 1940s and 1950s new technologies made farmers more efficient with the land they were allowed to farm, and productivity growth was steady (Orden, Paarlberg, and Roe 1999, 25).\(^{89}\) The effects of the technological

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\(^{89}\) Research and development began in the 1930s with the development of hybrid corn seeds. Over the next few decades there were important developments in wheat, rice, cotton, and sorghum varieties. Then, artificial fertilizers and agrichemicals would abound after the end of WWII.
shift and productivity boost are subtle in this period, for technology was only just beginning to transform American agriculture in the 1950s. Through the 1940s, agricultural output grew by about 2.2 percent per year, and by about 2.5 percent per year in the 1950s, well above the rate of population and overall economic growth for the nation; between 1940 and 1958, agricultural production grew a staggering 50 percent overall, even while the number of agricultural laborers dropped (Ruttan 1993, 39). The new investments in farm technologies that made this productivity increase possible were supplied by commodity program payments. The trend of overproduction would become obvious in the 1950s and remain a permanent feature of American agriculture. This growing national surplus initially consisted of wheat, cotton, corn, and feed grains (Ruttan 1993, 40).

Essentially, the government was to administer an “ever-normal granary.” The CCC was to hold surplus commodities off of the market and release it in years of high demand if necessary. The real efficacy of the “ever-normal granary” is questionable even in the years of the strictest controls. Figure 8 reveals the real value of farm products, which have been in more or less steady decline since the 1920s. Fortunately for the era in question, 1933 to 1954, prices were driven upward by increases in world and domestic demand, both during and after World War II. Once the demand from World War II began to subside, the productivity gains of the 1940s began to show themselves in earnest and prices fell (Orden, Paarlberg, and Roe 1999). This decline was not appreciably countered by production cutbacks. The real price of farm products would be gradually de-coupled from farm production and planting decisions beginning in 1954. The drops in real value thereafter, and the farm income they affected, were alleviated only by government programs.

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90 The “ever-normal granary” is a biblical term used by government officials to describe the functions of the government in regulating national food stocks. The term was used by Roosevelt’s Secretary of Agriculture Henry A. Wallace (Orden, Paarlberg, and Roe 1999, 22). An interesting historical note is that Wallace was also the owner of Pioneer Hi-Bred, the first commercial corn seed developer, and was influential at shaping agricultural policy (Ross 1998).

91 Orden, Paarlberg, and Roe describe how supply controls were also achieved by subsidized acreage-reduction. Thirty-five million acres were fallowed in 1934. Spending for idling programs from 1933 to 1936 totaled $1.1 billion (1999, 21). Farmers usually idled their least productive land or grew different crops, and in later decades would utilize techniques that maximized their acreage production (Orden, Paarlberg, and Roe 1999, 58).
Figure 8. Real value of farm products. Note. Compiled from USDA ERS (2012a; 2012g).

The failure of programs to curb overproduction—the gaps in supply management policy—are key to understanding the irrational production decisions that would soon follow. Farmers planted more to compensate for declining incomes and prices dropped even further. During this period there was significant growth of meat production and consumption. The USDA promoted the modernization of livestock production within its research and development bureaus (Winders and Nibert 2004, 81). Meat price supports—for hogs, turkey, chicken, eggs, and milk products—were added to commodity programs in 1941. The first Concentrated Animal Feeding Operations (CAFOs) debuted in California in 1945 (Gottlieb and Joshi 2010). This also marks the year from whence meat production and consumption underwent its most dramatic changes based on the new productive paradigm of feeding surplus feed grain to livestock in large amounts (Winders and Nibert 2004, 84). Meat is an effective way of adding value to a feed grain. Where demand for a grain or food is typically inelastic (people can only eat so much, so as prices lower, consumption does not increase by much), demand for meat is elastic. People will buy more meat as the price drops, more than enough to offset the concurrent drop in prices.

At this time of rising postwar affluence and changing diets, meat suppliers had no incentive to limit the supply of meat. They did, however, have every incentive to guarantee cheap and plentiful inputs for their feed and sought commodity programs for feed grains that ensured that (Winders 2007, 91). The main objective of the agricultural processing sector in
this period was to lobby a limit on production controls. They were joined enthusiastically by corn farmers in particular (Winders 2007). While they did not make any important political gains against supply management in the 1933 to 1954 period, the livestock sector had access to a low-priced feed grain surplus, and was able to benefit from elastic meat demand in the US. Meat consumption rose steadily from 1948 on, especially consumption of beef and poultry; meat production more than doubled from 1945 to 1975 (Winders and Nibert 2004, 81).

At the same time processors of agricultural products, millers, granaries, meat packers, and canneries benefited from guaranteed supplies of cheap inputs. Of course, the CCC kept many excesses off of the market, but these firms never wanted for supplies. When market prices declined, the market share (portion of overall consumer dollar for an agricultural good) captured by farmers started to dwindle. This is unfortunate, for a rising general affluence was increasing the aggregate amount of national spending on consumer goods, including food. Agricultural processing firms were best positioned to take advantage of this growing market. The production, processing, and marketing of food began dramatic transformations in the early 1950s. Value-added sectors were able to capture more of the food market share as they transformed cheap agricultural inputs into processed, patented food products. It is no big surprise that the earliest manifestations of “fast” food and processed food revolved around basic grains, and another well-supported commodity, sugar. The number of food products in stores grew from an average of 870 to 4,000 products from the late 1920s to the early 1950s (Gottlieb and Joshi 2010, 51).

Processors and buyers of agricultural commodities still operated in the open marketplace. The agricultural processing sector was able to benefit not only from drops in real price after World War II, but from rising affluence and food consumption as well. However, when prices fell, farmers received only the fixed amounts that were determined by the government. Price support levels were generous and may have protected farmers from price volatility, but did not provide the farmer with increased bargaining power in the open marketplace. Figure 9 shows the portion of commodity program payments as net farm

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92 Corn farmers and the livestock sector advocated their policies through the American Farm Bureau Federation. As much as 90 percent of all corn in 1949 was consumed by livestock producers (Winders and Nibert 2004, 80).
income. In the early years 1933 to 1941, the portion was sizable. The decline during WWII reflects the temporary rise of market prices and a freedom of farmers from a heavy reliance upon price supports. The portion of government payments to net farm income began to increase again from 1948 on, signaling the end of Europe’s recovery and then the end of the Korean War. This portion would grow significantly after 1954.

US agricultural productivity expanded dramatically from 1940 on, bolstered by the development and diffusion of new technologies. This package of agricultural technologies came to be known as the Green Revolution.\(^\text{93}\) Many historians and analysts of agriculture discuss the Green Revolution as a necessary solution to the problems of booming world populations, hunger, and scarcity of resources. It is clear that economic and historical narratives of the modernization of agriculture contain a view of agricultural technology as a function of entrepreneurial initiative. In reality, development of these technologies was

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\(^{93}\) Agricultural research and development in Latin America, India, and the Philippines was supported by philanthropic entities from the US, the Rockefeller, Ford, and Carnegie Foundations. The foundations’ board members often represented the very same seed, oil, and chemical companies in the US which stood to gain the most from the export of agricultural technologies. Many of these board members also held prominent positions in the US government, the World Trade Organization, and the World Bank and were able to guide national and international policies to facilitate the Green Revolution. However, the stated aims of the Green Revolution by the foundations were philanthropic. They expressed concern for the developing world’s ability to feed itself and aimed to transfer first-world technology for the benefit of the third world. See Ross (1998) for analysis of the duplicitous motives behind the Green Revolution.
supported by research and development within the USDA and a system of federally-supported land-grant colleges (Rasmussen 1962, 590). And the pace of farm modernization was accelerated by commodity programs.

**CONCLUSION**

Surpluses began to accumulate and prices fell in earnest in 1953, at which time policymakers implemented a new export-oriented policy, PL 480, the international food aid program. Wheat surpluses were already high by 1948. Government-stored commodities were at an estimated $2 billion in 1952, and would quadruple by 1959 (Orden, Paarlberg, and Roe 1999, 22). By guaranteeing income regardless of aggregate national supply, price supports had encouraged farmers to overproduce. Though they appeared to be somewhat effective in reducing overall production at first, production controls did little to curb the accumulation of surplus over time. Subsidized farmland-idling through a system of direct cash payments to farms was effective only in reducing farm labor, but it also proved very popular. Under the AAA, price supports were issued per-bushel of commodities produced, guaranteeing higher payments and incomes to bigger farms. At the same time, acreage reductions disproportionately punished small farms, which had to squeak by on small allotted acreage.

The increases in farm productivity were dampened by the demands of World War II, by overseas demand during the recovery of Europe, post-war domestic consumption, and again in the Korean War. Heaping commodity surpluses had not yet started to accumulate. When they did, policymakers would employ another mechanism to deal with them. Though it was not apparent at the time, the downward pressure on commodity prices was eating into the financial viability of small farms. While farm programs alleviated some of the effects of depressed prices, benefits accrued overwhelmingly to large farms and landowners. Payments were capitalized into increasing farmland prices and tenant farmers who survived the post-AAA wave of evictions faced escalating rental costs. Agricultural labor declined amidst the new pattern of capitalization of program payments into farm modernization. The number of

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94 Rasmussen explains “research programs [were] carried on primarily by the Department of Agriculture and the state agricultural colleges and experimental stations, as well as by industry” (Rasmussen 1962, 590). This is how *supply management policy* made necessary the ability to produce as much as possible on limited acreage, and how federally-supported research and development was instrumental in developing the technologies by which farmers were able to do so.
farms began declining shortly after 1933. Soon, the growing surplus was paying dividends to the agricultural processing sectors, as it had paid off for the livestock sector after 1945. A new term, *agribusiness*, captured the trends of growth and concentration within the processing sectors, and analysts would resurrect the term *farm problem* to describe the new financial plight of farmers. Those are the subjects of chapters four and five.
Supply management policy had failed miserably at curbing commodity surplus. In fact, it encouraged it. As we saw in the first 20 years of commodity programs, poor production controls and high price supports fostered a long-term decline in real commodity prices and a runaway growth in productivity. But in the period of 1954 to 1972, commodity programs exacerbated the surplus problem as legislators de-coupled production controls from price support programs. I label this period of programs price support policy, under which production controls became increasingly ineffectual while price supports expanded. Another important and often overlooked component of US agricultural policy is federal income tax policy, which prior to 1986 contained very important exceptions for the agricultural sector. Tax provisions had a significant impact on the farm modernization and contributed to the over-capitalization of agriculture.

In 1954, technocrats in the Eisenhower administration contrived a political solution to rising domestic food stocks. International food aid became a mechanism of overseas agricultural surplus disposal, allowing the US to “export” its farm problem to a degree. But international food aid did not resolve the problems of commodity surplus and poor policy design. If anything, food aid exacerbated the problem by relieving political pressure for real policy change. International food aid allocated billions to select agribusiness firms for the storage, processing and export of government stocks. This subsidy was nearly inconsequential to farmers but immensely beneficial to select agribusiness firms. Those same firms would eventually metastasize into towering agribusiness conglomerates that to this day exert overwhelming control of their respective markets.

This chapter is an account for the rise of agribusiness. In this period, the glut of cheap commodities fattened the agricultural processing sectors, resulting in an unprecedented growth of agribusiness and fundamental change to the food system. While agribusiness grew, small and medium farms disappeared in spite of—and indeed because of—generous federal programs. Farms got bigger while the number of farms dropped. At the heart of this chapter
is the quandary of agricultural overproduction, its various consequences, and the policies and programs that caused it.

**Price Support Policy**

Production controls would not officially end until 1996. But throughout their existence they were largely inconsequential. The amount of aid to farms grew while production controls remained ineffective, spurring overproduction of certain commodities. World demand dropped at the end of the Korean War and the rising costs of high price supports levels (still at 90 percent parity) received some criticism in Congress. Congress responded by lowering price parity payments to 82.5 percent, and resuming some acreage reductions in the Agricultural Act of 1954 (Orden, Paarlberg, and Roe 1999, 58). Participation in price support and acreage reductions were also made voluntary. The domestic commodity programs raised the prices of US agricultural goods and rendered them less competitive in the world market (though real prices would decline steadily in the long-run).

The US had to raise several import restrictions to protect domestic agriculture. After the recovery of Europe from World War II, the US began to lose its traditional export markets (Winders 2007, 147). This loss of markets had been temporarily obscured by the provisioning of agricultural products, implements, and machinery to Europe under the Marshall Plan. While Europe recovered, US agricultural exports had increased steadily from 1945 to 1949 (Winders 2007, 147). This export boom also veiled productivity growth in the farming sector. As European economies recovered and countries raised barriers to protect their own farmers, US agricultural surpluses swelled. Wheat stocks in the Commodity Credit Corporation (CCC) alone stood at nearly 100 percent carryover in 1954. “Mounting surplus

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95 The new parity level was only a minimum level. Some supports remained at 90 percent. Orden, Paarlberg, and Roe note that production controls were sometimes re-instated in this policy period whenever program costs became too high (1999, 58).

96 Despite the implementation of General Agreement on Tariffs and Trade (GATT) and an emphasis on razing trade barriers globally, the US lobbied hard to keep agricultural trade barriers exempt in GATT (and later, World Trade Organization) rules. In the long run, raising these barriers and entrenching them in global trade agreements would cost the US as other developed nations adopted agricultural protectionism as well (Winders 2007, 147).

97 Exports increased nine-fold and were higher than prewar levels (Winders 2007, 147).
stocks following 1953 forced politicians and administrators to find a way of disposing of these stocks…the pressure of food and fiber supplies on population in the United States was moderated during the late 1950s by massive surplus disposal abroad. To an important degree we exported our farm problem” (Ruttan 1993, 43). Figure 10 illustrates the growth in national wheat stocks from the end of World War II on. Since traditional export markets were closing, the US aimed at new markets in the developing world, especially in the recently de-colonized nations of the world (Ruttan 1993, 90).  

**Figure 10. National wheat stocks annual carryover (in million bushels). Note. Adapted from USDA ERS (2012)).**  

**INTERNATIONAL FOOD AID**  

PL 480, the Agricultural Trade Development and Assistance Act of 1954, created a system of disposal for commodity surpluses by concessional (reduced-price) sales to developing nations. It accomplished this through a system of subsidies for agricultural exports. In short, the program paid private firms a premium on each foreign sale; the firms purchased domestic commodities, stored them, processed them, and then sold them overseas.  

98 The US also employed food aid proceeds to tailor agricultural development and consumer demands in developing nations. Food aid funds were often made available to US agribusiness firms to build new infrastructures for industrial agricultural production (like agrichemical manufacturing facilities or refineries, or livestock operations). These early food aid shipments shaped diets and ensured that these nations would become consumers of US agricultural exports (Ruttan 1993, 90).
With the government subsidy they were paid enough to cover these costs, sell the products to foreign governments or organizations and turn a profit. Foreign governments received concessional prices on the commodities and the firms could finance the sales with credit issued by the CCC. Payments to the CCC could be made in non-controvertible local currencies which could be reinvested in the local economy for developmental purposes. Of course, these often found their way back to US-based agribusiness. US firms sought to “modernize” agriculture in developing countries by expanding their operations there, and PL 480 funds aided their efforts (Ruttan 1993, 89).

Proponents of food aid invoked (and still do) its humanitarian aspects, but food aid conferred more benefits to the US than developing nations. “The USDA, the farm lobby and its champions in the Congress have consistently used the humanitarian labels and images of food aid as a convenient public relations device to paper over the reality of surplus disposal” (Barrett and Maxwell 2005, 26). Food aid served as a correction of inefficient supply management policy first, and as a means of Cold War diplomacy second (Ruttan 1993).

Figure 11 highlights the amount of PL 480 spending from 1954 to 1974. Through the program, the US was able to more than double its export of agricultural commodities from 1952 to 1957 (Wallerstein 1980, 6). A select group of agribusiness firms quickly took over the export of agricultural products, especially grains. These firms would take the benefits of export subsidies and funnel them into building towering oligopolies that dominate much of the global food system to this day.

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99 There are three titles of PL 480. Title I is concessionary sales (on credit provided by the CCC) to politically-friendly nations, who put the commodities on their open market at reduced prices and re-pay the loans in local currencies. Title II is for disaster or humanitarian relief to governments and non-governmental organizations. Title III is for donations to foreign governments that can sell the commodities in their markets to raise revenue. “After 1966, PL 480 was tied closely to developmental projects. Countries receiving Title I Aid were required to practice ‘self-help’ in agriculture” (Ruttan 1993, 89). This was not an earnest aim, as most development projects and investments were made with the aim of improving agribusiness’ ability to deliver US food products to a country. Added in 1985, “Food for Progress” programs exchange surplus commodities for nations’ promises to liberalize or modernize their agricultural sectors. Title I dominated food aid activity until the end of the Cold War (Barrett and Maxwell 2005, 23).

100 The 1959 Agricultural Trade Development and Assistance Extension Act was deemed the “Food for Peace” bill. It was part of a concerted effort in the Eisenhower administration to link food aid to diplomacy. The US administered aid to politically friendly nations, or to nations that officials believed were in danger of falling under communist influence. After the Cold War, US officials quickly adapted the program to establish diplomacy and economic influence in former Soviet-satellite states (Ruttan 1993, 11).

THE GROWING SURPLUS

PL 480 only marginally eased the agricultural surplus burden, and only appreciably so for the first 15 years of the program. Though it did not solve the surplus problem entirely, it took the immediate pressure off of Congress to fix or end erroneous commodity programs. Price support levels remained high despite cutbacks in 1954 and again in 1958. Participation for most feed grain programs (wheat, sorghum, soybeans) became mandatory in the Agricultural Act of 1958, though the corn sector was successful in securing voluntary participation for corn programs (Tweeten 1989, 331). Despite the flexible programs and intermittent cuts, federal payments to farmers grew rapidly in the late 1950s and continued to grow until a spike in world prices in 1972 eased program costs.

Production controls were even more ineffective in the wake of World War II, after producers adopted the new technologies in earnest. Once wartime demand slacked and prices dropped, corn farmers did not need to fight the downward spiral on prices by tightening controls. This is because the demand for corn by the livestock industry actually increased by larger margins than corn prices fell. Meat as a consumer good enjoys an “elastic” demand, which means that consumers purchase more as the price falls. Meat consumption abounded alongside the general prosperity of America in the 1950s and 1960s. Meat demand in this period was particularly elastic. It was a rare tide that lifted many boats. The livestock sector expanded dramatically, as well as the meatpacking sector, and corn growers benefited from the high demand for feed grains.
The interests of corn growers were compatible with the interests of the sectors which fed off of the corn surplus and falling prices. The demands of corn farmers in this era are indicative of the agricultural processing sector, or agribusiness, in general. Corn growers fought against controls but were in favor of price supports. By 1958, the corn sector had succeeded in securing an exemption from mandatory controls. Corn farmers were allowed to drop their production controls and still receive sizable (90 percent parity) price support payments (Tweeten 1989, 331). Soon, the agricultural lobby would be saturated with agribusiness, and the support for production controls would gradually erode.

Since the late 1940s, corn farmers’ interests were wedded to those of the livestock industry. While the corn sector had initially lobbied for price supports and controls in the 1930s, it switched its position in the 1940s to lobby for flexible controls and supports (Winders 2007, 85). This political switch is very telling. The corn sector is a unique part of agrifood system in which farmer and processor interests are not in conflict. Normally, when commodity prices are low and surpluses high, farmers suffer but processors benefit. This was why it was so difficult to win supply management policy in the 1920s. Though farmers lobbied hard, processors opposed them because higher agricultural prices would erode their marginal profit. As it was, the realities of supply management allowed both processors and farmers to benefit. The drop in price benefited corn farmers. Figure 12 shows the growth of national corn stocks in steady climb after 1948.

The early 1960s is an important era for understanding the trends that would come to dominate domestic commodity programs to the present day. It marked a shift away from the old formula of price supports based on the parity concept and marked an attempt to de-couple subsidies from production controls. In the 1960s, domestic commodity programs began a general shift away from strict production controls. Carryover of agricultural surpluses had slackened and the export market appeared promising. The mandatory production controls from 1958 were removed. The Cotton-Wheat Act of 1964 made production controls voluntary for cotton and wheat crops. This was an important development, because the cotton and wheat sectors had for decades been plagued by rampant overproduction and low prices. They had therefore been the main lobby for production controls in previous decades.
sectors finally joined the corn sector in lobbying against production controls, though they did so because of a deceptively auspicious export market (Winders 2007, 127).

All the while, the sectors that were benefiting the most from the combination of PL 480 subsidies and high price supports were growing. These were the livestock, meatpacking, milling, storage, shipping, and export sectors. These sectors, along with the farmers of feed-grains to whom their fates were tied, began lobbying in earnest against production controls. “The largest US grain export companies and lowest-cost farm producers had begun to see damage to commercial sales abroad from high domestic support prices in the early 1960s” (Orden, Paarlberg, and Roe 1999, 64). Processing sectors began to push for keeping price supports in place while relaxing acreage restrictions. They were successful.

Not long after, price supports began to cost more as market prices dropped. Figure 2, p. 6 shows the first drastic increases in commodity program spending beginning in 1955. In all, the percent of farm income that was subsidized by direct payments to farms increased from two percent in 1954 to a high of 30 percent in 1968, as is demonstrated in Figure 13. These years spanned a period of growth in the productivity of American farmers, rising food prices, and a recovering world market. And yet, the gains from these conditions escaped most

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101 The political positions of these sectors are measured through their representation by the National Farmers Union and the Farm Bureau Federation. The export of wheat was increasing and prices were rising thanks to PL-480’s export subsidies. This helped change the wheat sector’s position on production controls.
farmers. The net returns to farmers decreased throughout this period. Figure 14 shows a general decline of the net returns to farmers after 1945 (Orden, Paarlberg, and Roe 1999, 64). Returns to farmers would not recover significantly until the drastic spike in world food demand in 1972. Even then, the recovery was temporary and the gains to farmers were dubious.

**AGRIBUSINESS GROWTH**

Along with enhancing exports through food aid, the agricultural lobby touted meat consumption as another great solution to overproduction of grains and soybeans. Together,
farm organizations (that represented the corn, soybeans and livestock industries), the USDA, and Congress encouraged the expansion of meat production and consumption (See Winders and Nibert 2004). Land-grant universities specialized in livestock research and development, and the productivity of the livestock sector grew dramatically after 1945. The way livestock were raised was also modernized by the infusion of cash from price support programs, which in 1941 had been expanded when the Steagall Amendment added price supports for hogs, eggs, chickens, and turkeys, and milk products (Winders 2007, 84). Firms developed Concentrated Animal Feeding Operations (CAFOs) from 1945 to 1960, which became industry standards for chickens, turkey, pigs, and cattle. The surplus in feed grains fueled their initial development.

The meatpacking industry underwent dramatic changes, and incurred some of the most dramatic centralization and market monopolization of all. To date, the four largest processing firms control 55 percent of chicken production, 87 percent of beef production, and 60 percent of pork processing and slaughter (Winders and Nibert 2004, 89). These firms are also the same firms that had similar monopolization of grain markets, exerted great control over grain prices, and enjoyed oligopolistic control over grain markets since the mid 1950s due to PL 480. This is because these companies have integrated not only into the grain processing and the livestock industries, but also into the provisioning of farm inputs—agrichemicals, pesticides, seed and machinery—that grain farmers or other livestock farmers must purchase. Their ability to expand may not have been possible without the infusion of government payments under PL 480. It became a hallmark of the grain giants to not finance their expansions, but to pay with them outright from company assets (Morgan 1979).

The Agricultural Act of 1961 involved some cutbacks in production. The government agreed to issue price supports for corn in exchange for significant planting reductions in the future. The reappearance of production controls dissatisfied the large grain firms, and they increased their lobbying efforts. Cargill representatives in particular were instrumental in securing changes to the Agricultural Act of 1962 which eschewed controls but increased price supports to farmers, and allowed the market price of corn drop back to levels competitive in the world market. “The companies and the government now had a common interest in increasing exports” (Morgan 1979, 103). After 1964, the struggle ended between farmers who sought to raise domestic prices and agribusiness firms that wanted them priced
competitively for the domestic and world market. This is because there was no longer a solid connection between price, supply, and farm incomes; farmers were guaranteed price supports, and agribusiness was guaranteed a cheap supply of goods. Moreover, the 1964 bill included the subsidy for non-aid exports. The government paid the grain companies subsidies sufficient to buy domestic agricultural goods and sell them at competitive world market prices whenever the Secretary of Agriculture deemed it necessary to remove market excess. This provided producers with increased demand for their product and the grain companies with a guaranteed subsidy. The government’s incentive for this was to save money on the long-term storage of surplus commodities (storage which was provided by the very same firms) (Morgan 1979, 123). Then in 1966 Congress agreed to pay firms to procure PL 480 commodities from the open market and sell them overseas at concessional rates, further increasing subsidies to grain agribusiness. “Officially, this was called ‘making American agricultural products more competitive abroad.’ Privately, officials acknowledged that the objective in foreign markets was to ‘cram it down their throats’” (Morgan 1979, 123).

The international food aid program was a veritable boost for the grain companies. By 1963, PL 480 alone had generated almost a billion dollars in sales for Continental and Cargill, which together dominated the grain trade at the time. In 1963, the government paid a subsidy of $1.5 billion of the $4 billion in total agricultural exports. Cargill’s export volume quadrupled from 1955 to 1965 (Morgan 1979, 122). The large grain trading firms evolved to profit directly from export subsidies and contracts quickly concentrated in the hands of a few firms. Between 1966 and 1967, the number of rice exporters dropped from 21 to a mere seven. By 1968, Continental and Cargill dominated the PL-480 rice programs and exported 80 percent of all rice. By the close of the 1970s, just six companies accounted for nearly all grain exports (Winders 2007, 155). “Through PL 480, agribusiness corporations developed stronger ties with the USDA, the CCC (and hence the USDA) and political leaders” (Winders 2007, 156). By 1974, Continental and Cargill handled nearly 25 percent of all grain exports and controlled nearly half of all US grain storage facilities and elevators. The top five grain companies together controlled about 85 percent of all grain exports (Morgan 1979, 234). The reason for their clout was their ability to maneuver their operations or acquire subsidiaries in transportation, shipping, processing, and distribution, not only in the US but in all continents.
“It was the surplus, more than anything else that encouraged the companies to branch out into new enterprises and endeavors where they got a better return on their investments” (Morgan 1979, 97). The USDA worked closely with grain trading firms to establish baking industries, cattle-fattening yards, fast-food chains, and the poultry industry in Asia, and many more overseas markets for their goods (Winders 2007, 156). Popular debates over international food aid typically accuse the program of being a boon to agricultural producers. Food aid has served to alleviate some of the surpluses that accrue, but it is has not kept domestic prices higher and does not benefit farmers directly. Quite the opposite is true. Food aid was a solution to the market chaos induced by the commodity programs, and in fact, food aid exacerbated commodity program spending. The beneficiaries of food aid programs were (and still are) the agribusiness firms that store, process, and ship commodities (Barrett and Maxwell 2005, 88). For these constituencies, the benefits of food aid are huge. For farmers, they are negligible. Also, companies bid for government contracts of food aid provisioning, and the selective and biased bidding process has led to a concentration of participating firms. In the present decade, Cargill (which acquired Continental) and Archer Daniels Midland handle a third of all food aid along with other major firms Louis Dreyfus and ConAgra (Barrett and Maxwell 2005, 88). These firms now comprise complex oligopolies, through strategic alliances and joint ventures, in the supply of seeds and agrichemicals to farmers, the buyer market for grains, grain processing, the production of meat, and meat processing (Hendrickson and Heffernan 2002).

**FARMER MARKET SHARE**

The share of the farmer of the food dollar declined significantly (Halweil 2000). All this occurred during a time of steadily rising output. In the years since 1952, farmers’

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102 Prior to the 1980s, most food aid funds came directly out of government stocks, and most PL 480 resources were captured by the firms that were paid handsomely to store, ship, and broker international sales. Since 1985, however, the marketplace has been the source for food aid supplies. The 1985 Farm Bill mandated that the bulk of commodities for transport (75 percent minimum) was to be bagged, fortified, or processed (Barrett and Maxwell 2005, 88).

103 The biased selective process is explained by Barrett and Maxwell (2005) in terms of the “iron triangle,” or collusion between the USDA, Congress, and the agribusiness firms that participate in food aid programs.

104 Hendrickson and Heffernan (2002) exhibit the complex spheres of influence of food production by Cargill (and its joint ventures with Monsanto), Archer Daniels Midland (and its strategic alliance with Novartis), and the food processing giant, ConAgra.
productive efficiency rose 330 percent. “Despite their efficiency and productivity, farmers get caught in this squeeze with nowhere to go but out” (Hightower 1975, 175). Figure 15 demonstrates the dynamics of farm productivity and the value farmers have received for their products. At first glance, it is easy to deduce from Figure 15 that the rise in productivity is mainly responsible for the drop in agricultural prices. This is partly true, but the newly decoupled price supports and incentives structured by the US income tax code (which I discuss later in the chapter) facilitated a sustained growth in production levels.

![Figure 15. Real farm product value and farm productivity. Note. Compiled from USDA ERS (2012a; 2012g) and Sahr (2013).](image)

In the decades after World War II farm incomes increased, only not by enough. Instead of being rewarded for their productivity, farmers were ensnared in a cost-price squeeze during the most auspicious years for agricultural exports. Farm incomes increased for a few years in the 1970s, but the costs of farming rose by much more. Farm production expenses rose 245 percent from 1953 to 1974, 49 percent from 1972 to 1974 alone. From the 1930s to the 1970s, the value of farm inputs rose faster than farm income. Figure 16

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105 One farmer calculated her financial situation in 1974. She determined that the costs of procuring baler twine was up 265 percent, barbed wire up 132 percent, seed up 75 percent, gas up 60 percent, and interest on debt up 27 percent. For her woes she received 42 percent less for her cattle than she did in 1973 (Hightower 1975, 76).
Figure 16. Farm production costs and income compared (in billions) 1929-2011. Note. Adapted from USDA ERS (2012k).

illustrates the marked growth of farm production costs as they began to outpace the growth of net farm income. Net farm income includes the government payments for commodity programs, which despite being generous were not sufficient to keep farm income apace with production costs.

Production costs grew because the processing and marketing sectors grew faster than farms and input sectors combined and often became incorporated into other sectors of agribusiness (Vogel 1981, 105). Both the processing and farm input sectors became more concentrated in the same period. Oligopolistic conditions existed in the seed and tractor industries. By 1970, the largest four firms controlled 67 percent of agrichemicals and 80 percent of rail transport. The cost of firms controlled over 65 percent of the entire farm service sector which included feed, livestock, agrichemicals, and seed (Vogel 1981, 105). From 1951 to 1971, the cost of farm services rose 52 percent, while the real prices farmers received for their products increased by only eight percent (Vogel 1981, 119). “According to US Trade Commission statistics, the tractor industry overcharged US farmers in 1972 by about $251 million,” while buyers of animal feed were overcharged $200 million in the same year (Vogel 1981, 110).
Government benefits were also maldistributed. The inequitable distribution to the largest farms and landowners that had plagued the programs from the 1930s was boldly apparent in the 1960s. The top 20 percent of farmers (largest farms) received over half of all government payments while the smallest 40 percent received less than ten percent. By 1972, the top ten percent of farms received over 40 percent of program benefits (Vogeler 1981, 171). This was because payments were tied to production volume or to acreage. At the same time, the capitalization of government payments into land value continued. Figure 17 highlights the upward trend of land values, which increased by an average of six percent per decade in the 1950s and 1960s. Farmland rents rose steadily as well, more than doubling from 1954 to 1972, as is demonstrated in Figure 18. From 1940 to 1970, farmland rent increased threefold (Vogeler 1981, 72). In 1970, rent was found to be 22 percent above the “free-market level,” and 95 percent of land diversion benefits (payments for idled land) and 80 percent of commodity program benefits accrued to landowners (Rosine and Helmberger 1975, 725). Farmland rents added to the cost of farming and further eroded farm profits.

![Figure 17. Farmland value (dollars per acre) 1945-1972. Note. Adapted from USDA ERS (2012d).](image)

Though there was incredible growth in agricultural productivity, the number of food manufacturing and flour milling plants was nearly halved from the 1950s to the 1970s.

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106 Conservation programs also awarded payments based upon set-aside acreages.

107 The “free-market level” is the theoretical amount without subsidies.
During the 1970s, six companies bought 90 percent of grain, and only two companies handled 50 percent of grain exports (Vogel 1981, 118). The Federal Trade Commission found that in 1972 monopoly conditions were found in 13 major food sectors, which had led to an overcharge of $2.1 billion to consumers (Hightower 1975, 73). In 1963, the largest 50 food manufacturing firms (less than 0.2 percent of all firms that year) controlled over 60 percent of industry profits. By 1973, that number would jump to 75 percent (Hightower 1975, 41). By 1972 nearly 80 percent of all food industries contained low-grade oligopolies in which the largest four firms (expressed as “CR4,” the concentration ratio for the largest four firms in the industry) controlled 35 percent or more of the market (Hightower 1975, 73). In 1974 consumers paid $125 billion for food, and farmers received only 40 percent of consumer dollars. The market concentration in the hands of agribusiness would continue through the rest of the 20th century and would become more pronounced in the 1980s and 1990s. Table 1 in Appendix B highlights concentration in select agrifood industries. The growth of large firms, the rise in consumer spending on food, and food sector profit far outstripped the pace of growth in the agricultural sector. Profit was captured by agricultural processors and retailers, while concentration in the farm input sectors led to a marked increase in the costs of farming overall.
FEDERAL INCOME TAX POLICY

Federal income tax policy is integral to understanding the influence of policy on farm modernization. Since the income tax was initiated in 1916, the tax code has conferred greater benefits to large farms and non-farmers in agriculture. It can also be understood as a subsidy, for deductions to taxable farm income can often be so generous that individuals gain overall. Together, several advantages in farming for those with large amounts of money and income to invest in farm capital are known as “tax-loss” or “tax-shelter” farming. Tax-loss farming takes advantage of a postponement or reduction of tax liabilities and the ability to effectively reduce tax rates through a number of deductions. People with sizable incomes to protect can benefit from making deductible investments in farming enterprises, and even by “losing” at farming. These advantages have incentivized business decisions in agriculture and have had very important consequences for the entire farm sector.

The nature of these historical advantages can be understood in the same context as commodity programs. Policy views farmers as a disadvantaged or special group, and the public holds a favorable view of farmers overall. It is quite politically achievable to procure special advantages for the proverbial small farmer, though they seldom benefit. The tax rules, in short, are sufficient for “farmers” to fudge their taxable income. To be considered a farmer for tax purposes an individual needs only part-ownership of a farming enterprise or farmland. Most legitimate farmers (occupational farmers) are in no position to take advantage of these rules. Prior to 1986, when several important rules were reformed, these advantages were very significant for those in the higher tax brackets, and this attracted many non-farmer investors into agriculture (Strange 1988, 147).108

Three major tax rules made it easy for wealthy investors to take advantage of farming prior to 1986, the “cash accounting” rule, the “farm capital expenditures” rule, and the “capital gains” rule (Vogelor 1981, 148). Under the cash accounting rule, a farmer could deduct expenses for supplies and inputs, but did not have to report inventory or product on-

108 Before 1986 the tax rates were fairly progressive. The highest earners were taxed at 50 percent. After 1986, the top bracket was taxable at 34 percent for corporations and 28 percent for individuals. This meant that deductions or losses in farming were worth much more to higher earners than to lower earners as they effectively reduced the amount of taxable income, or were subtracted directly from tax liability payments (Strange 1988, 147).
hand. This differs from other businesses, which must report the value of such inventory and add it to their income for the year. By deducting expenses a farmer could lower their taxable income. The benefits for expense deductions were higher for larger farms than for smaller farms. For example, prior to 1986 if two farms deducted the same $5,000 in expenses, a high-income farmer saved $2,500 (at a 50 percent tax rate), while a small-income farmer saved only $1,000 (at a 20 percent tax rate). This meant that the $5,000 bill actually cost the high-income farmer only $2,500, while it cost the low-income farmer $4,000. The worst effects of the cash accounting rule were changed in 1976, restricting farms with over $1 million in sales from using the cash accounting method (Vogel 1981, 150).

Tax incentives were structured to encourage investment in capital goods. Farm capital expenditures could be deducted against an individual’s taxable income as a “loss.” The advantages of the deductions were higher for higher-income individuals. These types of deductions also benefited off-farm investors, but not occupational farmers in low-capital operations or those in the lower tax brackets. From 1971 to 1986, investments in other capital assets—livestock, machinery, buildings for livestock production—were tax deductable. Ten percent of the amount invested in farm machinery or other capital was subtracted directly from income tax payments, and the percentage varied for other deductible items. This was “the clearest subsidy to capital in the tax code” (Strange 1988, 149). It sustained an incentive for the investment in farm capital, which drove up farmland values and added to the overcapitalization of farming. Entrepreneurs did necessarily not make investments in farming to improve the efficiency of farm operations or to establish farm businesses, but to reap gains on personal income taxes.

The capital gains rule also bestowed benefits to capital-intensive farming operations and off-farm investors. When farm capital assets were sold, the gains were taxed at only half of the rate of normal income. This exception was made for agriculture because farmers seldom sell their productive capital. Occupational farmers may sell their land and machinery perhaps once in a lifetime. But off-farm investors could and did invest in farm capital, liquidate it, and profit. Moreover, they could reinvest their earnings in more farm capital and gain even more, and in the process could deduct the amount of their original investment. Congress lowered the rates of capital-gain taxes further in 1978, to two-fifths the of the regular income tax rate. Also, before 1986 only 40 percent of total capital gains were taxable.
at all, meaning that for taxpayers in the higher brackets, the effective tax rate on capital gains was only 20 percent (Strange 1988, 149). Because of this, land was the primary speculative investment because of the low tax rate on its sale (Vogelor 1981, 154). Along with of the capitalization of commodity program payments, the capital gains rule sustained farmland prices well above the free market price.

Livestock producers were prime beneficiaries of tax privileges prior to 1986. Farmers were able to write off the costs of procuring and raising animals as federal rules considered them a type of farm capital. Farmers could also treat the sale of the animals as a capital gain. For example, if a dairy farmer’s stock bore offspring the farmer had a choice to sell the animals and have the transaction taxed as a capital gain, or keep the animals and deduct the expenses of feeding and raising them. This created an incentive for farmers to expand their herds (Strange 1988, 154). Producers in capital-intensive CAFOs benefited particularly from tax breaks. They were conferred benefits for the development of specialized facilities for housing, feeding, breeding, and slaughter. These types of facilities became even more specialized as the USDA regulations concerning meat production and slaughter expanded (see Salatin 2007). To be USDA-compliant, such facilities often required substantial investments, but the investments provided lucrative tax deductions. In contrast, established farms that used regular buildings or barns to house livestock were not privy to these deductions. There were no substantial rewards for the repair or small retrofit of existing farm buildings.109

Corporate farms were allowed to deduct expenses that non-incorporated farms could not. These included any payable salaries and benefits (Strange 1988, 148). Though the salaries were still taxable as income, this rule allowed farmers to artificially lower their overall income and drop to the next lower bracket. Incorporated farms also had a choice of what they wanted to do with their year-end profits. After 1958, any corporation that had no more than ten shareholders could be treated as a “partnership,” under which capital gains as well as net operating losses could be pushed through to shareholders where they would be

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109 Strange provides the example of different tax breaks conferred to a hog corporation in the 46 percent tax bracket, an established hog farmer in the 30 percent tax bracket, and a new hog farmer in the 20 percent tax bracket, the corporation would receive $189 per sow in tax breaks and privileges, the established farmer $104 per sow, and the new farmer $56 per sow. “Tax breaks were therefore distributed in proportion to the capital-intensity of the operation” (Strange 1988, 158).
taxed at favorable rates, or could be deducted as losses (Raup 1973, 280). Corporate farms could count income as shareholder dividends or re-invest in other lucrative capital. Re-investing profits led to even more benefits. “A well-managed, incorporated family farm paying appropriate salaries and fringe benefits and reinvesting profits could get bigger and bigger while regularly paying a lower tax rate than a non-expanding farmer with one-third as much income” (Strange 1988, 152). These advantages encouraged the incorporation of farms. However, smaller farms could not benefit from incorporation. Incomes from $15,000 to $40,000 received only marginal benefits from incorporating.

The overall effect of tax incentives and benefits has been the systematic expansion of farm operations by the procurement and development of capital and land. Figure 19 shows the amount of farm capital expenditures in steady climb through the 1960s and early 1970s. This has led to overinvestment in agriculture, ever-greater production, and of course, ever-falling prices. Tax loopholes took more relative tax revenue from smaller and non-expanding farms and conferred more benefits to non-farmers and high-earning farms. Tax loopholes incentivized the development of capital-intensive agricultural operations and the overcapitalization of agriculture in general. Loopholes have also encouraged the entry of non-farmers in farming. Non-farm investors sought tax shelters, quick returns on capital investments, and gains from the rising land values. Non-farm investors were able to turn quick profits from moving farm capital, while occupational farmers who held onto the assets necessary to sustain a living, and counted their farm income as actual income did not benefit. Non-farmers conducted over a third of all farmland purchases from 1959 to 1976. By 1974, 40 percent of all farmland was owned by non-farmer landlords (Vogelor 1981, 72).

The overinvestment in agriculture and the drive of capital consumption has also partly driven the expansion of farms. Figure 20 shows the growth in the average farm size throughout the 1950s and 1960s. Farms over 1,000 acres in size increased from 28 to 54 percent of all farmland from 1930 to 1964, while farms over 2,000 acres in size comprised 46 percent (Vogelor 1981, 160). These pay-outs were driven by the manipulation of personal income taxes to accrue the benefits of “tax-loss” farming. In 1972, 125 millionaire “farmers”

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110 As of 2009, non-farmers own and rent out nearly half of all US farmland (Kirwan 2009, 139).
received a subsidy of $16.4 million dollars from tax loopholes (Vogel 1981, 159). The increase in farm size has not been governed by the logic of economies-of-scale, for farms over a certain size are not efficient. According to most studies, a size that can support one or two full-time operators is typically the most efficient. Fully-equipped small farms are more efficient than larger farms (Strange 1988, 73). Yet the size of the average farm grew significantly after World War II and larger, less efficient farms increased in number. The

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111 This is measured by the amount of “losses” deducted from personal incomes.
result is the overcapitalization of the farm sector in general, due to the multiple incentives to funnel income into farm capital and expansion. Many farms have expanded well beyond peak efficiency.

The 1986 tax reform laws eliminated many loopholes. “Before 1986, the US tax code supported a most potent, inequitable and deceptive growth policy encouraging farmers to expand and non-farmers to invest in agribusiness ventures” (Strange 1988, 145). The reforms stopped many of the deductible expenses under the “cash accounting” rule by limiting them to a third of all purchased inputs which did not earn income in the same year. But by then, the skewed incentives provided by the tax system and its worst effects on the farm sector had already made their mark. “The effects of tax-loss farming [were] unfair competition to bona-fide farmers, higher land prices, overproduction of certain crops, expansion to larger-than-efficient farm sizes, absentee ownership, and the demise of family farms” (Vogelor 1981, 160). In short, these subsidies punished those who made an actual living off of their land. And despite the changes to the tax code, the trend of overcapitalization would continue throughout the 1980s and 1990s.

CONCLUSION: THE GREAT GRAIN ROBBERY

“The USSR entered the world market on a massive scale in the winter of 1972-73, and the impact of this event on commodity stocks and prices was dramatic. During 1973 the price of wheat more than doubled” (Ruttan 1993, 22). The US was poised to ease the shortage and supply the world with food. Between 1972 and 1973, national grain stocks plummeted in response to a series of poor harvest and droughts. In 1971, the government had financed $1.1 billion of the $7.6 billion in agricultural exports. In 1973, the government had to finance only $863 million of $17.6 billion in exports (Morgan 1979, 156). The price of grains, which had been falling for decades, finally recovered (Morgan 1979, 159). Consumer prices went up too, and the price of wholesale farm products jumped 20 percent in 1973. But inflation was high, the cost of living had risen, and the jump in world prices was not as lucrative for farmers as experts expected.

112 Grain prices recovered so well that many feedlots turned ranch cattle away in droves, wishing to sell grain at favorable world prices rather than feed it to livestock. A record number of hogs went to early slaughter in 1973.
The windfall profits of the world grain trade evaded most farmers. In 1972, the USDA negotiated a monumental sale of grain between Russia and the US. The news of this sale was only made public after much of the wheat crop was already harvested and sold. If farmers would have known to hold on to their crops a little longer, they could have gained billions (Hightower 1975, 234). This event is known as the “Great Grain Robbery” of 1972. As it was, export programs still supported the difference between the prices of domestic grain and the exported sales. The domestic price of wheat in particular jumped from six cents a bushel to 47 cents a bushel in the span of a few short months. During that time, the USDA paid out more than $300 million of taxpayer subsidies to grain firms before it suspended the export programs (Hightower 1975, 235). The grain firms profited enormously on the sales and many farmers were outraged.

The Great Grain Robbery is perhaps the most compelling illustration of the development of agribusiness and the decline of farmer market share since the end of World War II. By 1972, the firms that would dominate the agrifood system were already well entrenched, thanks to the exclusive subsidies bestowed upon grain and export firms by PL 480. The surplus and the mal-distribution of government payments fomented the growth of industrial agribusiness, the evolutionary outgrowths of the agricultural processing sectors. The skewed incentives provided by the tax code drove the overcapitalization of farms, drew non-farm investors to agriculture, distorted land prices, and drove production levels even higher. Farms grew, not due to economies-of-scale, but because farmland in itself was a lucrative investment, both for its ever-spiraling prices and the capitalization of government payments. Farmers were caught in a cost-price squeeze as oligopolies developed in tandem in the farm input industries and the buyer markets for agricultural goods. Surpluses continued to abound due to the de-coupling of price support programs from production controls. Farmer market share fell. Farmers’ livelihoods would continue to degrade despite the brief recovery

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113 In Oklahoma alone farmers lost about $47 million from early sale (Hightower 1975, 234). The CIA was actually notified in a timely manner of the impending sale by representatives of Cargill and Continental. The CIA passed its information to the USDA, but it was not publicized in time (Morgan 1979, 154).

114 Even when the subsidy was halted, the firms were in a position to finalize their sales to be before the cutoff, costing taxpayers an additional $132 million (Hightower 1975, 235).
of prices after 1972. The next chapter explores the plight of American farms in the latest phase of the industrial agrifood system.
CHAPTER 5

THE ECLIPSE OF THE SMALL FARM

From the 1970s onward commodity programs continued along the path of decoupling. The result was the same as the two previous policy eras, but surplus was temporarily curbed by a spike in world food demand. The USDA and Congress greeted disastrous world harvests with enthusiasm, as they meant the imminent ascendancy of American agriculture in the world market. Policymakers unleashed federal farm credit programs to finance a frenzied modernization and expansion amidst an upward trend of prices. The eventual crash in the 1980s was swift and painful. The farm problem resurfaced in the 1980s when the farm sector experienced its worst crisis since the Great Depression. Unlike the depression, this crisis was due to the milieu of erroneous federal farm policies and programs, and not the unforgiving market. Congress responded to the crisis by increasing emergency credit and expanding commodity program spending, increasing the reliance of farmers on federal payments for survival and miring the farm sector in debt.

This chapter assesses the period of deficiency payment policy from 1973 to 1996, as well as federal farm credit policy and its most important effects on the farm sector. The farm crisis in the 1980s was an important event. It marked a full-circle return of the farm problem. The political backdrop of the later farm crisis was completely different than that of the Great Depression. The rise of neo-liberalism in the Reagan era had thoroughly re-credited free market capitalism. But this mattered little, as it so often does in agricultural policy; the government response to the 1980s crisis was much the same as that of the 1930s. “In the 1930s, for example, one of the surplus/low-price problems was a sow and pig problem, with its solution inherent in the reduction of hog supplies. In the market-oriented 1980s that same problem of oversupply led to government support for a pork promotion program” (Browne 1988, 215). During the Reagan administration, farm program spending soared higher than ever before, though programs focused on promoting trade and business rather than handouts to farmers. And like previous programs, government payments were distributed inequitably. Most aid came in the form of loans which buried many farms under heaping debt. Most
market opportunities for farmers came in the form of production contracts to increasingly powerful agribusiness firms. Farmer market share fell even further than it had in previous periods, and the definition of the American farmer changed more in this period than in any other. Then in 1996, commodity programs shifted to a fully de-coupled “free-market” policy, *direct payment policy*, which only reinforced the skewed incentives and market conditions created by previous policy eras.

**DEFICIENCY PAYMENT POLICY**

The “Great Grain Robbery” marked a period of perceived food scarcity in the world. In the years 1972-73, domestic prices skyrocketed, corn by 92 percent, soybeans by 52 percent, and rice by 100 percent (Strange 1988, 19). The spike in world food demand was fueled by a series of disastrous harvests and droughts throughout the world, but many observers took it as Malthusian crisis. Suddenly, market analysts worried about the world’s capacity to feed its growing population (Strange 1988, 17). To experts, the government and farmers, it indicated the need to expand US agricultural productivity even further. In 1971, free-market enthusiast and then Secretary of Agriculture Earl Butz pushed for the end of production controls. The official USDA position was to tell farmers to plant “fencerow to fencerow,” and he uttered his famous line “get big or get out” during those boom years. American farms rose to the challenge. The number of agricultural exports from the US grew by 12 percent from 1973 to 1981, while grain exports grew by a whopping 33 percent and increased in value from $8 to $44 billion (Strange 1988, 18). In this favorable market farm organizations, agribusiness and the government almost completely abandoned production controls.

Despite the promising market for agriculture, price supports remained firmly in place. The 1973 Agriculture and Consumer Protection Act was an important change for commodity programs and continued the trend of de-coupling production controls from price supports. This program introduced the concept of target prices and deficiency payments. Target prices

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115 Lester Brown of the Worldwatch Institute began warning of a Malthusian crisis in 1974. The CIA released data that warned of climate changes and its impact upon agriculture, and its impact on the world political climate. Rising oil production in developing nations also made the provisioning of food to these nations a sound investment (Strange 1988, 17).
were fair market prices for a commodity determined by Congress. If prices of protected commodities were to drop below a target level, the USDA would make a payment directly to the grower for the difference. The act also provided for high price supports of milk with no production controls whatsoever, resulting in higher program costs and high surpluses that often had to be dumped overseas. Production controls under the 1973 act were not really imposed at all (Tweet 1989, 338). Despite the low costs of the 1973 bill price support levels were not in fact reduced. The bill was instead designed to stimulate production upon erroneous fears of future food shortage (Orden, Paarlberg, and Roe 1999, 68).\footnote{The 1973 bill was a missed opportunity for farm policy reform advocates. The Nixon administration did use the opportunity to seek a cutout of direct payments, but Congress countered with a more pragmatic system of deficiency payments (Orden, Paarlberg, and Roe 1999, 68).}

It was an unfortunate direction for US farming. High market prices hid the potential costs of the 1973 bill and there were no real cutbacks to price supports. When export demand and commodity prices began to falter by 1975 and deflated altogether in 1982, program costs jumped. In response to falling prices the 1977 Food and Agriculture Act increased target prices (Becker 2002, 3). Along with deficiency payments, farmers were eligible for increased nonrecourse loan amounts through the Commodity Credit Corporation (CCC). The Emergency Assistance Act of 1978 enhanced program eligibility and released four billion dollars in emergency loans. The result of the 1973, 1977, and 1978 bills was the same as that of the previous decades of commodity programs. From 1973 to 1982 CCC stocks of corn increased by 600 percent, wheat stocks by 445 percent and soybean stocks by 556 percent (see Figure 10, p. 56 and Figure 12, p. 60 for increases in wheat and corn stocks) (Strange 1988, 23).\footnote{Corn stocks went from 484 to 3,120 million bushels, wheat from 340 to 1,515 million bushels, and soybeans from 60 to 344 million bushels (Strange 1988, 23).} By 1978 surplus grain had once again reached record levels, the highest since 1963 (Morgan 1979, 359).

**FEDERAL FARM CREDIT PROGRAMS**

Congress established land banks in 1916 for long-term farm mortgages, and the Federal Intermediate Credit Banks in 1933 for the short-term operating credit needs of farmers. Congress initiated emergency farm loans for economic or natural disasters in 1936. These early programs were intended to be financed with the repayment that farming could
alone generate, and the emergency loans were initially small. During the farm crisis in the 1920s and 1930s, lending practices were rather progressive and aimed to equalize opportunities and access to land, with special programs for sharecroppers and tenants to improve their lot or purchase parcels of former plantations (Strange 1988, 136). But by 1942 farm loan policy was restructured to facilitate expansion, and larger loan amounts were allocated specifically for farm modernization. In 1946, Congress established the Farmers Home Administration (FMHA) to provide subsidized loans in small amounts to “family-sized farmers who could not get credit elsewhere” (Strange 1988, 138). These programs rapidly increased in size and scope. In the 1950s FMHA could make emergency loans of only $2,500 to protect farmers from disastrous price drops. By 1974, FMHA could guarantee private emergency loans of up to $350,000 (Strange 1988, 138).

In 1972, the federal government and private banks made available a glut of credit and mortgages so that farms could expand and modernize to meet the export boom. The largest of these lenders was the federally-chartered farm credit system (Strange 1988, 27). The Federal Reserve set interest rates at a low percentage and lenders followed suit. The rules for issuing federal loans for the purposes of expansion and modernization were also relaxed in the 1970s. The result is the exacerbation of overcapitalization in agriculture. Figure 21 illustrates the growth in farm capital expenditures throughout the 1970s. Loans not issued for the purpose of expanding or modernizing were issued in the form of mortgages. Federal lending soon became tied to rampant growth in farmland values, as the farmland boom quickly became self-propelled. Lenders issued credit purely on the expectations of future gains in farmland asset value, and not on the farmer’s ability to repay them with their actual or potential productive capacity. “Leveraged” buying, or reverse mortgages even became common as occupational farmers wanted to cash in on their inflating capital. The farmland price increase was so attractive that non-farmers began participating as well, no doubt aided

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118 The Farm Security Administration (precursor to Farmers Home Administration) offered rehabilitation loans for displaced farmers. Ironically, many of these farmers were displaced due to available federal credit and payments that fed the drive for cannibalistic farm expansion (Strange 1988, 136).

119 This system employed an unfortunate formula to determine its interest rates. It had a variable interest rate that was a composite of all interest rates it was paying on outstanding bonds. Farm loans issued at eight percent interest were raised to 15 percent just a few years later. And rates were raised even more as loans were defaulted upon (Strange 1988, 27).
by the attractive gains facilitated by the income tax code (Strange 1988, 20). Farmland assets in the nation rose from $176 billion to $715 billion from 1970 to 1981 (Strange 1988, 22). Nominal farmland values increased from $219/acre in 1972 to $823/acre in 1981 (Strange 1988, 28). From the 1960s to the 1980s, farmland value more than doubled the inflation of the consumer price index (Alston 1986, 1). Figure 22 shows the increase in farmland value adjusted for inflation.

Figure 21. Farm capital expenditures (in millions) 1970-2011. Note. Adapted from USDA ERS (2012e).

Figure 22. Farmland value (dollars per acre) 1970-1996. Note. Compiled from Sahr (2013) and USDA ERS (2012d).
When world market prices declined in 1975 many farmers found themselves with unserviceable debt and cash-flow problems. The Emergency Assistance Act of 1978 increased emergency federal farm lending by $4 billion in the Economic Emergency loan program (EE) (Tweeten 1989, 341). Congress also opened up FMHA loans to commercial borrowers, who did not even have to prove they made a living from farming to be eligible, and the “limited-resource” family farmers for whom FMHA was originally designed to provide received no more than 25 percent of EE loans. The cap on EE loans was set at an all-time high of $400,000. Unfortunately, FMHA loan interest rates were variable and determined by the combined interest rates of all outstanding loans, and many farmers saw their interest rates jump in a few short years (Strange 1988, 139). Total EE lending from 1978 to 1982 exceeded $8 billion while regular FMHA loans exceeded $2 billion (Strange 1988, 140).

The EE loan program ended in 1984 and the ceiling on regular farm operating loans was increased from $100,000 to $200,000, allowing large operators to absorb funds that were previously allocated to limited-resource farmers (Strange 1988, 142). Then, the waves of privatization under the Reagan administration induced a change in loan policy. The federal government issued guarantees to agreements to compensate for defaults to private lenders of farm loans (Strange 1988, 143). The government would compensate the lender losses of over ten percent of the amount borrowed. The lending practices for these guaranteed loans were different though the qualifications were the same as government loans. As a result, the amount of public funds allocated to faulty farm loans increased, although it is difficult to estimate by how much because budget analysts considered guaranteed loans off-budget and paid-in-full. “For unknown reasons, the budget treats direct loans as if they were simple expenditures never to be repaid, but assumes that guaranteed loans will all be repaid and will therefore cost the government nothing” (Strange 1988, 144). By backing private loans, the federal government structured the incentives of banks to lend more to farmers without significant risk. Federally- guaranteed loans were 2.5 times bigger on average and the default rates were higher, and from 1982 to 1985 guaranteed loans increased over thirteen times, from $47.3 million to $623 million (Strange 1988, 143).

Real farm debt jumped from $29 billion to $96 billion from 1972 to 1981 (Strange 1988, 22). During the export booms many farms had accrued outstanding debt in an
expectation of high export trends. It was obvious by 1977 that debt levels were outpacing demands, and prices began to fall for key export crops. Domestic commodity programs exacerbated the land value problem by keeping some acres out of production and continuing to support prices. The response of the federal government was to increase available federal and federally-guaranteed credit, to ameliorate heavily indebted farmers who could not meet their debt payments. Government officials issued no warning and enacted no change in lending policy to curb the vast accrual of debt by the farm sector. Figure 23 highlights the increase of farm debt in an upward trend throughout the 1970s.

![Figure 23. Farm debt (in billions) 1960-2011. Note. Adapted from USDA ERS (2012i).](image)

The actual productive capacity of farmland became especially irrelevant in the land price boom of the 1970s. Farmland values had been artificially inflated since the first farm programs because farmland became an avenue to guaranteed government payment regardless of production (Latruffe and Le Mouel 2009). The remaining conservation programs paid farmers to idle their land in amounts significant enough to drive the price of remaining farmland even higher (Orden, Paarlberg, and Roe 1999). The especially high land values in this period translated into significantly high rental costs. Figure 24 shows the rent portion of net farm income as it increased throughout the 1970s. Rental costs squeezed farm production costs further, while landlords attempting to cash in on rising land values took on more debt. The debt crisis would reach such bad proportions that Congress had to declare a moratorium on farm foreclosures in 1978. The number of failing farms tripled from 1982 to 1986 (Dixon and Hapke 2003, 149).
**COMMODITY PROGRAMS AND THE FARM CRISIS**

Before the full brunt of an ensuing price and export collapse, there was a small cutback in domestic commodity programs in the Food and Agriculture Act of 1981. Soon thereafter, the recovery of world agriculture, the strengthening of the US dollar, and the tightening of credit caused US agricultural exports to fall. By 1982 the US economy fell into recession and the farm sector fell into its worst crisis since the Depression (Orden, Paarlberg, and Roe 1999, 73). By 1986, land values had fallen nearly back to their 1972 level (Strange 1988, 28). The Agricultural Programs Adjustment Act of 1984 quickly reversed the cutbacks of the 1981 bill and increased benefits in an effort to stem the crisis (Becker 2002, 4).

In this period, “American agriculture was thought by most policymakers and interest group representatives to be in a transitional period in which many more producers would be forced from the market” (Browne 1988, 218). The concept of the farm problem had resurfaced. Though specific federal policies contributed to the crisis of the 1980s, farmers and analysts again assumed that it was the inevitable result of modernization and the eternally unforgiving market economy at work. Policymakers revived the narrative of

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120 Adjusted for inflation (which was high throughout the 1970s), land values fell back to $232 per acre by 1986 (Strange 1988, 28).
inevitable capitalist development amidst the resurgence of free-market values (see Holland and Carvalho 1985). However, these narratives did not lead policymakers to reform farm programs or cut spending. Upon fears of political backlash from the well-publicized farm crisis, Congress allocated all-time high expenditures to farm programs. Program costs increased nearly five-fold from 1981 to 1983 (Browne 1988, 219).

The 1985 Food Security Act was a direct product of conflicting attitudes about agriculture. It was a token attempt to “cash out” commodity programs through a yearly decline of target prices. In effect, it was a political compromise and a feigned attempt at agricultural retrenchment. The mechanisms for high price supports remained in place and the costs of deficiency payments skyrocketed as world prices fell. Though prices were low, US goods were still uncompetitive on the world market so the 1985 act included a new export subsidy program, the Export Enhancement Program (EEP). Essentially, the government gave away its stocks of grain to export firms for sale overseas, on the rationale that it would save on storage costs (Orden, Paarlberg, and Roe 1999, 75). Enrollment in commodity programs jumped in the mid-1980s, and the reliance of farmers on government payments increased as well. The 1985 bill was another important event in de-coupling, firmly tying payments to crop acreage and planting history, and entitling farmers to government payments regardless of planting decisions (Orden, Paarlberg, and Roe 1999, 79). Despite the overwhelming budget outlays of the 1985 bill (see Figure 1, p. 3) in the name of helping small struggling farms, program benefits were poorly distributed. Nearly a half of all farms under financial stress received no payments at all (Orden, Paarlberg, and Roe 1999, 74).

Since the 1960s attempts at policy reform had one common outcome—the political compromise of de-coupling—by which legislators dropped the most obviously intrusive aspects of policy but left government supports in place. While free-market intellectuals and certain agricultural entrepreneurs argued for less interventionist policy, their main victory was the gradual erosion of production controls. The victories in the 1980s came with the addition of export programs and a change in payment mechanisms. “By reducing the market

121 Retrenchment is a term in the policy studies that refers to the end or reversal of a specific policy or policy regime, particularly of a reduction of expenditure for a certain public purpose. As a general rule it is more common for expenditures to increase over time, as benefits create a lobby of interests that seek to retain those benefits. Retrenchment, then, is a somewhat unique event.
intrusiveness of price-support levels, the shift to more reliance on cash payments under the terms of the 1985 farm bill allowed exports to grow, and was therefore [reform] of a certain kind” (Orden, Paarlberg, and Roe 1999, 83). That analysts would consider the 1985 bill a reform of agricultural policy, and referred to it as a “market-oriented” policy when it was in fact the costliest program to date, highlights the fundamental inconsistency of commodity programs. This inconsistency has endured because legislators and analysts have gradually awarded the “free-market” label to farm programs as it became politically necessary. Even though the mechanisms have changed, the policy and its effects have not. As I show below, this irrationality was applied in earnest to the 1996 Federal Agricultural Improvement and Reform (FAIR) Act with even more egregious consequences.

The farm crisis of the 1980s highlighted the plight of the American farmer and caused a resurgence of agrarian values in US political culture (Dixon and Hapke 2003, 162). It was the most visible event of the plight of the American farm due to development—modernization, economies-of-scale, drops in farm product value—in the farm sector. The crisis was not so much a turning point in the fate of small farms as it was a culmination of all the macroeconomic conditions set by US agricultural policy. The 1980s marked a departure in the way analysts framed the farm problem, in the cultural attitudes about modernization and the farm sector, and the way in which US policymakers shaped agricultural policies. In short, legislators and analysts touted the myth of family farming to justify spending on farm programs (see Dixon and Hapke 2003). At the same time, they invoked free-market rhetoric and made ineffectual reforms that made farm programs appear more “market-oriented.”

The 1980s farm legislation demonstrates the complicated attitudes that would dominate discourse on the farm problem to the present day; there is an inherent internal conflict over the consequences of farm modernization and the aims of US agricultural policy. There seems to be a national ambivalence over the fate of the small farm, an ambivalence that was demonstrated by national leaders during the farm crisis. “Indeed, it is ironic that the discursive power of the ‘family farm’ was such that it drove the form and extent of

122 The 1985 act also included a large allocation to conservation programs and mandatory supply controls.
123 The film Country and the live Farm Aid concert in 1985, for example, brought national attention to the crisis (Dixon and Hapke 2003, 162).
agricultural legislation during the administration of a president (Reagan) who prided himself on cost-cutting and deregulatory policies” (Dixon and Hapke 2003, 150). The changing political atmosphere merely altered the rhetoric invoked to justify farm programs and led to no appreciable changes. Also, a few emergency bills were enacted after the 1985 bill to stabilize prices, increase payments and commodity program eligibility (see Figure 2, p. 6), driving spending even higher.

The farming crisis fully resurrected the myth of the family farm in the national discourse of the 1980s. The Reagan administration’s popularization of neo-liberal values placed renewed prominence on the values of free-market capitalism in US political culture. While policymakers invoked the rhetoric of the family farm, the rhetoric of self-help in business prevailed as well. The EEP was a politically viable policy mechanism. Because of their free-market subtext, the EEP and international food aid programs were able to survive the ultimate “retrenchment” that came in 1996. “By the early 1990s a political coalition of neoliberal ideologues and proponents of fiscal rectitude in both the EU and US had begun another push for agricultural retrenchment” (Coleman, Atkinson, and Montpetit 1997, 458). As the 20th century drew to a close, these complex attitudes found their expression in the passage of the 1996 FAIR Act.

The FAIR Act, also referred to by legislators as the “Freedom to Farm” act, ended production controls for good and introduced near-complete planting flexibility for farmers. It replaced price supports with income supports. The FAIR Act entitled farmers to direct payments based solely on the acreage they previously farmed, and it allowed farmers to plant whatever they wished. Farmers were to receive fixed payments that would decline annually until 2002 (Winders 2007, 161). Though advocates hailed it as a “free-market” policy, it actually increased government benefits to farmers. Agricultural prices had recovered and made the system of deficiency payments an unattractive to farmers anyway. Many analysts have referred to the FAIR Act as a retrenchment of agricultural policy, but it did not lead to a

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In the 1990 Food, Agriculture, Consumption and Trade Act, Congress attempted a 15 percent reduction in deficiency payment spending, and allowed farmers more flexibility to plant what they wished on controlled acreage (Orden, Paarlberg, and Roe 1999, 101).
reduction of spending and did nothing to curb the incentive of farmers to overproduce (save perhaps for acreage-idling conservation programs, which remained firmly in place).125

Farm programs were designed to help struggling farmers in the unforgiving market and were originally openly interventionist. They have since undergone several changes and are now nominally free-market as prices (and arguably production) are no longer directly distorted. But in reality program spending has increased and market distortions are as high as ever. This is the result of the gradual process of de-coupling. The era of direct payment policy is no more free-market than was any other policy era. Since 1996 spending on agricultural programs has reached record levels.126 Figure 25 shows the increase of government payments to farmers in the later phases of de-coupling. Production levels remain high because direct payments keep farms in production that might otherwise fail. The mechanisms of farm policy have been most beneficial to agribusiness. Throughout the many decades they have done so, farm programs have transformed the entire agrifood system. In the 1930s, the farm processing sector fought production controls, but settled for price supports. As production controls gradually eroded, agribusiness did not fight the system of direct payments to farmers because it only reinforced the conditions under which they thrived. In the formation of the 1985 and 1996 “farm bills,” agribusiness openly supported direct payments to farmers (Winders 2007, 188).127

125 Retrenchment is one of the primary preoccupations of analysts of agricultural policy. Scholars have quite often overestimated the changes in programs as retrenchment. De-coupling is well studied in policy analysis, but usually in a context of competing interests. De-coupling is not often analyzed in terms of its macro- and micro-economic effects, as it is here. See Skogstad (1998), Coleman, Atkinson, and Montpetit (1997), and Sheingate (2000) for analyses of the retrenchment issue in agricultural policy.

126 The 2002 Farm Security and Rural Investment Act introduced “counter-cyclical” payments, which are a blending of target prices and direct payments. When prices drop below a certain level, direct payments based on historical acreages kick in. The 2008 Food Conservation and Energy Act continues this system and also relies on a number of idling and conservation programs (Griswold and Young 2010). As of yet (April 2013) the 2012 “farm bill” has failed to pass both chambers of Congress and the programs under the 2008 bill have been extended.

127 Bill Winders labels the agribusiness segment that came to dominate agricultural politics the “agribusiness-livestock” complex. “The expansion of the livestock complex also fundamentally changed the structure of agriculture…Importantly, the livestock complex, of which corn is an integral part, is closely tied to the larger food system that relies on high value and high-profit commodities. This change influenced the economic interests that were voiced as well as the strength of competing coalitions within agriculture” (2007, 188). I use the term agribusiness to refer to such high-profit sectors within agriculture, the processing and marketing sectors in particular. Agribusiness has been instrumental in pushing for free-trade policies as well, as the lobbying efforts of the Coalition for a Competitive Food and Agriculture System, which is comprised of hundreds of large processing firms, indicate (Hauter 2012, 32).
The American Small Farm

It is worthwhile now to highlight the conditions of the farm sector and what they mean for the American farm. The definitions of “small” and “family” farms have undergone many transitions throughout the 20th century and seldom reflect their frequent evocations by policymakers. Ingolf Vogelr declared that family farming was a wholesale myth as early as the 1970s. The USDA, on the other hand, declares that family farms dominate American farming in the present day and claims that “family” farms constitute 98 percent and “small” farms constitute 88 percent of all farms in the US (Hoppe and Banker 2010, 6). In reality, these statements are neither completely true nor completely false. Family farms are alive and well in the US, but no longer in the form they once were. Though small farms constitute the majority of farms (those with $250,000 or less in sales) they receive only 15 percent of sales (USDA ERS 2007).128 Most farms have suffered from a general erosion of profitability due to the cost-price squeeze. This has culminated in an agrifood system in which many farms are subsidized production entities which are not financially viable on their own, and where the majority of profits are captured by agribusiness. “The average operating profit margin and rates of return on assets and equity were negative for most small-farm types.” (Hoppe and

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128 The 2007 Agricultural Census shows that at the same time, farms with over $1 million in sales constituted 59 percent of all US farm production (USDA ERS 2007).
Over half of farms, and most small farms, cannot sustain a family income from farming alone and have, in fact, negative farm incomes.\textsuperscript{129}

Since 1933 the government has paid farmers to produce much more than the market could absorb. As a result, the overall value of farm products declined, as Figure 8, p. 49 demonstrates. At the same time, the costs of farming have grown because of high land prices and rents as well as the cost-price squeeze farmers have experienced as the farm input and buyer (processing) sectors became concentrated in the hands of a few firms. In this period, as farm prices began to drop, the costs of farm inputs rose sharply. A new squeeze on farmers was taking place at the behest of food processors, retailers, and farm input suppliers. The costs of farming grew significantly, due to the rising costs of farmland and farmland rent due to farm tax, farm credit, and commodity programs, and due to the increasing costs of farm production inputs and services due to the growing market power of agribusiness. Figure 26 illustrates the increase of farm production expenses over time.

![Figure 26. Farm production expenses (in billions) 1929-2011. Note. Adapted from USDA ERS (2012k).](image)

As farm production expenses grew, farm incomes did not. Figure 27 highlights the portion of farm production expenses of the total value of farm products. This portion has been exceedingly high since the end of World War II, and at or near 80 percent from the

\textsuperscript{129} This is determined by the fact that the median farm income (farm sales less expenses) has been negative in at least every year since 1996, before which there is not sufficient data on farm income metrics by sales category.
1960s onward. Federal income tax policy, commodity programs, and farm credit programs have fueled the upward trends of agricultural land values and farmland rents. These have contributed significantly to the cost of farming. The costs of farm production expenses and the erosion of farm incomes is due mainly to the cost-price squeeze that farmers have experienced in the growth of agribusiness and oligopolies in the farm input and buyer markets.

Vertical integration means that a firm controls all aspects of production and marketing of an agricultural product. Agribusiness firms have been dissuaded from vertically integrating into farming operations as farm production costs have grown (Lauck 1996). The use of contracts is sometimes referred to as “integrating backwards” (Lauck 1996, 209). The costs of farming, increasing all the time, can only be diminished by increasing production to a certain point, or through vertical integration. Farmland has been a particularly attractive investment, but not for farming per se. Firms that would choose to go into production themselves can avoid buying or renting inflated farmland, paying salaries and benefits to operators, and many other costs by relying on contracts. The tax system and the benefits of cutting the costs of procuring farm goods drove much of the initial corporatization or “takeover” by corporate interests of farming. Arguably, the expansion of corporate farming reached its peak in the late 1960s (Lauck 1996, 206). This is because the growth rate slowed after the 1960s, as did the ability to cash in on technological advances. However, farm output
is now sustained at significantly high levels thanks to farm programs. Prices have also been thoroughly suppressed and goods can be procured at favorable rates on the open market.

The use of production and marketing contracts between farmers and buyers has increased. A marketing contract is an agreement between a farmer and a buyer (processor or agribusiness firm) that products will be delivered at a specified price, time, and quantity. In production contracts, the buyer will set certain parameters of production and will often provide or finance inputs and services for production. “Large corporate processing firms can contribute to the control of product quality and standardization but many have found land ownership and direct farm operation unrewarding” (Raup 1973, 289). Production contracts are useful to firms that wish to “minimize their costs and inconvenience by buying and assembling farm products in large volume” (Vogelor 1981, 134). Contracts benefit buyers with a guaranteed supply of low-price farm products, as conveniently and reliably as if produced themselves, but with none of the risks of farming. The processing firms control a great deal of the production process and can usually also provide the necessary inputs. They can even lend money to the farmers so farmers can acquire or update the necessary farm implements (Vogelor 1981, 138). Firms can then select the criteria under which they purchase the products and the price they pay. For farms, contract farming is tantamount to wage labor, despite the pseudo-independence of the farmer. Since the 1960s agribusiness firms have been using production contracts as a substitute for vertical integration in a market, and have exerted their bargaining power to ensure their own profitability (Blank 2008, 399).

Contracts have become more prevalent since the 1970s and have especially increased in the 1990s and 2000s. The amount of agricultural production under any contract grew from 12 percent in 1969 to 29 percent in 1991 (Blank 2008, 382). In the vegetable industry, the amount produced under some type of contract (both fresh and for processing) was already at 95 percent by 1974. In the broiler (chicken) industry, 98 percent was “integrator controlled,” either under contract or vertically integrated, as early as 1964 (Lauck 1996, 209). Contracts erode “spot” markets, which are the local market mechanisms through which a farmer sells his products. Spot markets for farmers include “buyers” of commodities like the local grain elevators or mills. These buyers have become increasingly integrated into buyer oligopolies, ownership has become more concentrated and the number of such facilities has dropped significantly (Ollinger et al. 2005). The shifts that have taken place in most sectors have
given processors and buyers a lot of influence. Eventually, a market will reach a tipping point after which farmers have no choice but to enter into contracts.\textsuperscript{130} Also, economic research has linked a decline in profitability for producers (farmers) in which buyers have more bargaining power. The nature of farm production makes it particularly susceptible to decreases in profitability because localized production tends to be susceptible to concentrated buying power. It matters little whether a farmer negotiates a price on the open market or contracts, as the open market is often controlled or influenced by processing firms. Sometimes, contracts are the only option. The alternative to concentrated buying power would be to form farm collectives, but collective marketing arrangements involve contracts as well (Blank 2008, 402).

Agribusiness firms capture most of the value between the production and retail of agricultural products. Food manufacturing has consolidated and grown. Meatpacking concentration (measured as the share of the biggest four firms in the industry) increased from 29 to 57 percent from 1982 to 1997; for the entire food manufacturing industry, the average top four firms increased from 35 to 46 percent in the same period (Blank 2008, 386). Table 1 in Appendix B shows the concentration for select agrifood industries throughout the last few decades. The concentration of market power in the hands of so few buyers in so many sectors has eroded the share of the food dollar that farmers receive. By 2000, the average farmer received around seven percent of consumer food spending (Halweil 2000, 15). The conditions under which agribusiness has thrived due the interventions of the federal government continue to prevail despite the nominal changes of the FAIR Act. The savings on cheap farm products that agribusiness has enjoyed over time is inestimable. But a recent example from 2006 estimated that the savings to the world’s largest food processor, Tyson Foods Incorporated, equaled $288 million dollars a year (Griswold and Young 2010, 387).

Two factors have mitigated the effects of the cost-price squeeze for farmers. First is the increase of government payments. Second is the fact that farm income has been increasingly supplemented with off-farm income. This is called “leveraging” income, or hedging risks of unstable farm income with off-farm employment (Blank 2008). The

\textsuperscript{130} This tipping point is a minimum of 35 percent concentration in the hands of the top four buyers (Blank 2008, 401).
statistics on farm income are often misleading. For example, Figure 28 shows the average farm household income as it compares with the national non-farm household. Since 1960, farm household income has been near at parity with national household income, and has outpaced it since 1996. But farm household income reflects income from many sources, including government payments and off-farm income. Reliance on government payments has increased for many farming operations.

![Figure 28. Mean farm household income and mean US household income. Note. Adapted from USDA ERS (2012f).](image)

Government payments had comprised small amounts of farm income in earlier decades of commodity programs, but came to comprise larger amounts of farm income and even larger amounts of overall returns to farmers, due to the steadily-rising cost of farming. Also, government program payments are aimed mostly at those crops that are in overabundance; 90 percent of payments go to farms that produce corn, wheat, soybeans, rice, and cotton (Griswold and Young 2010, 383). Figure 29 shows the increase of government payments as a portion of net farm income. The amount of farm household income that has been supplemented by government payments has grown. It reached an all-time high in the mid 1980s and increased sharply after the FAIR Act, mostly due to the enactment of emergency price support expenditures to cover the shortfalls of the direct payment policy. However, this distribution is much skewed. Medium and large farms (those that earn
$100,000 or more in annual sales) received 76 percent of all farm program payments in 2007. 61 percent of farms received no payments at all (Hoppe and Banker 2010, iv).  

Despite the fact that many farms receive no government payments, those that do are well-supplemented. Lower-selling farms (those that earn $100,000 or less in annual sales) make 58 percent of their net cash income from government payments, while higher-selling farms ($100,000 a year or more in annual sales) earn 51 percent of their incomes from government payments. Even those farms categorized as “very large” (which earn over $500,000 in annual sales) receive a quarter of their income from subsidies (Blank 2008, 436).  

And although nearly all farms in the US are classified as “family,” many of the recipients of government payments are large multinational corporations. For instance, Cargill and other large traders received $4.2 billion between 1980 and 1990, and about $1 billion per year are still allocated for grain storage (Griswold and Young 2010, 386). 

At the same time, farms have become increasingly reliant on off-farm income for survival. Most farms are definitely not “family” farms in the traditional sense of a yeoman

Figure 29. Government payments (percent of net returns to farmers).  
Note: Compiled from USDA ERS (2012b; 2012i).

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131 Also, 84 percent of farms in the largest farm category (which constitute a mere four percent of US farms) received payments in 2005, as did 63 percent of farms with $1 million or more in annual sales, while only 23 percent of the smallest farms with less than $10,000 annual sales (51 percent of US farms) received payments (Blank 2008, 437).

132 In fact, a third of these “very large” farms earn over $1 million dollars in sales (Blank 2008, 436).
farmstead where income is derived primarily from farming, but are instead headed by part-time farmers and kept in operation by supplements from off-farm employment. Figure 30 demonstrates the increasing portion of off-farm income of net farm household income since 1960. These statistics are determined by the median farm income. Households below the median farm income line are actually less likely to be supplemented with government program payments than those above the median level, as since 1996 the distribution of benefits has been skewed toward “middle” size farms with larger farm incomes (Ifft et al. 2012).

![Figure 30. Median farm household income with off-farm income. Note. Adapted from USDA ERS (2012f).](image)

Net returns to farmers have eroded to the point where it is increasingly unlikely for the average farm to make a viable living primarily from farming. By the 1980s, the largest five percent of farms provided about half of all agricultural production. These farms earned nearly 75 percent of all net farm income in the nation (Strange 1988, 64). As early as 1981, the necessary amount of annual sales to capture the gains of peak efficiency was about $133,000 for a one- to two-operator farm. But over half of American food was produced on medium-to-large farms with annual sales over $250,000 (Strange 1988, 81).

Currently “large” family farms that make $250,000 a year or more (only 12 percent of all farms) produce 84 percent of agricultural products in the US (Hoppe and Banker 2010,
iv). This means that from the 1980s on, most farm production has come from farms that are large and, despite their high sales, inefficient. This also means that the bulk of small farms do not achieve adequate farm sales to be economically viable. Median farm income (farm sales minus expenses) was negative $3,040 in 2008 (USDA Agricultural Resource Management Survey 2012). For the average corn farmer, for example, corn’s market price is typically less than its production cost. The shift to “free-market” direct payments policy has de-coupled the production levels of corn so far from its market price that it not only encourages farmers to produce it, but often simply pays them to grow what would otherwise be unaffordable.

**CONCLUSION**

The financial situation of American farms is exceedingly complex, but it is apparent that the conditions set by US agricultural policy have systematically benefited large farms, non-farmers in agriculture, and agribusiness. Under the conditions set by the fully de-coupled direct payment policy, farms are more reliant on government programs and/or off-farm income and the majority of farms are not financially viable. Farm programs have gradually adopted “free-market” labels while program spending has ballooned. The consequences of surplus and low commodity prices are now fully apparent. Farm households are indebted and increasingly hard-put to make a living between oligopolistic conditions in the farm input sector and buyer markets. The farm sector in general is overcapitalized and has expanded well beyond the point that efficiency and economies-of-scale warrant. The agrifood system—production, processing and marketing—now revolves fundamentally around US agricultural policy, much to the benefit of agribusiness and the detriment of the American small farm.
CHAPTER 6
CONCLUSION

The industrial agrifood system in the US is characterized by large-scale production and an abundance of processed food. The development of capitalist agriculture has been problematic throughout history. Structural changes to the farm sector tend to entail painful social transitions like the loss of farms and the displacement of farm labor. Chronic problems in the farm sector, social and economic, are referred to generally as the farm problem. Economic theories of capitalist development in agriculture have colored popular, academic, and governmental discourse about the farm problem. Economic theories have also propounded the general assumptions that the farm sector is plagued by chronic market failure and that the farm problem is a normal transitional phase in capitalist development. The theory of inevitable capitalist development is “an assumption that food corporations encourage, since their agricultural aspirations are banked on the public’s willingness to believe that family farmers are unable to produce as efficiently as corporate food systems” (Hightower 1975, 156). As established in the review of neoclassical and neo-Marxian economic theory, these assumptions about agricultural modernization are incomplete. Economic theories and populist critiques avoid comprehensive analysis of government policies and programs in the agrifood system in general.

The pivotal role of state policy in the development of capitalist agriculture throughout history indicates that development has in fact always been guided by policy. Moreover, agricultural development has needed heavy state guidance due to a systematic incompatibility of agriculture and capitalism; agriculture is as resistant to the capitalist paradigm as are the general limits of nature. Of course, business has developed technology to overcome natural limits. At first glance the industrial agrifood system seems to be the result of such advances. Undoubtedly it is popularly considered the inheritance of the Green Revolution. But government policy was pivotal in the pace and direction of the adoption of farm technologies. And though technology has improved the scale of food productivity in the
US, government policy is alone responsible for sustaining overproductivity in US agriculture since 1933.

The original impetus for farm policy was the protection of the family farm, which remains an enumerated goal of farm programs to this day. Farm policies have aimed to help farmers by correcting market failures, rectifying the supply, demand, or prices of farm products, or supplementing the incomes of farmers. Although billions of dollars are allocated to this purpose, US agricultural policy has failed to help the majority of farms. Instead, small and medium farms have declined steadily in the conditions created by farm programs. In a final twist of irony, subsidies are most likely one of the few things that keep many farms afloat, though these do not include most small farms. Small farms supplement their farm income (which is often negative) with off-farm income.

From 1933 to 1954, supply management policy entailed ineffective production controls. Agricultural surpluses of durable or non-perishable commodities like grains, oilseeds, and beans grew. With rising government stock levels, Congress developed the Agricultural Trade Development and Assistance Act of 1954 (international food aid) which subsidized exports to developing or needy countries. Food aid did not mitigate the rising surplus, but it did provide a lucrative subsidy to export firms. From 1954 to 1973, programs underwent a process of gradual de-coupling of price supports from production controls under price support policy. Eventually the mechanism of price supports was dropped in favor of target prices in deficiency payment policy. In these years surpluses soared even higher and government payments to farmers increased steadily. Then by 1996, production controls were dropped completely. Throughout all these years, price supports had not been applied to the market prices of products, but were paid directly to farmers and were seldom tied to production levels. Essentially, programs have accomplished the near-complete divorce of supply and demand for certain commodities. Program payments under direct payment policy constitute increasing portions of farm income, providing insurance against falling commodity prices. This has incentivized a “ratchet” effect, leading to the gross overproduction of certain agricultural commodities.

The effects of high agricultural surplus are central to understanding the development of the industrial food system. The large surpluses led to a decline in real commodity prices (prices received in the market) over time, which caused several epiphenomena. One was a
metamorphosis of the agrifood processing sectors—livestock, slaughter and meatpacking etc—into industrial agribusiness. These sectors increased their agrifood market share by transforming the glut of cheap inputs—grains, oilseeds, soybeans—into other products like meat, refined oils, or a myriad of processed foods for which they are able to capture the majority of consumer food spending. These gains were profitable insomuch as commodity programs guaranteed the low costs of agricultural inputs. The industrial agrifood system is marked not only by the way food is produced, but the way in which it is eaten. And the surpluses of grains, oilseeds, and soybeans that have been sustained by commodity programs have become the prime ingredients for processed food, fast food, and most meat produced in the US. Without the guaranteed abundance and low price of these industrial food staples it is doubtful that they would have been such favorable candidates for the research and development, both private and public, which yielded their many profitable uses.

Another direct consequence of the growing surplus was the promotion of agricultural exports through PL 480. International food aid deployed government funds to export firms (especially grain firms) to store, process, and transport agricultural products. This program in particular transferred benefits to a select group of firms which would eventually morph into the towering grain oligopolies that dominate the livestock, meat processing, and grain markets (including seed and supply to grain farmers) to this day. It is a popular misconception that food aid programs are another subsidy to farmers. They do not entail transfers to farmers or tangible benefits to farmers save perhaps for the minimal impact they have had on raising real commodity prices. In perspective, the Export Enhancement Program of the 1985 bill was very much like PL 480 and also subsidized the activities of agribusiness. A recent example of the impact of government programs upon the price and abundance of a commodity is the choice of corn as an input for ethanol biofuel. The energy efficiency of corn ethanol is quite poor for every unit yield of fuel (see Griswold and Young 2010, 395).\textsuperscript{133} The only reason corn ethanol is at all feasible is because of corn’s abundance and cheap price, which has been guaranteed by decades of government support. In this case, the

\textsuperscript{133} It is estimated that it takes 1.29 gallons of fossil fuel and four gallons of water to produce a single gallon of ethanol, for it generally takes so much fossil fuel to produce corn (50 gallons per acre) (Griswold and Young 2010, 395).
development of the ethanol industry was supported directly by federal funds (see Business Insider 2011, 3).\footnote{A 2011 report estimates that between 1999 and 2008 the ethanol industry received $22.8 billion in subsidies, $16.7 billion of which was from the Volumetric Ethanol Excise Tax Credit (Business Insider 2011, 3).}

Farm programs in general have been detrimental to small and medium farms and have benefited large farms. Payments to farmers have been inequitably distributed to benefit large farms. Supply management policy directly eliminated many sharecroppers and tenant farmers, and payments were not shared with remaining tenants but were retained by landlords. The infusion of cash and income into the farm sector in this era was invested in labor-saving farm technologies which exacerbated the loss of farm labor.\footnote{Payments were contingent upon reducing their production, and for many farmers this meant getting rid of share croppers and share-tenants. With reduced labor available and every incentive to maximize production on allotted land due to per-volume subsidy payments, farms invested in new technologies to maximize yields. See Strange (1988), Orden, Paarlberg, and Roe (1999), and Winders (2007).} Transfers to farms have raised the price of farmland over time (this is called “capitalizing” farm benefits and capitalization into land values can be as much as 92 cents for every program dollar), which has led to higher rents for tenant farmers, prohibited entry into farming, and increased the overall cost of farming.

Capitalization was driven even higher by federal income tax policy, which allowed large farms and incorporated farms generous deductions for which smaller farms have not been eligible. The income tax code also benefited non-farmers in agriculture and increased speculative investment in land and “tax-loss” farming. Currently, non-farmers own and rent out nearly half of all farmland in the US (Kirwan 2009, 139). By many accounts the farm sector has been generally overcapitalized, which has resulted in the lion share of agricultural products being produced on over-large inefficient farms. Federal farm credit programs have pushed the cost of farming even higher by inflating the value of farm capital (mainly land, but also machinery and inputs). Farm credit policy has also added to the cost of farming, the inflation of farmland value in intermittent artificial booms, and the increase of farm debt. It may have contributed to the overcapitalization of farms as well, as federal loans were allocated in increasing amounts to expanding farms, and quickly became available to big farm operators. The most influential of farm credit programs were the speculative lending
practices of the 1970s and 1980s, which contributed to the worst farm crisis in the US since the Great Depression.

The dawn of the industrial agrifood system changed the definition of farming in America. Farm numbers have declined in nearly every decade since the 1930s and large farms have grown larger. Not only did the methods and scale of farm production undergo drastic changes, but the market for agricultural products changed as well. Both transformations were influenced by US agricultural policy. After the 1980s farm crisis it is evident that farmers are mired in a cost-price squeeze to such an extent that the majority of farms are no longer financially viable and must rely on off-farm income and government payments to remain in production. Inasmuch as US agricultural policy has fashioned the conditions under which many farms have been forced out, it is necessarily keeping many farms in business. Farmers are more reliant on government payments although distribution is painfully skewed to higher-earning farms. The majority of farms receive no benefits.

The framing of many agricultural programs has often centered on alleviating the worst aspects of the farm problem on a temporary basis. This is evident in the many attempts of legislators and reformists to “cash out” farm programs, and the fact that farm programs have always been of a temporary nature (Orden, Paarlberg, and Roe 1999). But the programs were never eliminated and market distortions have endured, fostering overproduction and lower prices, thereby necessitating ever-more farm program spending. If farm programs have saved farmers, it has saved them mainly from the onerous consequences of US agricultural policy. Unfortunately, this makes the situation of many American farms even more tenuous and the prospects for policy reform even more difficult. To add insult to injury, the myth of the American small farm is still a primary justification for farm programs.

Many programs have included price supports and income supports that were fixed and declining, such as the FAIR Act. Farm programs allowed for farmers to transition out and find other jobs, although the largest outmigrations of farm labor occurred in the 1950s and 1960s when government spending was highest (Goetz and Debertin 1996, 517).

A recent USDA study concluded that an end to direct payments, which has been proposed for the 2012 Farm Bill (and as of April 2013 has not been passed), would lead to an immediate loss of 11,000 farms (Ifft et al. 2012). A good example of a transition from government agricultural subsidies is the case of New Zealand, where the transition to “market stability” took six years after farm subsidies were abruptly ended, though only one percent of farms went bankrupt (Griswold and Young 2010, 402).
This thesis shows most clearly the systematic impact of state policy on the agrifood system. The conclusions contained herein have implications for academia and agrifood activism. The industrial agrifood system is the product of human intervention, not of inevitable capitalist development. Foremost, it remains to be seen whether and how policy might be reformed (or harnessed) in order to facilitate this recent rebound of the American small farm. Since the food system is not an inevitable or natural development, it can surely be changed. The focus on impactful change should center on commodity program legislation, though it is outside the scope of this thesis to propose whether retrenchment or reform of commodity programs would be more beneficial. What is certain is that these programs do not benefit a majority of small farms and are keeping a good deal of farms in business when they should not be. Programs are also offsetting the advantages small farmers should have in their efficiency and reducing their competitiveness by rewarding larger farms for producing more, or simply for being large.¹³⁸

Some food (albeit processed, less-healthy food) is made more affordable by subsidies. The oft-invoked protests that the removal of farm subsidies would harm both farmers and consumers are partly true. The sudden removal of subsidies would most likely spell the end of some 11,000 farms (Ifft et al. 2012). The removal of subsidies would also end the overabundance of industrial food crops and feed grains, therefore their cheap abundance, and deal a direct blow to many industrial agribusiness firms that profit handsomely from the imbalance. Whether or not this would spell disaster or salvation for farmers and consumers in the long run is also outside the scope of this analysis, but is a monumentally important question and should serve as a guidepost for future agrifood research in all disciplines.

Agricultural policy analysis has too often restricted its focus to the politics of retrenchment and policy formation in an examination of competing interests. These are important issues but the wide-ranging economic and social consequences of US agricultural policy are often omitted. Other disciplines—economics, rural sociology, and political economy—offer rich empirical analysis on the consequences of agricultural policy. But as discussed in chapter two, these fields often suffer from problematic foundations like the assumption that capitalist development in agriculture is inevitable, or that industrial agrifood...

¹³⁸ This is because currently direct payments to farmers are based on historical acreages.
system and all its onerous aspects are the result of such development (and are therefore unchangeable). This basic assumption needs serious reconsideration, for it has often colored public and legislative debates on farm policy since 1933.

Despite the monumental impact of farm programs on the number, size, and viability of American farms, small farms have been rebounding in recent decades (from 2002 to 2007 there was an increase of 18,467 small farms) (USDA NASS 2007). Popular dissatisfaction with the industrial agrifood system is growing and is manifesting in changes in cultural values regarding food and farming. These value changes, induced in part by consumer food movements and other types of agrifood activism, have led to a significant growth in alternative market arrangements like farmers markets and community-supported agriculture, as well as growing demand for organic, fair-trade, and non genetically-modified (GMO) products. “These consumers often choose alternatives to the mass-produced food system based on concerns about social and economic justice and the ecological soundness of the industrialized food system, as well as concern for small farmers and rural communities” (Hendrickson and Heffernan 2002, 360). These emerging markets are creating more opportunities for American small farms outside of the bounds of the mainstream industrial agrifood system. Independent market arrangements are often comparatively free from the distortions of US agricultural policy.

Although the development of these alternative markets can benefits both farmers and consumers, the bulk of the agrifood system remains unaffected. Plus, alternative markets are being co-opted by mainstream agribusiness firms which have been quick to adopt the mythos (and most importantly, the labels) of alternative agrarian values (Pollan 2006).139 Moreover, highly-valued alternative food products—especially “organic” products—often carry a higher price that is out of the reach of many consumers. Whole or healthy food is more often expensive than processed or “industrial” food. Of course, this is because processed food often consists of subsidized and therefore artificially cheap commodities. But healthy foods often carry price premiums that reflect their perceived values and the willingness of affluent consumers to pay more for them. This lends some weight to the charge by many analysts of

139 Pollan (2006) explores this phenomenon in his discussion of what he calls “big organic,” or industrial organic firms and retailers that cash in on alternative food markets (like Whole Foods Markets).
“bourgeois piggery” in the consumer food movements (Johnston 2008). While the agrarian values that these movements are stirring in American culture are enormously important, their accomplishments may do little more than create niche or artisanal food markets that are the privilege of wealthy “lifestyle” consumers, and well out of the average consumer’s reach. Agrifood activists must target US agricultural policy and step outside the bounds of marketplace activism. Hopefully, empirical analysis like this can aid and inform such movements in their efforts to reshape the agrifood system for the benefit of all.
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APPENDIX A

THE INDUSTRIAL AGRIFOOD SYSTEM
Figure 31. The industrial agrifood system.
APPENDIX B

CONCENTRATION IN SELECT AGRIFOOD SECTORS
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Note. Compiled from Hightower (1975), Ollinger et al. (2005), and US Department of Commerce. US Census Bureau (2006).