OCM

Reclaiming the agricultural marketplace for independent farmers, ranchers, and rural communities

A Food and Agriculture Policy for the 21st Century

Dedicated to the memory of

John W. Helmuth

Contents

by Robert Gronski

Foreword

Some say America is at a crossroads in choosing a structure for agriculture. I contend that we took the wrong road some miles back. My question is, will we have the courage and wisdom to backtrack and try to find the right road?

In this day of unprecedented prosperity, farm families got left behind and Rural America is in crisis. While farmers are driven from their lands, food processors and retailers use their market power to depress commodity prices and expand their margins. Consumer food prices hover at near-record levels.

Family farms are giving way to mega farms under control of giant corporations. Open and competitive markets are being replaced by "supply chains" and production contracts. More and more we depend on foreign sources for our food needs.

For three years in a row there has been a massive, multi-billion dollar government bailout, and yet the plight of farmers and rural communities continues to worsen. The 1996 Freedom to Farm Act has clearly been discredited as a farm program. As Senator Bob Kerrey stated, "this program is getting more and more expensive with fewer and fewer satisfied customers".

The Organization for Competitive Markets' Food Policy Retreat was conceived with a view toward finding a better way to produce our food and maintain a viable Rural America. A number of eminent and talented persons were identified and invited as participants. For two days, they focused their considerable talents and energy to produce a work product that projects a vision for American agriculture that is more in keeping with our national needs, values and traditions. We owe them a debt of gratitude.

It is hoped that this document, " A Food and Agriculture Policy for the 21st Century," will be widely and effectively used to bring more balance and reason to this crucial debate.

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Introduction

By Michael C. Stumo[1]

The papers contained in "A Food and Agriculture Policy for the 21st Century" embody the outcome of the Organization for Competitive Markets' Food Policy Retreat (the Retreat). The Retreat, held from April 29 to May 1, 2000 in Parkville, Missouri, was a very unique meeting of perhaps the most diverse and highest quality thinkers ever convened on farm and food policy. The impetus for the Retreat stemmed from the widespread dissatisfaction with the current status of agricultural policy and market structure; the increasing consumer concern about the quality of their food and how food is produced; and the belief that progress must come from an approach that considers a wider range of stakeholders than merely agribusiness. In our view, these papers capture more fully the array of issues, concerns and solutions that farmers and citizens share with regard to the problems now occurring in food production, processing, marketing and consumption.

The real world constitutes an infinitely complex web of dynamics and interactions. Western science has constructed a host of somewhat dogmatic knowledge systems to explain the world around us. For example, physicists explain a large swath of reality through mathematics. Biologists often describe the organic world at the molecular and cellular levels. Ecologists view yet another plane in examining the dynamic interaction of plants, animals, microbes and the inanimate environment in ecosystems. Each knowledge system is generally consistent internally, but incomplete.

OCM assembled top thinkers in a host of knowledge systems, or disciplines, relevant to food and agriculture. The participants in the Retreat included lawyers, political scientists, community advocates, sociologists, agricultural historians and agricultural economists. Though many are affiliated with institutions and organizations, they came as individuals drawing on their extensive expertise but unencumbered by the agendas or policies of their affiliations. Each of their disciplines utilizes a different knowledge system – or analytical paradigm – in an attempt to explain the world. Though each discipline has useful information and insight to provide, each also succumbs to the Cartesian reductionist model of breaking the dynamic world into pieces and analyzing the resulting components in an incomplete approximation of full reality.

Yet in a sense, all participants are social scientists examining human interaction through law, monetary exchanges, technology, culture and government – not to mention through the

antitrust lawyers were challenged by rural sociologists who were, in turn, challenged by agricultural economists – and so on.

We believe that this approach has resulted in a series of papers which more fully captures the dynamic world of the farm and food system in multiple planes. For example, the proper balance among market forces, government actions, and civil society values is closely examined. At the same time, these papers deal extensively with the proper structure of the industry at the production, processing, marketing and consumption levels. Topics range further from supply and demand concerns of conventional farm policy to the needs of poor urban consumers.

To convey the problems and solutions in food and agriculture in a helpful way, these papers are presented in four chapters proceeding from the general to the specific. Chapter I contains an overarching "Vision Statement for a Better Farm, Food and Fiber System". This chapter consists of one sentence, to which all in the group agreed, which concisely sets forth the goals to be pursued in food policy for this new century.

In Chapter II, "Guidelines for a Better Farm, Food and Fiber System," a more detailed set of principles are presented to provide guidance as to how competing interests should be balanced in an attempt to achieve a farm and food system which better benefits society as a whole. As in Chapter I, all participants were in agreement as to these principles. All had potential veto power as to any statement. In this editor's view, the participants tended to shed their disciplinary "hats" during this discussion as they proceeded as informed citizens. Readers should be encouraged to do the same.

In Chapter III, "Group Reports," this document proceeds to the third level of specificity. It contains more detailed, discipline specific, recommendations for positive policy change in four policy areas. The Retreat participants broke out into four groups, according to their expertise, to discuss and draft the following four sections. Section 1, "Antitrust and Consolidation in Agriculture," identifies issues and solutions for achieving a better approach to antitrust and competition policy. Section 2, "Supply/Demand Considerations," discusses the dynamics of supply and demand in row crop agriculture with proposals to accomplish better, and more rational, results than the conventional farm policies currently in effect.

Section 3, "Strategies to Address the Whole Food System," presents the case for direct consumer involvement in decision making in food and agriculture. It argues for consideration of a more diverse food production, marketing and distribution structure which fits the needs of consumers at all income levels. Section 4, "Agricultural Research Policy," analyzes modern trends in government funded agricultural research while presenting mechanisms designed to

In Chapter IV, many participants have written short essays on cutting edge issues of public concern. There was no collaboration between participants in authoring these essays. Rather, the writers drew from their recent research to shed light on problems and solutions to problems in the modern farm and food system. The topics are as wide ranging as the expertise of the participants. They span issues including a brief history of agricultural institutions, antitrust policy, biotechnology, and futuristic visions of agricultural organizational structures, to name a few

You, the readers of this report, likely have a strong interest in food and agriculture. Yet you may not have been exposed to each and every perspective presented here. Care should be taken not to disregard that which has been written in unfamiliar areas. Each perspective has significant support in different sectors of the farm and food subeconomy. We hope that "A Food and Agriculture Policy for the 21st Century" can make a difference which lives up to its name.

Chapter I

Vision Statement for a Better Farm, Food and Fiber System

We envision a farm, food and fiber system that is able to provide a safe, adequate and nutritious supply of food for the human family in a manner that is socially, economically and ecologically sustainable and does not jeopardize the ability of future generations to meet their needs.

Chapter II

Guidelines for a Better Farm, Food and Fiber System

Our system of political democracy operates properly when it disperses power to the greatest feasible extent so as to effectively translate the diverse wishes of the people into public policy. Likewise, our capitalistic economic system operates properly when it disperses ownership and decision making power broadly among the citizenry. Concentration of power and ownership in either the political or economic realms obscures the wishes of the public. The holders of that power may disproportionately exercise it as they profess to speak for the public.

These same principles apply to the farm and food sector. A concentrated food system runs the risk of obscuring a large swath of the diverse wishes of food consumers and society except those wishes that serve the narrow interests of a few conglomerates. While a concentrated "supply chain" system may address the desire of consumers for relatively cheap food, other demands are ignored. These demands include food that is produced by independent entrepreneurs in ways deemed by many to be more healthy, natural, and ecologically sustainable.

True democracy in the food production, distribution and consumption sectors responds best to the complex values of society. These demands include a proper balance of social, ethical and market values. A decentralized food and fiber production system is the best structure available to do so.

Unfortunately, the country has not articulated a shared vision for the future of farming. Some argue for a vertically integrated food producing system, controlled from the top with open, free and transparent markets replaced by boilerplate supply contracts or employment arrangements. Others support a sector of independent entrepreneurs operating within a framework of open, free and transparent markets to govern the allocation of resources and distribution of income.

Independent, entrepreneurial food producers with close proximity to the land may be better stewards of the land while retaining the ability to produce abundant food. Such a system should be structured to provide a fair allocation of income to the production sector by rewarding

change drastically depending upon the rules, incentives and infrastructure decided upon by the State, as a representative of the people. The public policy framework that creates and enables the market, as it pertains to the food system, should be continually scrutinized so that it allocates resources, ownership and decision making broadly throughout the food chain. Such a marketplace should provide for fairness, an ability to compete on the merits, and low barriers for new entrants. Efficiency, ingenuity and innovation can then flow and grow in a manner most beneficial to the human family.

A major concern about replacing markets with boilerplate supply contracts is that the great disparity in bargaining power virtually assures that the economic benefits will be skewed in favor of the more powerful party to negotiated contractual relationships. Current contracts offered by processors illustrate this concern through contract provisions that prevent farmers from consulting an attorney, prevent disclosure to third parties, shift additional risk and financial burden to the farmer, and allow unilateral modification by the processor.

It is essential that "farm policy" be viewed in terms that include more than the cost to deliver food to the farm gate or the consumer plate. An appropriate calculus for farm policy would also include all economic and social costs on producers and rural communities, environmental considerations and structural impacts.

There is a higher order to which we must conform. The earth itself is the basis for food production and should be treated with dignity and respect. Thus, to the extent that human economic interaction harms short and long term soil, air and water quality, civil society must establish rules to reduce or eliminate that harm. Truly efficient food and fiber production must take into account all costs so that future generations are able to meet their needs**.** Appropriate public policy rewards farmers who are good stewards of the environment.

Cost calculations should also include human and social costs which, though real, are often dismissed by those distant from them. For example, as this nation's great tradition of family farm agriculture disintegrates, suicides are a disturbingly significant cause of death for farmers. Main streets, churches and other rural community institutions often falter or die in correlation to the reduction in the number of family farms in the community. While some rural communities are able to attract another industry to the locale, such successes are by their very nature sporadic, expensive for local governmental coffers, and often create unforeseen social problems. Examples include large packing plants that demand public fiscal incentives, hire outside labor at poverty wages, and create significant burdens on government services. A decentralized system of production agriculture is nearly unparalleled in the geographic scope and beneficial nature of bringing economic and social health to Rural America.

But there are other mechanisms which can place food supplies within the grasp of poor consumers. For example, public policy can foster the expansion of infrastructures that put the means of food production and distribution in their hands. Various types of local food systems have been successful both in this country and abroad, especially in urban areas. Government representatives should recognize these systems and consider policy changes to directly and indirectly foster the growth and vitality of these diverse, self-help initiatives.

The current economic system is not a "natural" system, i.e. there is no inevitability to the direction we are currently heading. Rather, like many social institutions, the economic system is a creation of society. It was put in place by humans and can be altered and bettered by humans. The food sector, as a crucial component of our society, can similarly be improved and, in fact, should be continually adapted to fit the needs of people and the natural world.

Diversity in the natural world has, for eons, proved effective for maintaining balance, self-help, and productivity. Monoculture requires much more outside support to survive. Diversity in political institutions and decision making has resulted in the superior way to incorporate many competing values into resulting policies and rules which are beneficial to the broadest range of people – with the courts providing a safety valve for protecting the rights of the minorities. Similarly, diversity in economic institutions, i.e. large, medium and small firms at each level of the food chain, is the best way to provide for the diverse needs and demands of a complex society. Promotion of a few concentrated supply chains obscures and/or quashes a wide range of these important values.

Thus, the pursuit of a farm, food and fiber system that decentralizes ownership, resources and decision making allows the most efficient and accurate transmittal of dynamic and changing citizen preferences throughout the system. It promotes innovation and entrepreneurship at all levels. Yet, as such a dynamic system continually processes the demands of society, it must do so in the context of the over arching needs for the provision of safe, nutritious and adequate food and for the protection of the natural world that sustains us.

The suggested vision for the food system can be summed up in the following points—

1. Public policy should be shifted to pursue decentralized systems of food production, processing and distribution with an emphasis on ownership and control by those involved on a day-to-day basis.

2. The production of food should be carried on by independent entrepreneurs with competitive options for acquiring inputs and selling their products.

Chapter III
Section 1

Antitrust and Concentration in Agriculture

By Peter C. Carstensen, John Connor, Ronald W. Cotterill, Bert Foer, William Heffernan, and Jon Lauck

(Editor's Introduction: Competition, or the lack thereof, has emerged as the most important issue of concern to farmers and ranchers. The body of laws that regulates issues relating to abuse of market power, anticompetitive practices and the like is called competition policy. Primary examples of competition policy include the Sherman and Clayton Antitrust Acts, the Packers & Stockyards Act, the Federal Trade Commission Act, and state antitrust and unfair trade practices laws.

At the federal level, the Antitrust Division of the Department of Justice is the primary antitrust enforcement agency. The Federal Trade Commission has broad jurisdiction over competition policy in industries that deal directly with consumers. The Grain Inspection, Packers & Stockyards Administration (GIPSA) of the United States Department of Agriculture is bound to regulate anticompetitive practices in the meat packing industry. State antitrust authority is exercised through the respective attorney general's offices. Private businesses or individuals also may seek to enforce the antitrust laws, when they have been individually harmed, through the courts.)

Resources

Antitrust enforcement is extremely labor intensive. Unfortunately, federal antitrust enforcement agencies at present have fewer resources than they did in 1980 and are overwhelmed by the increasing number of merger reviews (numbering 8,000 in the past two years). In the Department of Agriculture, the enforcement resources of the Grain Inspection Packer and Stockyards Administration (GIPSA) – which has jurisdiction over the meat packing industry – are woefully inadequate, totaling four trial attorneys.

To begin to address these inadequacies, a doubling of antitrust resources at both the Department of Justice ("DOJ") and the Federal Trade Commission ("FTC") is required in the next three years. We encourage the formation of a Senate antitrust caucus, which would facilitate the appropriation of these funds and continued support for antitrust enforcement.

We propose consideration of a transfer of GIPSA enforcement authority of competition laws to the Antitrust Division of the DOJ or a major expansion of antitrust enforcement within

outside experts, the agricultural unit within DOJ will need to educate itself in the unique characteristics of food and agricultural markets.[2]

The inadequacy of funding for antitrust agencies has also eliminated industry research at the FTC, severely restricting the ability of the public to understand the competitive problems within the agricultural sector. We ask that part of the proposed resource infusion be dedicated to one of the FTC's original missions of conducting large-scale authoritative economic studies. In particular, we call on the FTC to conduct full-scale studies of the food and agricultural system.

Generally, we call on the federal enforcement officials to recognize the extremely high levels of concentration and resulting anticompetitive strategic conduct in agricultural markets and to take immediate action to address the concerns of many citizens and businesses with such concentration and conduct.

State and Private Level Antitrust Enforcement

Although many food and agricultural markets have national and global effects, the impact of anticompetitive behavior in these markets can be localized in one or a few states. Given this situation, the states should be encouraged to continue their individual and collaborative efforts in antitrust enforcement actions. The promotion of state antitrust enforcement in tandem with renewed federal efforts will enhance overall enforcement.

Specifically, we propose the establishment of a food and agriculture subcommittee of the National Association of Attorneys General. Such a subcommittee will provide for greater state oversight and coordination for dealing with the specific anticompetitive problems in the agricultural sector and provide citizens with a more localized forum in which to express their concerns about competitive practices. States should also encourage the formation of antitrust clearinghouses for the sharing of antitrust enforcement information and advise individuals and groups who have complaints. States that have not already repealed *Illinois Brick*, the decision that forbids all but direct buyers from seeking antitrust damages, should do so. States should leverage their resources by using private law firms, utilizing the approach used so effectively in the tobacco and Microsoft cases. Finally, we encourage clarification and simplification of the process for approving classes in class-action suits, which will facilitate private enforcement.

Merger Laws and Enforcement

The present policy of "fix-it-first," which is effected through divestiture tinkering, is a failed policy. Prohibition of a merger is a favored solution when competitive concerns exist.

Federal antitrust enforcement authorities should develop explicit merger guidelines for addressing mergers that create buyer power. These guidelines should also establish relevant concentration thresholds and identify the anticompetitive effects arising from such mergers. Divestiture guidelines are also necessary.

We call for the issuance of new monopsony merger guidelines. The threshold concentration level that triggers an investigation of monopsonistic conditions should be no higher than 20%, as embraced in the recent *Toys-R-Us* litigation. In addition, these guidelines must address and refine the analysis of barriers to entry, competitive effects, and efficiency defenses. These guidelines would dramatically improve and strengthen the review of horizontal mergers that may have a major impact on combinations creating buyer power, which are especially critical to the agricultural sector.

Market extension mergers between major food retailers that currently have non-overlapping leading positions in separate geographic sections of the United States would be covered by these monopsony guidelines.

Vertical Power and Mergers

Present antitrust law enforcement is not addressing the anticompetitive risks of contract integration and producer access to markets. The antitrust enforcement agencies should address these concerns.

We also believe that in a vertical merger, the argument that the merger may reduce prices to consumers is not a defense if the merger effectively lowers prices paid to farmers and other input suppliers through the exercise of market power.

Transparency of Enforcement Process

We are concerned about the lack of transparency of the antitrust enforcement process and the lack of information about the basis for antitrust decision-making. The public has a right to know the details of antitrust proceedings. Citizens, researchers, and businesses do not have enough information about the enforcement process. Specifically, they are not informed about the methods and facts used in enforcement decisions. We ask that the filings, affidavits, and agency analyses used in enforcement actions be made public to the greatest extent possible so that enterprises and others who are affected can clearly understand the process.

for continued economic growth in this country. The burden should be on any merging firm to make a full statement of the basis for any purported efficiency claim prior to seeking approval of its merger. Hence, whenever merging firms assert an efficiency claim as a justification for their merger, they should be required to make public the factual and analytic basis for their claims.

Transparency in Markets

Price and terms of sale information is required for the effective operation of markets. We ask for greater disclosure of contract terms and prices paid. We also ask that proprietary data on prices, quantities, advertising, and other marketing strategies in the food system be purchased by the federal government. It should then be made available for public research on the organization and performance of the food system. A food industry data commission with participants from USDA, DOJ, FTC, and equal representation to all of these agencies from the university research community should organize this new "line of business and brand level" system.

Supply/Demand Considerations

By Neil E. Harl, Richard Levins, Daryll E. Ray, and Mark Ritchie

It is widely recognized that food plays a vital role in the lives of all human beings. Indeed, people cannot live without food and water. For that reason, food deserves special attention both in terms of food quality and safety and food availability. Insuring an adequate supply of nutritious and safe food is one of the most important functions of any economic system.

Agriculture is different

In addition to the uniqueness of food as a vital component of life, the food production system differs in several important ways from the production of other goods and services.

- First, individuals and firms engaged in economic output**,** in most cases**,** can control the basic variables needed for production. This is not true for agriculture. For while some variables associated with food production can be controlled by farmers, weather cannot. And, year-after-year it is weather that has the most dramatic effect on food production. More often, weather variability affecting food production is too little rainfall but it can also be too much rainfall, hail, storms or other extreme weather phenomena.

Moreover, other natural disasters such as volcanic eruptions and earthquakes can also affect food production.

Most firms can project production levels well into the future; agriculture cannot do so with precision because of weather variability and the possibility of natural disasters.

- Second, the number of producers, in the United States and in other food producing countries, is so great that no single producer can affect price with their output decisions. As a consequence, producers make decisions on levels of production which are rational for them without regard for the aggregate or macro consequences. That feature of food production is advantageous for society because it means that food production is likely to be carried out without

declines. Individuals do not want to go hungry and, if food can be afforded, will pay a high price for the food necessary for survival.

This phenomenon of inelastic demand characterizes only a few of the many items demanded but it has a profound effect on price volatility and on producer profits. A series of high production years often rewards the producer with low profitability; a series of poor yield years has the opposite effect unless the particular producer suffers a disproportionate yield reduction or the producer's crops are wiped out by bad weather or other factors.

Technology

Another factor of immense importance in the production of food is technology. While technology has had an effect on food production for centuries, the impact has been substantially more pronounced over the past 70 years. Advances in technology affecting food production have come in the form of new and improved seeds, chemicals, fertilizers, machinery and equipment and even management. A result of technology has been dramatic increases in crop yield, as well as in feed conversion, rate of gain, milk production and wool production in animals.

Do farmers benefit from technology? With one exception, the answer is no. Most technology is output increasing (such as hybrid corn) or cost decreasing (such as Roundup Ready soybeans) or both.

- For output increasing technology, the result, in the face of inelastic demand, is a disproportionate drop in price and in profitability *except for early adopters* who gain from the technology until adoption boosts aggregate output sufficiently to cause negative economic impacts for producers. Consumers benefit from increased food supplies and from lower food costs, but producers ultimately are worse off economically.

- For cost decreasing technology, the effect, ultimately, is the same. Reduced production costs mean that the crop in question becomes profitable on soils and in climates where the crop would have been unprofitable without the technology. In effect, cost decreasing technology extends production into new areas. Thus, output ultimately increases, again with a disproportionate drop in price and in profitability. And, again, only early adopters benefit.

This dynamic has meant that farmers are on a treadmill. There is an economic incentive to be the first to adopt and to benefit from a technology. But as others follow, the benefits from the technology benefit consumers; producers in the aggregate are squeezed as economic forces

Problems of excess inventories frequently plague non-farm producers as well. When that happens, companies typically lay off employees and idle productive capacity. Indeed, virtually every company in the United States has taken those steps at some time.

The features of the food producing sector outlined above, coupled with the effects of technology, have encouraged government involvement in agriculture for nearly 70 years for essentially the same reason. From 1933 to 1996, federal-level legislation in the United States empowered the Secretary of Agriculture, as the surrogate CEO of the sector, to idle land, open up grain reserves and take other steps to ease the problems of temporary overproduction. This produced a combined "government-market" model of decision making in the sector insofar as the major "program crops" are concerned. Producers make decisions within the bounds of government programs although participation in such programs was voluntary during all but the early stages of the 1933-1996 period. Thus, the adjustment process was relatively painless as farmers were compensated, either directly or through access to farm program benefits, for idling land. The presence of commodities held in storage often meant that, in periods of reduced supply, the upside potential was muted.

In 1996, the adjustment model was radically changed. The approach in the 1996 farm bill was, in theory, a pure market model with adjustments needed because of excess supply to be made by the market. Thus, the reduction in supply was to be made by squeezing producers everywhere to the point that producers at the margin shifted their land use to the next most profitable crop, to grazing or left the land idle. This model of adjustment, based on economic pain, proved to be unacceptable to Congress. As a result, appropriations totaling approximately $16 billion in 1998 and $23 billion in 1999 were provided as a cash infusion for the sector to prevent the economic pain from the market from forcing farmers to make the adjustments called for by the market. As for the upside potential, with smaller amounts of commodities held in storage, proponents of the 1996 farm bill have argued that producers would likely benefit from periods of reduced supply from adverse weather or other phenomena. However, the presence of those forced into land use shifts, waiting on the sidelines and poised to shift back to intensive crop production, meant that the upside potential for producers was limited.

There are several reasons why the 1996 legislation has not worked as smoothly as expected. First, since all major crops are simultaneously experiencing low prices, farmers use of planting flexibility to reallocate crop acreages does not improve incomes. Secondly, on an annual basis, there is no incentive for farmers to idle land. Even when expected revenues only cover a portion of the land's fixed costs, the land tends to be farmed. It takes several years of financial pain before farmers (or their replacements) convert marginal cropland to grazing or nonuse.

On the other hand, the release level from the farmer-owned grain reserve fixed, as a practical matter, the upper bounds of price fluctuation. If price were to rise above the release level, commodities held under the farmer-owned grain reserve program were released for sale.

The result was a band of price movement which provided important economic benefits—

- For consumers, it contributed to relative price stability for food.
- For livestock producers, it avoided the wide swings in feed price which would otherwise have occurred.
- For processors, it meant relative stability in sourcing needed inputs. Higher prices for raw material nearly always leads to efforts to acquire substitutes.
- For producers, it avoided the steep drops in price and in profitability. The system also prevented the sharp spikes up in price and profitability which tend to be brief and are of benefit to producers only if the producer has commodities to sell and gets them sold during the brief period of sharply higher prices.

With full price volatility, in the absence of effective government programs, the sharp declines in price and in profitability have tended to weaken producers. This has functioned to encourage producers in jeopardy to seek out contract production options which are usually low risk and low return. This phenomenon has tended to accelerate the structural transformation of the sector.

A food reserve

Through the ages, concerns have been voiced about fluctuations in food supply that could jeopardize life. In recent times, relatively less concern has been expressed about inadequate food supplies. While it is widely recognized that many areas of the world cannot afford an adequate diet, the increases in food supply have tended to out distance food demand within the market system of food allocation.

However, there are reasons to raise, the need for a food reserve:

- Low probability weather events that have a devastating effect on food supplies have not occurred in recent decades.
- Global warming, while not universally accepted, is supported by an impressive array of scientific evidence. To the extent that global warming occurs, it would likely have a disruptive effect on food production, albeit at a relatively slow rate.
- The narrowness of the genetic base for major crops has been a matter of concern among crop scientists and others for some time. Examples of the downside of genetic narrowness have occurred in modern time, notably the Southern Corn Leaf Blight scare of the early 1970's.

A significant part of the reserve should be comprised of foodstuffs that are likely to be safe and acceptable as food sources for some time into the future.

Grain reserve

Conceptually, a different type of reserve is needed to even out part of the fluctuation in supply occurring year to year under relatively normal weather patterns and to prevent wide fluctuations in price for commodities. The farmer-owned grain reserve of the 1970s and 1980s worked acceptably and should be a component of federal farm policy.

Incentives to producers to build and maintain storage facilities are needed to assure that the reserve program is farmer-based and farmer-owned.

Managing excess production

This group believes that fluctuations in supply are best handled by the market augmented by (1) a farmer-owned grain reserve; (2) a food reserve; (3) an economically rational approach to land idling and public sector assistance in land-use adjustment in the marginal or "peripheral" areas of production; and (4) stand-by authority in the Secretary of Agriculture to initiate additional measures if prices remain low for a protracted period.

As for land idling and public sector assistance in land-use adjustment, an attractive approach is variable-term land idling (from as short as one year up to 20 years) designed to be particularly attractive in the marginal production areas expected to shift out of program crops and into grazing (or non-use). Long-term land idling would help to ease the economic and social costs of adjustment in those areas. The land idling contracts could be set to terminate in the event prices were to rise above a specified level.

One alternative, which has received a great deal of attention, and which has been analyzed for economic impact, is a proposal to allow farmers to bid land out of production on an annual or multi-year basis with the reward of a higher loan rate on the rest of the farmer's production.[3] That program is market oriented and gives farmers an option of idling up to 30 percent of their corn, soybean, wheat, cotton or rice acreage. For corn, soybeans and wheat, each one-percent set aside would be rewarded with a one percent loan rate increase. An analysis by the Food and Agricultural Policy Research Institute indicates that the program would boost farm income by $5.4 billion per year at present at a budget cost of $2.5 billion.

As for the impact on other countries, it is believed that modest efforts to ease downside pressures are unlikely to have an impact in exporting countries.

A global food and agriculture policy

The globalization of food supply and demand and the position of the United States suggest that food and agriculture policy analysis should shift to a new level to encompass global food and agriculture issues. Such a policy would likely take years to accomplish and would require skillful diplomatic efforts**;** but the logic behind such an approach to policy is obvious.

A global food and agriculture policy should have several components—

- First, and probably foremost, is support for Third World economic development. With relatively high income elasticities of demand for food (70 percent or more of each additional dollar of income is likely to go for food purchases in some of the countries), it is clear that the last frontier for increasing food demand is the Third World. Moreover, adequate nutrition, worldwide, has the support of a wide array of groups and individuals.

If the poorest countries could be nudged into the development queue, with investment in education, health care and infra structure, the long-pursued goal of elimination of world hunger could be within reach. Gifting food to low income countries, while laudable from a humanitarian point of view, destroys their internal agricultural economy.

- Second, a food reserve should be a component of a global policy, as discussed above.

- Third, fair and equitable sharing of germ plasm should be assured**.** This could help allay fears of some countries that their germ plasm is being appropriated without compensation by First World countries.

- Fourth, trade in agricultural products and commodities is an obvious candidate for inclusion in a global food and agriculture policy as a supplement to negotiated trade agreements.

- Fifth, the issue of genetic modification of foods, which has stirred consumer resistance in several countries, should be addressed in a global food policy.

- Lastly, countries would be urged to take action in unison whenever disastrously low food prices occur worldwide with comparable steps taken to reduce food production. The flow

In addition, farm policy should be viewed as including—(1) environmental concerns, (2) structure of agriculture and agri business and (3) the impacts, social and economic, of proposed changes in farm policy on farmers, landowners, communities and agri business firms. The literature has come to be dominated by unacceptably narrow definitions of farm policy.

Strategies to Address the Whole Food System

By Andrew Fisher, Cornelia Flora, Mary Hendrickson, John Ikerd and Mary Summers

Food policy in this country has tended to be compartmentalized, the result being that solutions have focused on distinct parts of the food chain. American society would be better served by refocusing the discussion on our goals for food production. From this discussion can come the basic organizing principles for the entire food and farming system.

At a minimum, these principles should:

1. Ensure food as a basic human right for those who cannot afford it;
2. Produce food in a manner that enhances the environment;
3. Provide decent working conditions for the people who produce food;
4. Maintain the economic, social and cultural vitality of rural communities;
5. Restore consumer (citizen) sovereignty; and
6. Treat animals humanely.

While some parts of our food and agriculture system produce private goods and services that can be traded in a market, public goods and services also arise from food production the allocation of which must be decided upon in the public sphere. The role of the public sphere decision making should ensure that the food and agriculture system does not violate the above principles. These principles arise from our basic ethics as society, and are developed within the realm of civil society.

To that end, we have outlined the following strategies that apply to the whole food system, from production to consumption, and that will encourage the kind of system we have outlined.

- Farmers must have alternative models that provide for their families and communities if they are to transition from the current system of food production. Thus, we must develop policy initiatives and provide resources at the local, regional, state and federal levels that support local and community based food systems. A decentralized food production system, accompanied by a decentralized processing and marketing structure, requires policies that emphasize providing public support for such decentralization. These initiatives should

2) Provision of public support in terms of design, training and expertise to help small processors achieve standards such as HACCP (Hazard Analysis Critical Control Points) and ISO (International Organization on Standardization) standards.

B) Developing and changing regulatory infrastructure such that:

1) Alternative voices are heard during negotiation of standards.
2) Differences are recognized between *design* standards – standards that focus on process – and *outcome* standards – those that ensure quality products.

- Current food and farm policies at the state and national level provide perverse incentives for industrialized agriculture. We must dismantle those policies that are supporting industrialized agriculture, and redirect resources toward community-based food systems. This means that at the federal and state levels we need to:

A) Provide transition payments that:

1) Use market facilitation and market improvement programs to foster community based food systems.
2) Redirect export-enhancement funds toward provision of food at the community and/or regional level.

B) Develop a "disinvestment" policy that:

1) Uses current farm program supports and supplemental appropriations to buy machinery/facilities from farmers interested in pursuing alternative agriculture practices and/or systems to relieve them of the debt that is one barrier to farmers adopting alternative systems.
2) Protects against using tax incentives and direct monetary payments for similar industrial commodity development elsewhere. It is important to remember the lessons of the dairy buyout that allowed the decreased production of eliminated herds to be replaced by herd expansion in other areas.

C) Mandate that cooperative extension provide information and knowledge to help farmers, processors, distributors and others trying to transition to community based food systems from current production schemes. Extension needs to reduce the high transaction costs that such systems changes entail.

3) Move farmers from commodity production to food product production. This would mean that we remove all public policy support for production and distribution of current federal program commodities, and

4) allow local markets to be protected from exploitation while farmers are developing them.

- We must directly link farm policy with food consumption policy, recognizing that not all members of our communities across the globe have access to good, nutritious food. Thus, we must provide universal access to food and good nutrition through programs that:

A) Increase access to food stamps by:

1) Restoring food stamps to immigrants.

2) Increasing allotment of food stamps per person.

3) Making it easier for non-retailers to use the Electronic Benefits Transfer program, which will encourage the use of food stamps at farmers' markets and roadside stands.

B) Ensure access to good quality food by:

1) Preventing "redlining" by supermarkets of inner urban neighborhoods through the use of incentives for development of cooperative or community owned stores, or through the partnering of Community Development Corporations with major retailers.

2) Providing state and local incentives for supermarket operation in inner urban and rural areas. A model might be the Community Reinvestment Act, whereby supermarket expansion or buyout would be balanced by investments in underserved neighborhoods.

C) Expand school lunch programs by:

1) Providing incentives for schools to buy from community-based producers and processors.

2) Regulating the increasing privatization of school lunch programs (e.g. the development of food courts in school cafeterias that feature highly recognizable fast food) through tightening of nutrition standards for school lunches established by USDA.

D) Create transportation policies that make access to community-based food easier and

A) Will be made up of representatives from the whole food spectrum since agriculture is equally production and consumption. Thus 50% of the members will be farmers – with at least 50% of these farmers being "small" farmers and at least 25% part-time farmers – and 50% consumers.

- In order for all members of society to participate in the food system in a meaningful way, we must improve education about food production and its implications for all members of society. Thus, we need to:

  A) Provide space within public education systems for a critical evaluation of the current food system, particularly in regards to food safety and nutrition. In particular, we should restore the integrity of objective analysis within public education systems by providing means of accountability and transparency in land-grant universities.

  B) Foster places for civil society values to arise by redirecting public extension efforts to encourage the necessary dialogue and discussion that allow these values to emerge.

- Develop a system of incentives and punishments for agriculture stewardship. For practices that offend the common conscience we need a series of "sticks" or punishments. The common conscience arises from the ethical arena (can we say Civil Society) that informs our food system. For practices that serve the common good, we need to provide "carrots" or incentives. The common good arises from the public sector choice in defining what is good for society.

Agricultural Research Policy: Serving Public, Rather that Private, Interests

By James Horne and William J. Weida

The ability to solve the many problems currently affecting agriculture and specifically, the decline of conventional farms, rests on the premise that good, unbiased academic research is the bedrock for policy decision making. However a major trend has been for institutions of higher education generally – and land-grant universities more specifically – to redirect their efforts from the historic land-grant university role of supporting small farmers to research that addresses the commercial interests of large agribusinesses. The result of this trend is that research is less likely to be "public"; rather it is done in the private interest for the limited financial or ideological gain of a limited, circumscribed group.

The means for achieving this commercialization of public research and sacrificing the public interest have included several features:

1. Large, private businesses finance agricultural research and often exercise control over the research and over whether the results of the research are released.
2. University scientists own the intellectual property rights for their research endeavors, form potentially lucrative companies and publish related research results without full disclosure of conflicts of interest.
3. University presidents and other high-ranking personnel sit on the boards of large, private companies which have an interest in the direction of university research.
4. University presidents are hired for their ability to raise large amounts of money from the private sector, which may directly or indirectly seek access to university policy making.
5. Executives or scientists from large agribusiness are appointed to positions on university policy-making committees to the exclusion of under-represented groups such as small farmers and ranchers, among others.
6. Universities are allowed to own intellectual property, such as patents, and thus have an incentive to take steps to profit from that intellectual property rather than make it widely available to the general public.

Corporate-funded academic research is often directed toward narrow commodity market-

or biotechnology companies admitted that the donors expected to exert influence over their work, including review of research papers before publication and patent rights for commercial discoveries. This trend has raised so much concern that the American Association of University Professors has convened a committee to study these issues and provide recommendations.

Both the usefulness of the resulting research to family farmers and the ability of the institutions to deliver unbiased analysis of small farm problems is debatable. Scientists and other academics become increasingly distant from the view that they are public servants. University administrators may be tainted by their "brush with greatness" in their desire to be accepted as equals by those who earn multi-million dollar salaries. Long term university policy direction is affected. The public interest and the interests of less powerful groups are relegated to a minor role. Perhaps most significantly, the broader public support for universities may be compromised.

To correct this situation, and to provide a research environment that is more closely aligned with the original intent of the land-grant agricultural schools, it will be necessary to minimize or eliminate the mechanisms of influence by agri-industry. A critical review is needed of the funding and industrial relationships that have been and are being entered into by the agricultural schools across the country. Reversing the effects of corporate-directed research will not be easy and it is clearly a long-term project.

The following sections provide a general plan for attacking this problem and for offering a more useful, balanced and unbiased agricultural research program.

1. Land grant universities should better disseminate information about the consequences of the current agricultural situation for consumers.

This effort will require a degree of coordination that allows those with alternative views on the future of agriculture to echo each other with voices that are respected and trusted. Under-represented groups, including small farmers, must be structurally included. This information needs to be put in a regional or sectoral context and it should stress universal themes such as family values and family health. The message should not disparage conventional, family farms. Instead, it should underscore the values and strengths of this method of food production.

2. Land grant universities should shift more resources to providing alternative solutions to current problems.

This implies both the development and publication of sound alternatives for conventional

3. Increased collection and dissemination of negative effects of corporate agriculture is needed to provide more objective guidance for consumer food decision making and for positive changes in agricultural policy.

Many within land grant universities have been loathe to admit that the research they conduct or the policies they espouse towards corporate-style agriculture may have negative effects on society and the environment. This may result from pride, narrow world views, or pressure from private companies which fund research. Whatever the cause, this imbalance in research and information reduces public support for universities and slows public enlightenment.

For example, it is likely that the rapid buildup of pathogens and chemicals in our surface water—much of which is due to the improper handling of animal wastes—will lead to some kind of major disease outbreak or health problems in the next few years. If the public is to be alerted to the severity of this problem, the current public assumptions about ecosystem health and the safety of our food supply need to be directly challenged by providing accurate information about issues such as overuse of antibiotics, the growth of antibiotic-resistant pathogens, and the effects on children of the presence of rBGH (recombinant Bovine Growth Hormone) in milk products. In addition, information should be disseminated about the effects of over-application of waste to cropland and the pathogen and chemical contamination of water that results.

This effort can be aided by public discussion of the need for full labeling of all food items to include nutritional content, presence of any drugs or hormones—including amount and type—as well as country of origin, genetic modification of the ingredients and method of production used to generate the food item. It is fundamental that "the consumer is king." Quite clearly, the consumer should be provided the information necessary to make sound decisions on food purchasing and consumption.

4. While efforts to inform the public are under way, we should also develop strategies for dealing with agricultural research as it is currently conducted at land-grant universities and government agencies.

a. Externalities involved in agricultural production must be acknowledged in both land-grant and federal agency research.

Most economists are aware that accurate costs for all factors in a production process do not exist. This doesn't mean, however, that those difficult-to-cost factors do not exist. And most economists also understand that when accurate costs for a production factor are not available, it is not appropriate to use zero cost as a proxy cost since this is the one

report, and in every USDA report that lists all externalities (both costed and uncosted) to insure balance in the report.

b. Efforts to change the nature of research at land-grant institutions.

To begin to reduce the reliance of universities on corporate-funded and control of research, it will be necessary to address the mechanisms of such influence. First, given the dwindling percentage of public funding in land grant universities, it is necessary to find and promote pools of agricultural research funds as an alternative to private corporate funding. This money could arise from increased funding by the states, it could come from new sources such as pollution taxes, it could come from federal sources that were funded in response to increased pressure for unbiased agricultural research, or it could be generated by the collective activity of conventional family farmers.

Second, full public disclosure of conflicts of interest are necessary for the public to weigh the credibility of research results and the propriety of university research direction. This includes clear requirements that all agricultural research at public institutions *carry a full disclosure statement that identifies all funding sources*. Agricultural schools also should be required to publish annual reports *that list the origin of all funds used in each department, the membership of all research committees, and the expectations of the school concerning faculty generation of research money and patents*.

Third, university decision making procedures should be modified to include a broader array of stakeholders with special emphasis on under-represented constituencies. Small farmers, consumers, and conservationists, for example, could not only provide more informed and objective guidance, but could broaden public support for the universities.

Fourth, policy changes to eliminate the negative influence of proprietary research findings by requiring that all university research be made available as "open source" information for the public. This policy should apply to any research in which land grant universities have a role.

While these initiatives are pursued, it is also important for academic proponents of both conventional and so-called "alternative" agricultural approaches to carefully review the research output in their respective disciplines from the land-grant schools. When poor research, questionable methodology, or unwarranted assumptions are identified, that research should be openly challenged both in academic forums and in the public arena.

5. Research by government agencies must be more objective and accountable.

As part of the effort to redirect agricultural research, considerable attention must also be given to research generated by counties, states, and by the federal government. Just as research emanating from land grant universities, much of this research is funded by sources that raise questions about objectivity and conflicts of interest. As a result, any research performed and released by a county, state or national agency should incorporate a broader array of stakeholders and carry a disclosure statement that gives all funding sources.

In summary, agricultural research policy should be performed for the public interest. It should not merely serve the interests of a limited, circumscribed group. The beneficiaries of research involving public funds should be identified and be as broad as possible. Research results should be freely available and not limited by any sort of proprietary rights. A broad array of stakeholders should be involved in determining policies and strategic directions of such endeavors. Lastly, full disclosure of funding sources is essential for the public to judge the credibility of any findings. Adoption of these rudimentary steps will allow objectivity, rigorous debate and critique, wider support for agricultural research and additional opportunity for innovation with less risk of unintended consequences.

Chapter IV
Section 1

Competition, Concentration and Agriculture[4]

By Peter C. Carstensen[5]

The Sherman and Clayton Acts were adopted because Congress was concerned with the social and political as well as the economic implications of high concentration, monopoly, conspiracy, and massive mergers. In proposing the act that bears his name, Senator Sherman warned the Senate that: "The popular mind is agitated with problems that may disturb social order, among them all none is more threatening than the inequality of condition . . . and opportunity that has grown . . . out of the concentration of capital into vast combinations to control production and trade and to break down competition." Later in the same great speech, he observed: "If we will not endure a king as a political power we should not endure a king over the production, transportation, and sale of any of the necessaries of life. If we would not submit to an emperor we should not submit to an autocrat of trade, with power to prevent competition and to fix the price of any commodity."[6] These declarations demonstrate that core political values were central to the concerns that motivated the adoption of antitrust law.

In the first substantive decision interpreting the Sherman Act, Justice Peckham, no liberal or protectionist, wrote that the dynamics of markets can bring unavoidable hardships to particular classes of business. Such transformations are inevitable and must be endured. However, he condemned "combinations of capital whose purpose . . . is to control . . . production or manufacture . . . and . . . dictate price. . . ." In addition to the harm to consumers, he identified the harmful effect of "driv[ing] out of business . . .independent dealers . . ." He concluded: "[I]t is not for the real prosperity of any country that such changes should occur which result in transferring an independent business man . . . into a mere servant or agent of a corporation. . . ; having no voice in shaping the business policy . . . and bound to obey orders issued by others."[7]

Other seminal decisions of the courts have carried forward this theme. For example, Judge Learned Hand in the *Alcoa* case declared: "[I]t is possible, because of its indirect social or moral effect, to prefer a system of small producers . . . to one in which the great mass of those engaged must accept the direction of a few."[8] Similarly, Justice Marshall in *Topco* declared that: "Antitrust laws in general, and the Sherman Act in particular, are the Magna Carta of Free

enterprise system as the Bill of Rights is to the protection of our fundamental personal freedoms."[9]

This approach to competition law and policy is very important to shaping policy toward the issues arising in agricultural markets today. Past failure to enforce antitrust law has resulted in increased concentration in both the markets supplying agriculture and in those that process and distribute its products. Moreover, subsequent, large scale vertical integration through both ownership and contract has impaired the working of transactional markets in agricultural goods. More and more, we see a handful of firms dominating a larger number of markets on both sides of the farmer and rancher. Further, those firms in turn are entering into "strategic alliances" with each other to make more secure their joint control over and allocation of markets. These changes encourage, indeed, may make inevitable, conduct that further weakens not only the viability of existing agricultural producers but also has a strongly negative impact on the dynamics of our economy as a whole. Fearing the strategic behavior of its rivals, each agricultural behemoth responds with actions that it believes will protect its position even though this imposes costs on producers and consumers. These 800 pound gorillas trash the agricultural economy to protect and entrench their present and future position in the market. The farmer and rancher increasingly has "no voice in shaping . . . business policy" but is simply "bound to obey orders issued by others." Once independent farmers and ranchers are becoming the serfs of the 21st century.

In addition to the social and political reasons for favoring a dispersed and open form of economic organization for our society, powerful economic considerations support the same policy goal. The fundamental reason for our economic success in this country is not short run efficiency in production, but the continued capacity to innovate new products, services, methods of production, and systems of distribution. It is essential to our long-run economic growth that we retain the kind of open economy in which such dynamic growth can occur. Such essential innovation and adaption can and will occur with greater speed and more general social gain when markets are unconcentrated. Moreover, in open and competitive markets, the incentives to engage in strategic behaviors whether to exclude rivals or exploit unreasonably customers or suppliers are greatly limited because of the capacity of others to enter and compete.

Thus, competition policy should not make short run economic efficiency a central criterion. Experience teaches that there are many ways to achieve such efficiency. I am not suggesting that we should ignore the questions of economic efficiency and minimizing the costs of production. Those are always threshold considerations. They provide a powerful argument against many of the protectionist pieces of legislation proposed in state and national legislatures. My claim supported by many decades of experience is that the market process can find ways to

The data I have seen show that the country faces very high and rapidly increasing levels of concentration in both industries supplying farms and in those buying farm products. In general, high concentration results in higher prices to buyers and lower prices to sellers than would occur in less concentrated contexts. This seems to be the situation facing agriculture.

In the 1980s the government failed to police the mergers among meat packers. It mistakenly assumed that downstream markets would somehow police the upstream strategic buying conduct of regionally dominant firms. The antitrust enforcement authorities ignored the lost choices that these combinations imposed on farmers and ranchers. Today, we have highly concentrated markets on both a national and regional basis. As of 1998 four firms slaughtered 81% of all steer and heifers.[10] This is an increase from 36% of total slaughter in 1980. Similarly, hog slaughter rose from 34% in the top four firms in 1980 to 56% in 1998.[11] The result is strategic buying behavior which harms farmers and ranchers, denies them a transparent transactional market place for their products, and may now require more direct regulation of buying practices. Recent data show that the spread between the price paid to livestock producers and the wholesale price of meat has increased substantially. According to USDA data, the farm-to-wholesale price spreads for pork increased by 52% and for beef by 24% in the past five years.[12] This is exactly the result that theory would predict as oligopoly grows in both the buying and selling markets for meat products.

The meat packing industry illustrates how unnecessary high concentration is to efficient plant scale. As of 1997, the four largest firms control 78% of the slaughter. But there were 22 plants with the highest level of production accounting for 80% of all production. Assuming that such plants reflected the greatest scale economies in operations, achieving such scale economies would require less than 3.7% of the market. In pork, the 31 largest plants yield 88% of production which means each plant requires less than 3% of the market.[13] Thus a highly dispersed ownership and unconcentrated market would be entirely consistent with the largest size of plants in both pork and beef packing.

Other markets into which farmers and ranchers sell have also become more concentrated. This is notable in grain processing[14] and is an increasing source of concern in dairy products as well. I have seen published reports that one company has acquired control over 70% of all milk sales in New England and has a 20% share of all sales in the United States as a result of an aggressive merger program.

Further undermining the vitality of the market system was the tolerance of mergers among grocery retailers which allowed greater and greater concentration of buying power in the hands of large enterprises. This created a symbiotic vertical relationship between retail oligopoly

and the slaughter house oligopoly. The result is the increasing spread between the price paid the farmer and the price charged the housewife.

Over the last two decades there has also been a marked increase in the concentration of the various industries serving agriculture–from farm equipment to seeds and herbicides or pesticides.[15] Among leading foreign and domestic seed companies alone, there have been 68 acquisitions between 1995 and 1998.[16]

The most immediate implication of this concentration in the markets on both sides of the farmer is that they will and are imposing unnecessary costs on consumers and suppliers who must deal with such markets, but these markets are not more efficient. The late Leonard Weiss in 1989 collected all the studies he could find concerning the comparative impact of concentration on price.[17] The overwhelmingly consistent outcome was that prices were higher in concentrated markets even though profits were not consistently higher. The oligopolists waste enormous resources in striving to retain, protect and entrench their market positions.[18] Thus, there is no social gain. There is only social cost.

Some mistakenly believe that powerful buyers will aid the ultimate consumer by paying lower prices. The notion that a monopoly buyer will share its winnings with its customers is wrong. Recently, Frederick Warren-Boulton, who directed economic operations at the Antitrust Division in the Reagan years, reiterated the basic economic analysis that firms with such buying power can exploit that power to the detriment of sellers and that, regardless of the degree of competition in the downstream markets into which such firms sell, they have no incentive to "pass-on" to consumers any of the excess profits derived from exploiting suppliers.[19] Indeed, if the downstream market is also oligopolistic, such a firm will simultaneously over charge its customers.

The same companies appear again and again as both buyers of agricultural products and sellers to agriculture producers. Thus DuPont provides insecticides and herbicides as well as providing crop seeds produced by newly acquired subsidiary, Pioneer Hi-Bred International.[20] Monsanto is also a leading producer of seeds and crop protections. On the other side, Cargill, ADM, or ConAgra appear again and again among the leading firms in various kinds of food processing and distribution.[21]

Several implications follow from this kind of sector dominance as well as cross linkages among supply and processing markets. The first is that such firms have the potential to deal in

multiple ways with their customers. Such firms have an incentive to distort and restrict competition in order to further its owns economic interest. A second implication is that the potential exists for linked oligopoly. Firms recognize each others' "sphere of influence" and refuse to enter or compete vigorously in each others' dominant area.[22] Third, limiting the number of firms in any sector reduces the incentive to engage in dramatic innovations in technology or marketing. The firms have a shared interest in stability within their sector and so limit the scope of their technological competition with less risk that someone will come up with a new way to do things.

Increasingly processors have integrated backward into the production of agricultural commodities. The merger between Smithfield and Murphy Farms that has consolidated the largest pork processor with the dominant pig raiser illustrates the kind of combinations that are occurring across a large number of fields. Such integration will not produce efficiency gains. It will raise barriers to entry into both processing and raising hogs. As such integration increases, the transactional market will be marginalized. Independents will face greater obstacles in marketing their hogs and lower prices. The spot market will become the place in which the packer seeks only the extra supplies when there is unexpected demand. This is likely to result in a higher cost on average for the processor, but the gain will be in controlling more fully the market context–less risk of new entry, less risk of direct competition for supplies and thus more apparent predictability for the market process. On the retail end, the large chain buyer is as interested in being assured that its price is as favorable as its competitor's price. Thus, the inefficiency of the system can be passed on to the final consumer.

The combination of these structural changes in turn make possible new kinds of conduct that are rational self-protection by such firms. These actions achieve both protection and entrenchment of their positions in the market. They produce no gains for consumers or farmers and ranchers. Indeed, this conduct is likely to harm the long run best interests of both classes. Several types of conduct problems seem evident:

Strategic alliances: Non-merger collaborations among large firms allow them to coordinate their competition in order to create mutual power. The intended effect is to obtain a stronger market position. It should be a source of real concern that we know so little about the scope and content of these alliances.

Vertical contracts: The growth of contracts between processors and producers in a variety of agricultural commodities has produced an additional set of harms. These contracts have arguable utility by providing the producer with greater assurance of sale at a known price and by assuring the buyer that particular products will be available when desired. However, these

most difficult problems facing commercial agriculture today is that of gathering and interpreting pricing and other contract information.

Slotting and other special deals at retail: Recent congressional hearings have focused on the emergence of slotting payments as yet another device that creates problems throughout the agricultural marketing system. Large food processors pay large retail chains for the privilege of having their products displayed favorably. Such transactions occur because there are large producers with multiple lines of goods dealing with very large retail chains. When a large producer can deal with a handful of chains so that it gets a favored position, this enriches the chain and protects the large producer from the threat of competition that arises from consumer choice. Again, this problem exists because of the concentrated markets in retailing and production.

Abuse of intellectual property rights: Increasingly, suppliers of seeds and other inputs to agriculture are trying to control the production and resale of the resulting crops and animals along with specifying the methods and products to be used in connection with raising these items. Here the problem is an expansive definition of the legal rights that patents and other intellectual property confer on their "owners." These rights confer vast opportunities to exploit the user. This is true across the board in areas of high technology. In the concentrated markets of agriculture with the broad range of activities controlled by a single firm, these rights encourage an expansive and abusive exploitation of the user. Indeed, once one firm starts down this path, its rivals are forced to follow because otherwise, they risk losing out in the race to survive. Thus, badly defined rights and concentrated markets induce the maximum in exploitation.

In sum, the present structure and conduct of the markets supplying agriculture and buying its products impose substantial but avoidable costs on farmers and ranchers as well as consumers. Moreover, the gain in terms of innovation or efficiency are not uniquely associated with the present system. Indeed, it seems likely that the country would gain on both counts from a different system that reduced concentration and opened up alternative routes. Finally, the cost of this transformation is not only economic. It makes the farmer or rancher, in the words of Justice Peckham, "into a mere servant or agent of a corporation."

I should note that some marginal progress is occurring. The FTC has recently blocked at least two grocery mergers, and the Antitrust Division blocked Monsanto's effort to acquire dominance in the cotton seed business. In the Continental Grain merger, the Division did acknowledge that adverse effects on suppliers are legitimate antitrust concerns in addition to adverse effect on consumers. Moreover, the Division has, in some high technology and

antitrust law is essential to challenge those acquisitions that increase market as well as sector concentration, weaken potential competition, or create excessive vertical integration and to condemn unnecessarily restrictive agreements affecting agriculture – whether horizontal or vertical. Second, antitrust law should be used to revisit and challenge, when relief is still practical, those combinations which have most dramatically increased concentration. Third, the reality appears to be that the context for both purchases by farmers and their sales of products has changed. Contracts of various lengths involving a number of risks and restraints are increasingly common. It is vital to create a legal framework in which these transactions occur that will provide better information to and fairer terms for farmers. Such rules necessarily should include prohibitions on per se unfair terms. The law provides greater or lesser protection for other small businesses dealing in franchise and dealership arrangements. If farmers and ranchers must enter into such transactions, they too are entitled to protection.

The first recommendation requires no substantial elaboration. Too often in the past and even today, those charged with enforcing the anti-merger provisions of the Clayton Act either fail to challenge transactions or settle for very modest and ineffective relief.[23] The myth of merger as an efficiency enhancing necessity seems to be as pervasive as it is wrong. By taking a very narrow view of markets and limited recognition of adverse impacts, antitrust enforcers excuse their inaction. Similarly, antitrust enforcement agencies have been far too willing to assume that horizontal and vertical arrangements are benign. This neglect has fostered the growth of many highly dubious business arrangements.

While the first best choice would be for the existing agencies themselves to be more assertive in enforcing merger law, it is also appropriate to include additional participants in the process of reviewing such transactions. Several pending legislative proposals would give the Secretary of Agriculture a seat at the table when decisions to sue and to settle are being made. The Secretary's mission would be to guard the long term interests of agricultural producers. By bringing the expertise of the agency to bear on the questions of the likely harms of mergers and the potential adverse effects of specific settlements, the decision process can be improved. Given the past failures of enforcement, it is time to include agriculturally related combinations in this category.

The second recommendation is to revisit bad decisions of the recent past and get whatever relief is now possible. There is no statute of limitations on an anticompetitive merger,

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[23] The pending settlement of the Cargil-Continental Grain merger illustrates this problem. *U.S. v. Cargill, Inc.*, Civil No. 99-1875, DCDC, filed July 8, 1999. The government insisted only on isolated divestitures where it identified specific quantitatively substantial overlaps between the merging firms. In many instances, including key

therefore, it is my emphatic suggestion that either the federal agencies or, more likely, the states should revisit and challenge those undesirable mergers for which remedy is still feasible. In the long run, the economy will work better and there will be less need for intrusive regulation of market conduct, if more competitive structures can be recreated.

Third, while it goes against my grain as an advocate of competitive markets, it is essential to have more direct regulation of the market process in agriculture. The present structural situation on both the supply and buying sides has fostered a wide range of highly undesirable and anticompetitive strategic behaviors. To restore the balance necessary for workable markets and ensure that the long run dynamic capacity of all participants is not destroyed, it is essential that market facilitating regulations exist beyond what antitrust law can provide. Those regulations need to ensure that market conduct is as transparent and non-strategic as possible. Such regulation should limit or eliminate manipulation of market price variables, require good information including full disclosure of past and present transactions as well as forward looking commitments. Some contracting requirements should be per se illegal–they have no real use except as strategic devices. My further suggestion is that drafting such market facilitating regulation requires market specific expertise and often substantial discussions between representatives of buyers and sellers to formulate effective and minimally intrusive regulations. The role of the legislature is to define the ultimate goals for such a process and to authorize an appropriate agency to carry out the market facilitating regulatory function.

One final note, the current focus of concern is largely on the selling side of agricultural production. As I have reviewed both the structure and conduct of firms on the supply side, especially in the seed and herbicide area, I have come to the conclusion that the threat to competition presented by that side of the marketplace is very substantial. Building on existing regulatory concerns most of the current proposals focus exclusively or predominantly on the selling side. This is a serious omission.

In particular, the current scope of patentability and the range of rights that patent holders have obtained in the context of concentrated agricultural supply markets in which strategic behavior is very attractive is resulting in an increasing number of anticompetitive restraints on the use of new biotechnology. We must be attentive to these competitive risks as well as the better known ones on the buying side.

Let me conclude by observing that robust, competitive markets have been and should remain the center of our economy. The failure to preserve and protect them will result in serious economic and social costs. This is true in general and with special emphasis in agriculture.

A Critique of the Current Food System

By Ronald W. Cotterill[24]

The U.S. economy is enjoying the longest economic expansion in history. Inflation is at an historic low, unemployment is also low, governments at all levels are enjoying surpluses, and the top 1% of the population, or some number thereabouts, are now millionaires due to the unprecedented advance of the U.S. stock market. Many of the poor and many minorities are now working rather than existing in a state of dependency. Crime is down.

On the down side, income distribution has worsened, the rank and file working household has, to a large extent, only benefited by giving more hours to the labor market. And the focus of this conference, rural America, its farmers and related agribusinesses, have not participated in the economic boom of the 1990s. What is the problem?

The fundamental problem is not new. It has plagued agriculture since the 1920s when Thomas Nixon Carver, a professor at Harvard, wrote about a two-sector economy that had an inherent tendency to disadvantage agriculture as economic growth and progress provided great rewards and wealth to the industrial sector. Farmers are inherently disorganized, small-scale producers that have historically sought competitive market channels to assemble, process and distribute their products. Even such powerless channels, however, can generate unacceptable prices and incomes for agriculture because of the asset specificity problem in agriculture. Farmers are committed to production with physical, human, and what I will call locational capital that simply cannot quickly be redeployed to other economic activities. This generates the classic overproduction trap. When faced with declining prices and incomes, farmers can only do one thing–produce more, which exacerbates rather than mitigates the problem.

In economic parlance, the farm market equilibrium is dynamically unstable. In the 1920s, the farm cooperative marketing movement recognized this and sought to organize commodity cooperatives that could control the supply to market in an attempt to stabilize the markets. Absent an ability to control production on farm, they failed. Franklin D. Roosevelt's genius was to solve the final link. When antitrust lawyers in the government said one simply could not give farm cooperatives the right to control production on farm, FDR said, "ok, then let the government do it and let it do so in the public's best interest."

sector, became the marvel of the rest of the world, and afforded farmers a reasonable income at the same time as their numbers declined dramatically. Rural America discounting Appalachia and the black south, was reasonably prosperous.

So what changed in the 1980s and 1990s? In short, a lot of things changed to destroy the infrastructure for family farm agriculture and small towns that provided the agribusiness services to those who worked the land. The list includes the demise of the New Deal era agricultural commodity policies in return for programs that promote global agricultural trade. The final move was the 1996 Freedom to Farm Act with its legislated move to withdraw all price stabilization and price support programs. This has been a dismal failure. As the plight of farmers has worsened since 1997, Congress has simply thrown billions of dollars at the problem in crude transfer programs.

Downstream from the farm other changes have disadvantaged the farmer. Concentration in food processing and retailing has radically transformed the price system, ultimately to the detriment of the family farmer and the agribusiness system that serves them. One common form of concentration is vertical integration and contract coordination as seen in broilers, pork, fruits and vegetables, and dairy. In these latter two commodities the integrators are often farmer owned cooperatives, but in the former they are investor owned firms. My local Wal-Mart supercenter carries only Perdue fresh chicken, Tyson frozen chicken and Smithfield Farms pork. All other producers are foreclosed from selling at Wal-Mart.

Horizontal concentration has also occurred at retail and in many processing industries. Some claim that efficiency, economies of scale, scope, contract coordination, and the elimination of slothful, slow management via the takeover and leveraged buyout market, have driven this trend to concentration. They claim that consumers and farmers have benefited from this more efficient market channel organization, but the very fact that we are here today belies this assertion. Concentration has done more than generate efficiency gains. It clearly has created a new much higher level of exclusionary market power in the food system.

This power has been deployed not only towards consumers by elevating prices above what they would be in a more efficient *competitively structured* channel, but also towards farmers via tactics that exacerbate excess supply conditions, lower prices, and redefine farmers as a modern equivalent of sharecroppers. The new high level of market power endowed on food firms has been used to break unions, and to secure wage givebacks, and to import immigrant labor to do many jobs that now are clearly more dangerous and debilitating than at any time since Upton Sinclair wrote, *The Jungle*, in 1914. The new level of market power has been deployed politically to sustain this transformation of the system.

rife with market power that is systematically being used to force families from agriculture, why not give farmer cooperatives even greater public support to redress the power imbalance. On a similar front, why not strengthen the agricultural bargaining laws to give contract farmers more power to secure favorable terms? Alternatively, is there a way that contract farmers can become shareholders, possibly a special class of stock, that allows them to participate more fully in the benefits of vertical coordination?

On antitrust issues, more squarely, we need merger guidelines for oligopsony that can apply to the food industries. An oligopsony in practice is not the mirror image of oligopoly as it is in theory. For example, a horizontal merger that increases four-firm seller concentration to 60% in a local food retailing market, for example, Kansas City, would pass muster today. But what about market extension mergers that increases supermarket buyer concentration to 60%, i.e., four big chains buy 60% of the food sold in the U.S? This level of buyer concentration seems far more pernicious and probably should not be allowed to occur by merger. Today, there is no policy stance that would stop it.

Private antitrust enforcement and antitrust enforcement by the states needs to be encouraged as an outsourcing of federal government activity in this era of lean government. Along this line of reasoning the Illinois Brick restriction that allows only the first purchasers to sue and collect treble damages for antitrust injury should be repealed as it already has in several states. This allows class action lawsuits on behalf of farmers and consumers, those who often bear the ultimate burden, to be filed by the private antitrust bar. (These pass through lawsuits create another need for analysis of price transmission in food channels.) Such cases exist now in the courts, including a class action on behalf of farmers alleging that Kraft Foods depressed the price of cheese in the early 1990s and that this was transmitted back to farmers who received lower milk prices.

Related, somewhat subtle but very important issues are the Noer Pennington doctrine and the filed rate doctrines in regulatory/antitrust law. Basically, these exonerate any company from antitrust prosecution because the government has established or approved the prices for an industry. Kraft has, for example, successfully argued in a county court in Wisconsin that even if it did depress the cheese price, farmers cannot collect damages because the price they received for their milk, although based on this depressed price, was determined by the federal milk market orders, hence the company is shielded. This is a very pernicious extension of antitrust precedents, one that would effectively shield all companies in the food system from antitrust prosecution by farmers whose prices in any way are affected by the government.

In conclusion, the general public needs to hear about these issues. There is a

Baked Lasagna

By Albert A. Foer[25]

One is tempted to think of the food industry as a layered cake. At the bottom is the farm layer, at the top is the retail layer, and in between are the various neatly defined levels of processing, manufacturing/packaging, and wholesale distribution. But there is something too static about this representation. Think instead of the overcooked lasagne I recently digested, where the different layers had melted into one another, each dynamically affecting the other. In this brief paper, I want to focus on the interaction between the retail layer and the manufacturing/packaging/distribution layer. My thesis is that the retailing layer has become too concentrated; that largely in response to this development, the manufacturing/packaging layer is about to become too concentrated; that both consumers and smaller businesses will be the losers; and that the federal antitrust laws should be used expansively to preserve as much of the remaining competition as possible.

The Retail Level

The retail level of the food industry is dominated by the supermarket chains. Not that Mom & Pop's, wholesale clubs, and e-commerce grocers don't play a role, but the largest role by far is that of the supermarkets. What is interesting is how rapidly the large supermarket chains have grown larger. It was estimated nearly two years ago that the Safeway, Albertson's, Kroger, Ahold and Wal-Mart control about 33 percent of grocery sales in the U.S.[26] I've seen more recent estimates as high as 42%. Only seven years ago, in 1992, the five leading chains controlled just 19 percent of U.S. grocery sales.[27] The concentration of many regional markets is often much higher than the national level.[28] Various industry observers have predicted that – absent rigorous antitrust enforcement—we will see the near-term emergence of four or five chains with over 60 percent of all supermarket sales in the U.S.[29] The CEO of Ahold recently was reported to predict that within a few years there will only be three important chains worldwide, Wall-Mart, Carrefour, and Ahold.

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[25] President of the American Antitrust Institute, www.antitrustinstitute.org

What accounts for this dramatic movement? At least five aspects are noteworthy.

(1) Technological advances and liberalized world trade have made it feasible to manage and operate efficiently in larger sizes than previously, often on a global basis.

(2) The antitrust laws have not presented an obstacle to growth, even to very large size, by merger. Thus, with an important exception we will address in a moment, growth has tended to come in large spurts, by acquisition, rather than by steady internal growth. When growth of one's competitor comes rapidly in large lumps, one tends to counter-punch with a similar strategy, i.e. mergers tend to be contagious.

(3) Very large size brings with it the ability to hammer suppliers. Obtaining or increasing buyer power, therefore, may be a motivation for growing extraordinarily large. With buyer power, one can reduce one's own inventory costs and at the same time gain a comparative advantage over smaller rivals who must pay higher prices. Suppliers who are forced to give massive concessions to their largest customers have to make their profits from their smaller, less powerful customers.

(4) Finally, all of the above may be to some extent a defensive response to the introduction of a dynamic new factor in food retailing, the Wal-Mart phenomenon. Wal-Mart's growth has not come by merger, but rather depends on a new format for doing business, emphasizing very large scale and very low prices.

The four largest chains in England (Tesco, Sainsbury, Safeway and ASDA) now are reported to do nearly 50% of all grocery sales, compared to less than 30% ten years ago. While these chains have enjoyed "massive growth" in profits in the past decade, they are reported to charge higher prices than their counterparts in Western Europe.[30] This is not surprising, in that a substantial literature suggests that as supermarket concentration moves toward higher levels, price tends to follow.[31]

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[30] Gene Hoffman, "Sounding a Warning: The Consolidation of the Supermarket Industry in England Poses Vital Questions for U.S. Grocery Retailers," Progressive Grocer 104 (March, 1999).

[31] Marion, Heinforth and Bailey, for example, conducted a study in which they concluded, "[O]ur results find a positive linkage between concentration and prices even after holding costs and quality/service constant. The results of this study are consistent with six other studies that found a significant positive relationship between grocery store prices and the concentration of sales in local markets." "Strategic Groups, Competition and Retail Food Prices," in Ronald Cotterill (ed.), Competitive Strategy Analysis in the Food System (Boulder, CO, 1993) at 197. The same

Manufacturing/Packaging

The manufacturing/packaging/distribution level of the food industry, which we will call the "foodmaking" level, has apparently been teetering on a consolidation movement of its own for several years.[32] Food giants have not been posting great sales growth. H.J. Heinz Co. had only 3% over the past five years and Campbell Soup Co. has been declining.[33] Suddenly in 2000, the dam burst. By mid-2000, $87 billion in food deals had been announced. Unilever Group offered $24 billion for Bestfoods. Philip Morris plans to purchase Nabisco Holding Corp. for $19 billion. Three companies – Switzerland's Nestle SA, Philip Morris (Kraft) and Britain's Unilever PLC—have emerged as the "Big Three" of foodmakers worldwide. The press is full of reports that additional mergers of international magnitude will follow.[34]

In many of the discussions of these mergers and the prospect for additional mergers, there are references to suppliers merging in order to better cope with retailers who have already merged.

> "Because of consolidation in the retail industry, [companies] need to have a portfolio of brands with power," says Tom Palombo, president of Merchandising Corp. of America, which handles displays for packaged-goods for companies. "Years ago, if you didn't buy my brand, I'd sell to someone else." With fewer retailers in the game, companies such as Nabisco have been hard-pressed to push around the likes of a Wal-Mart Stores Inc. or Kroger Co.[35]

Buyer Power

Antitrust has traditionally spent most of its energy on dealing with problems raised by sellers having too much market power. These are the "-poly" twins of monopoly and oligopoly. But there is increasing awareness that competition can be harmed when buyers have too much market power, the "-sony" twins of monopsony and oligopsony. In what is considered an important indication that the federal enforcement agencies are paying more attention to buyer

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[32] "For years, investment bankers have salivated as they eyed the struggling food industry. Its inability to raise prices and its mature, slow-growth product lines put pressure on earnings growth, making the business ripe for a merger wave. But a variety of obstacles, chief among them CEOs not ready to give up power, kept the consolidation engine idling." "Coming Soon: A Feast of Mergers," Business Week, May 22, 2000 at 56.

[33] Business Week, July 10, 2000 at 178.

[34] E.g., "Both Nestle and a group of second-tier food companies, including Groupe Danane of France and Cadbury Schweppes PLC of Britain, are now expected to aggressively seek out other acquisitions in an effort to compensate for the clout of Philip Morris. Two of their likeliest targets: Elmhurst-based Keebler Foods Co. and

power, Marius Schwartz, a Justice Department economist, drew attention to the fact that "Concerns with increased monopsony power featured heavily in the Antitrust Division's challenges of two prominent recent mergers: Aetna's acquisition of Prudential's health insurance assets, and Cargill's acquisition of Continental's grain trading division."[36]

Schwartz addressed a common error, the claim that a merger that depresses prices to suppliers must benefit consumers and increase overall welfare. It is true, he said, that a merger may generate efficiencies for the merged firm and lower the cost to suppliers of dealing with it, e.g. by reducing contracting costs and transport costs by ordering in larger volume, or relieving suppliers of certain functions that it can now perform more efficiently than they can. However, suppose instead that the merger generates no efficiencies, but generates supplier reductions driven by the merged firm's willingness to decrease the input quantity it buys in order to force down price. This is just the opposite of the monopolist who drives prices higher by reducing the quantity it sells. In the monopsony model, sellers are willing to accept lower prices for supplying less, because their marginal costs increase with the quantity they supply. The monopsonist depresses the input price it pays below the competitive level by reducing the input quantity it purchases.

Does this harm consumers? If input price falls because of efficiencies, this may help consumers…provided the retailer is in a competitive market. "If," says Schwartz, "input price falls because of the exercise of increased monopsony power by the merged firm, the input quantity will typically fall, inducing the firm to cut its sales to consumers and raise its price." It is the combination of market power at the retail level and buyer power at the retail level that results in harm to both the consumer and the supplier.[37]

Buyer power has surfaced in several other recent antitrust cases, most notably in the Staples/Office Depot merger and the FTC's case against Toys R Us. It has not yet been recognized as a factor in a supermarket merger, although in opposing the acquisition of Pathmark by Royal Ahold, the American Antitrust Institute argued that the merger could not be "fixed" by divestitures, because this would not deal with the problem of enhanced market power for Ahold.[38] The FTC turned down several substantial divestiture proposals by Ahold and the deal eventually fell through, but the FTC's reasons for objecting to the merger were never formalized and staff has informally suggested that the buyer power argument, while of interest, was not influential on the outcome.

A significant manifestation of buyer power is the "slotting fee".[39] This is a payment, in one form or another, that a powerful retailer imposes on a foodmaker as a condition of placing

certain products on the shelf. The Senate Small Business Committee[40] and the House Judiciary Committee[41] held hearings on this phenomenon, leading to a two-day workshop at the FTC earlier this year. The FTC is now pondering its next step. The American Antitrust Institute wrote to the FTC following the workshop,[42] offering the following conclusions from the information and views explored at the workshop: (a) slotting allowances have become widespread in the grocery industry; (b) there are instances, perhaps many instances, in which their effect is exclusionary from the standpoint of smaller suppliers and discriminatory from the standpoint of smaller retailers; (c) there is reason to believe that their cumulative industrywide effect may be anticompetitive and anti-consumer; (d) there is considerable need for further research into this phenomenon; and, most clearly, (e) there is deep disagreement over the appropriate legal and enforcement agency response to these practices and concomitant widespread interest in some Commission guidance in this area.

The AAI urged that a public report be written, reflecting the workshop record and current levels of staff understanding, including recommendations. Hopefully, such a report could itself provide guidance to the industry on how to distinguish between lawful versus unlawful or at least problematic uses of slotting allowances and related conduct. In addition, the AAI proposed that the FTC utilize its powers under Section 6(b) of the FTC Act to issue orders to file "special reports"—in effect, using compulsory process directed at the largest suppliers and supermarket chains in order to learn more about the subject.

The power buyer problem could be addressed to some degree under the Robinson-Patman Act. This law, which was enacted in part to protect small retailers from price discrimination and other practices that power buyers could use to disadvantage their smaller competitors, has been a dead letter for many years. There was some hope that it would be given new life in the FTC's recent investigation of McCormick Spice Co.[43] This involved allegations that a large food company had paid fees to retailers to assure that it would have exclusive positioning in their stores. By the time the case was settled, only a small number of technical R-P violations were identified. If the FTC is concerned about abuses of buyer power, it will probably have to develop a stronger Robinson-Patman presence.

Merger Enforcement

An excellent overview of supermarket merger enforcement is available in an article by David A. Balto of the FTC.[44] He points out that five mergers reviewed by the FTC in just the twelve months before he wrote involved firms with total sales of over $110 billion, including Albertson's acquisition of American Stores (the second and fourth largest chains in the U.S.) and

Kroger's acquisition of Fred Meyer, which created the largest US supermarket chain.[45] "The vast majority of supermarket mergers do not raise competitive concerns," says Balto. "Yet in the last four years, the FTC has brought more than ten enforcement actions involving supermarket mergers, more than in any other industry except pharmaceuticals…Most of these enforcement actions have been efficiently resolved through divestitures in those areas in which there were competitive overlaps."

This is true. But the question is whether it is enough to focus on overlaps.[46] If company A on the west coast merges with company B on the east coast, there are no overlaps, and consumers in the areas served by either company are not likely to face a price increase as an immediate result of the merger. But, if the merger (and similar mergers) results in a small number of extremely large companies, each of which has buyer power, there are several reasons to worry. First, as buyer power is exercised, the supplier level of the industry feels it has to respond by consolidating. It takes big to fight big, power against power. Second, as the supplier level consolidates, there will be less competition at the supplier level. At some point, this will probably lead to higher prices and perhaps less innovation. Fewer suppliers could mean fewer choices for consumers.

Third, as suppliers make their deals with power buyers at the retail level, they will have to earn their profits by (in effect) charging more to smaller retailers. Thus, the vicious cycle places smaller retailers at a competitive disadvantage and assures that their market share will sink as that of the large retailers grows. This will lead to further retail concentration, higher prices and fewer choices for consumers. And fourth, in the new arena of big vs. big, the issue is not how to create new efficiencies that will yield a competitive advantage, but how two giants (a retailer and a supplier) can sit at the table and most lucratively split the consumer's food dollar between them. There is no assurance that this negotiation will lead to any benefits for consumers. Without substantial competition at the retail level, cost efficiencies, however real, do not need to be passed on, and gains from hammering suppliers can be retained within the company. Without substantial competition at the supplier level, even the largest retailers will pay more, and this will be passed on to consumers.

In effect, we are moving into the economy that was pre-described in John Kenneth Galbraith's 1952 book, *American Capitalism*. Galbraith said, "[P]ower on one side of a market creates both the need for, and the prospect of reward to, the exercise of countervailing power from the other side." He thought of the great retail chains as representing countervailing power on behalf of consumers against the market power of the producers and processors of consumers' goods. He argued that an important role of the government should be to foster the development of countervailing power wherever it was needed, since he had little confidence in competition

Today the government can still use its resources to make competition in the food industry work. This would require a program aimed at stopping the enhancement of buyer power at the retail level through merger enforcement that takes this issue seriously, supplemented by use of the Robinson-Patman Act directed at abuses of buyer power. With respect to the supplier level, it will be necessary to have a merger enforcement vision that goes beyond identifying overlapping brands. The dynamic between the two levels of retail and supply must be understood and viewed as a whole. We need antitrust enforcers to ask, "Where are we going? What are the dangers? What kind of industry structure will be acceptable? What do we need to do now in order to keep an unacceptable reality from coming into existence?" The primary tool is Section 7 of the Clayton Act, authorizing antitrust to apply an *incipiency* standard to deal with the diminution of competition at a point where it "may" occur. In the food industry, we are already at the danger point.

The Structural Transformation of the Agricultural Sector[47]

By Neil E. Harl[48]

The Structure of the Agricultural Sector

A major concern as we move into the Twenty-first Century is the structure of the agricultural sector. Structure means considerations of size and scale as well as who is to manage, control and finance farming and agribusiness operations.

Competition is the most critical element of a price oriented, market economy. Without competition, firms become complacent, are less likely to innovate, tend to become arrogant and indifferent and are able to produce less and obtain a higher price for their output. To a considerable extent, structure will be driven by economic considerations. This country has been committed for some time to the notion that if someone can develop ways to produce goods or services at a lower cost, barriers are unlikely to be erected to prevent that from happening. In large part, the consumer is king and generally rewards the best value with purchases. However, for the economic system to function properly, it is critical to have—

- Policies in place to deal with cost externalities such as odors and stream and groundwater pollution, and
- A system of market protection (or antitrust) to penalize collusion and to prevent undue concentrations of economic power.

Concentration in Seed Companies

Mergers, alliances and various other forms of arrangements are reducing the number of players in input supply and output processing and handling and increasing the level of concentration. While the level of mergers, alliances and consolidations is not a completely reliable indicator of competition, the fact that nearly $15 billion of such amalgamations has occurred over the past three years in the seed business, some at price levels difficult to justify under present economic conditions, suggests that—(1) some are discounting revenue from a pot at the end of some unknown rainbow; (2) irrational behavior is being displayed; or (3) some

offspring, also is moving rapidly toward concentration in a few hands. The high-profile alliance (and now merger) between DuPont and Pioneer Hi-Bred International, the Monsanto acquisition of DeKalb and the Monsanto acquisition of Delta and Pine Land Company (since terminated) are recent examples of how the ownership and control of genetic material in crops is falling into the hands of a few, economically powerful players. Increased concentration is also leading to control by a few firms over the major processes by which genetic manipulation occurs, thus enabling those controlling the technologies to block use by other firms.

This development is partly related to the changing role of the land grant universities, partly to the ability in recent years to manipulate germ plasm through genetic engineering, and partly to the consequences of the ability to obtain a monopoly-like position over unique life forms and over the process of genetic manipulation.

• For decades the land grant universities developed the basic genetic lines and made those lines available to the seed industry. Because of limitations on university funding and the near-revolution in genetic engineering, the private sector several years ago began pouring more money into basic research. Developments have progressed to the point that the payoff from research and development funding can no longer be used to compare the present with prior periods. Payoffs are expected to flow more readily than when biotechnology was in its infancy.

• The advent of genetic engineering meant that scientists could manipulate genetic composition—not through conventional crop breeding techniques but through laboratory procedures—to change the genetic makeup of plant and animal life. That has produced herbicide-resistant crops, for example.

• Finally, the U.S. Supreme Court in a 1980 landmark case determined that life forms could be patented.[49] In addition to federal Plant Variety Protection (PVP)[50] and simply shrouding research efforts with secrecy, the ability to patent life forms provides a powerful tool to keep competitors at bay.

The Era of Contract Agriculture

The signs of increasing use of contracts are commonplace—especially on the production side of agriculture.[51] Specialty grains, feeder livestock, milk production, even fruits and vegetables, are being produced under contract and have for some time. So what's the concern about the rising tide of contract agriculture? Basically, the concern is a tilt in market power with a possible shift in bargaining power as input suppliers and output processors (and first purchasers otherwise) gain greater economic power, undoubtedly at the expense of producers.[52]

Effect of contracts. An important question is the effect concentration will likely have on contract negotiations with producers. It depends on the options open to producers who don't like the terms of contracts offered to them. With numerous contract possibilities available from input suppliers, each offering inputs of roughly equal productivity and cost, the answer is perhaps "not much."

But if there are just a few options, with the next best offering a much less attractive set of inputs in terms of cost and productivity, such as when a variety of seed is developed with significant yield premium over otherwise competitive varieties, the answer is "take what you're offered." A greater proportion of the value of the yield premium is expected to be captured by the seed supplier under those conditions than has historically been the case. The outcome is likely to be a tilting in the terms of contracts in favor of the input supplier. The division of revenue from production would be expected to shift over time in favor of the party with the monopoly or near-monopoly position. Input suppliers can be expected to drive the best possible bargain which means, in the case of seed, capturing the greatest possible percentage of the value from any yield premium.

- The outcome would be a smaller share of the revenue from production going to the producer, resulting in less compensation to the producer and less to capitalize into land values.

- Seed companies would end up with a larger share of the pie with more to capitalize into the stock of the input supply firms. Even if unique corn derivatives produce revenue of $2 million per acre, it's fairly clear that whomever holds the rights to the technology involved will capture the lion's share of the revenue, not the producer.

A good argument can be made that this perception of potential profits in the future is part of what was driving the intense push toward concentration in control over germ plasm.

Thus, a major issue is whether a shift in market power occurs between input suppliers and producers, whether that shift in market power is translated into enhanced bargaining power and whether the enhanced bargaining power is employed to siphon a greater proportion of the economic return generated by the sector into the hands of input suppliers.

Other shifts may follow. The negotiating power of seed firms could well have other impacts.

- In an effort to control the germ plasm more completely, seed companies are likely to negotiate for ownership of the product with the producer under contract having only a contract

input supplier but also a shift of management functions in the same direction. The outcome would be reminiscent of the limited role played by growers under broiler contracts.

Objectives of Vertically Integrating the Sector?

The moves made by the major players, both input suppliers and output processors and handlers, could lead one to conclude that the objective is to vertically integrate the sector. Such an objective could be pursued for several reasons—(1) to gain and maintain greater control over patented products or products subject to intellectual property protection otherwise; (2) to apply economic pressure on producers to relinquish functions in favor of the integrator (such as risk management) or to merely provide an opportunity for risk to be off loaded onto the integrator; (3) to enhance profits of the integrating firm; (4) to achieve greater market share on an assured basis; or (5) to deliver with greater precision what consumers want. The latter point is debatable. In an early example, seed/chemical companies misjudged consumer acceptance of genetically engineered foods and stumbled badly in the process.

Although vertically integrating a sector or subsector may produce certain economies—including reduced costs for acquisition of raw materials—vertical integration by powerful integrators can have decidedly negative consequences. Among those negative outcomes is the demolition of open, transparent, competitive markets and replacement of those markets with negotiated prices. With a huge difference in bargaining power, as between the parties, the outcome is predictable. The party with the weaker market power tends to be the loser. Unless producers act collectively, producers tend to be the weaker party.

Are any possible savings through economies from vertical integration likely to be passed on to consumers? With a high level of concentration, that result is doubtful.

Position of Small Firms

A major issue is whether smaller firms are likely to be able to compete. Certainly the small seed firms have remained surprisingly healthy in recent decades as performance traits of the varieties and hybrids developed by the larger firms have tended to outdistance the performance of seed marketed by small firms.

But the era of transgenic hybrids produces both the incentive to maintain greater control over high performing germ plasm and the technology and resources to challenge those who manage to obtain the germ plasm in clandestine ways. The larger firms may acquire some smaller firms to complete their distribution network and licensing germ plasm for a fee may well

Barriers to entry. In general, one would expect high handed economic behavior by near monopolists to be met by entry of new competitors attracted by the generous terms of contracts in favor of the input suppliers. And that would likely occur if entry were possible. However, barriers to entry may be fairly high.

• One barrier is capital needed to mount the kind of research effort needed to maintain a product flow similar to that of the firms pressing for monopoly-like concentration levels. The capital needed is very substantial.

• Also, existing patent and plant variety protection may mean that potential competitors are frozen out of competition as a practical matter for the duration of the patent or PVP certificate or the duration of a patent over processes by which genetic manipulation occurs.[53]

The Deadly Combination

Without much doubt, the greatest economic threat to farmers as independent entrepreneurs is the deadly combination of concentration and vertical integration. Producers are vulnerable to a combination of high levels of concentration in input supply and output processing and high levels of vertical integration from the top down. Why?

Example: Let's assume concentration in hog slaughter continues to increase (the four largest firms now control about 60 percent of hog slaughter compared to about 80 percent for steer and heifer slaughter) and the hog slaughtering firms vertically integrate in the manner pioneered by Smithfield. Before dropping the Tyson merger, Smithfield would have controlled about 68 percent of its hog slaughter. Let's say we're down to two huge firms and each is 90 percent integrated. A producer with a five year contract with one of the two major firms comes to the end of the contract. The new contract is considerably less attractive than the expiring contract. The producer is told—take it or leave it. If the closest competitive option is 900 miles away—and is also heavily integrated—the producer seeking another option for hogs is highly vulnerable. If the producer had made a heavy commitment to facilities, the vulnerability is greater yet with significant barriers to exit. Clearly, a producer in that situation is likely to be squeezed.

Is this any different from vertical integration in the automobile industry, for example? The answer is yes. Producers of farm products are so numerous, even yet, that a vertically integrated packer can terminate one or even several with no concern about an adequate supply of animals. That is not the case with most suppliers in other vertically integrated sectors of the

Solutions

If sufficient public interest and political will are generated, three solutions seem to lie within the feasible set.

Antitrust oversight. First, aggressive antitrust oversight at the federal level (and among the states) is the traditional way for proposed mergers and alliances and other anti-competitive practices to be evaluated on the basis of potential anti-competitive effects. The objective should be to insure that all sectors and subsectors have equal, and low, economic power. Because of the importance of food and the policy significance of maintaining a healthy producing sector, it may be necessary for the Department of Justice to be funded specifically to maintain a substantially higher level of oversight over structural shifts in food and agriculture.

Certainly the Federal Trade Commission (FTC) and the U.S. Department of Justice (DOJ) should be sensitized to the potential for economic abuses down the road. The approaches used by both the Antitrust Division of DOJ and by the FTC focus on the probable impact on consumers. That has been the principal concern of the antitrust system.

For agriculture, however, the concern is the impact on *producers*—assuring producers competitive options. Consumers may ultimately be affected, but the consumer side is not the entire picture. That is why a different approach is needed in the evaluation of agribusiness mergers if there is a shared vision of maintaining a sector of independent entrepreneurs as producers. Unless that vision is articulated by the Congress and the Administration, the chances of meaningful actions by the antitrust system are slight.

Further consolidation in any highly concentrated sector merits scrutiny under the Clayton Act rules that impose limits on mergers expected substantially to diminish competition. So-called horizontal mergers or mergers of competitors are the most likely to be challenged. Other areas of antitrust challenge involve price fixing, agreements to divide markets and group economic boycotts. These are all per se offenses under federal antitrust law.

It has been well established for decades that firms with monopoly power over a product should not be able to "tie" other products to the transaction and extend the monopoly position.[54] Such contracts are used to create "economic leverage" by using monopoly power in one market (the market for the tying good) to create monopoly power in a second market (the market for the tied good). Such arrangements, which involve tying products over which a firm does not have monopoly power (such as financing, insurance or risk management) to a product over which the firm does have monopoly power (such as a seed variety), are also illegal per se unless it can be

If the objective is to maintain significant levels of competition, FTC and the Department of Justice should scrutinize all agri-business mergers carefully for anti-competitive consequences and all practices by companies in tying credit, insurance, risk management or other needed inputs to potential items. One problem in relying on FTC or the Department of Justice is that both agencies seem to believe that agriculture is the last bastion of perfect competition and is competitive by a comfortable margin. The problem is not one of diminished competition among producers but among those who supply inputs and process or handle products from the producing subsector.

Collective action by farmers. One possible strategy for farmers is to forge alliances among producers (which is specifically allowed by federal law so long as it does not "unduly enhance" price).[56] The push to achieve such countervailing power was the driving force behind the formation of labor unions a century ago. Historically, however, farmers have been unwilling to accept such a disciplined approach to achieving bargaining power.

Section 1 of the Capper-Volstead Act of 1922[57] provides protection from antitrust challenge for producers who seek to bargain collectively with seed companies and other input suppliers.[58] The Capper-Volstead Act provides that "persons engaged in the production of agricultural products as farmers, planters, ranchmen, dairymen, nut or fruit growers, may act together in associations, corporate or otherwise, with or without capital stock, in collectively processing, preparing for market, handling, and marketing in interstate and foreign commerce, such products of persons so engaged."[59] The Act goes on to allow "Associations [to] have marketing agencies in common; and such associations and their members may make the necessary contracts and agreements to effect such purposes."[60]

To come within the protection of the Capper-Volstead Act, an organization must—(1) be operated for the mutual benefit of its members; (2) either limit each member to one vote regardless of the amount of stock or membership capital the member owns or, if dividends are paid on the basis of members' stock or membership capital, the dividends must be limited to a maximum of eight per cent per annum; (3) not handle a greater amount of products from nonmembers than from members; and (4) not be operated for profit.[61]

The grant of immunity from antitrust challenge was further limited by a provision that if the Secretary of Agriculture finds that an association "monopolizes or restrains trade in interstate or foreign commerce to such an extent that the price of any agricultural product is unduly

enhanced thereby he shall issue…an order…directing such association to cease and desist from monopolization and restraint of trade."[62]

The key question is whether producers will be willing to sacrifice independence of action in order to bargain collectively for access to seed and possibly, other inputs. The most likely avenue for such collective action is through cooperatives.

More germ plasm in the public domain. Another potential solution is for the public to increase its support for crop breeding by land-grant universities and other public agencies with transgenic hybrids and varieties made available to smaller seed companies. This would restore the land grant universities to the role played before the advent of genetic manipulation and the dramatic increase in private sector funding for new varieties and hybrids.

To a considerable extent, this possible outcome is dependent upon the perception in state legislatures and the Congress as to the public interest, long-term, in maintaining a greater degree of competition in seed supply. Legislative bodies are more likely to respond if convinced that dominance of seed supply by a few large firms, worldwide, could affect food costs by influencing the supply of food through contractual mechanisms.

In Conclusion

To a disturbing degree, what is happening involves market power and the exploitation of that power. The key issue, at the moment, is what type of producing sector is in the long-run best interests of consumers—and others. In my view, the combination of horizontal concentration and vertical integration are deadly to the interests of both consumers and, more immediately, producers.

In the meantime, the prudent course would suggest careful evaluation of mergers and alliances now occurring in rapid succession; promotion of diverse methods of countervailing power through farmer cooperative-like structures; and careful consideration of the level of resources flowing into the development of transgenic hybrids and varieties in the public domain.

The New Biotechnological Age

By James E. Horne[63] and Manjula V. Guru[64]

Crop genetic diversity is not just a raw material for industrial agriculture; it is the key to food security, and sustainable agriculture because it enables farmers to adapt crops suited to their own site specific ecological needs and cultural traditions. Without this diversity, options for long term sustainability and agricultural self - reliance is lost. The type of seed sown to a large extent determines the farmers need for fertilizers, pesticides and irrigation. Communities that lose community bred varieties and indigenous knowledge about them, risk losing control of their farming systems - thereby restricting their markets - and becoming dependent on outside sources to satisfy those needs, and for the inputs needed to grow and protect them. Without an agricultural system adapted to a community and its environment, self - reliance in agriculture is impossible. In this paper the advent of the biotechnological age and the role of large corporations is explored.

The Cause for Worry:

> *Biotechnology is being shaped within the same social context and value system that led to chemical dependence. The same institutions that developed and promoted chemical-style farming, agrochemical giants such as Monsanto, DuPont, and Ciba-Geigy, and the USDA, are now proclaiming biotechnology as the route to sustaining high yields, while reducing our dependence on chemicals and the problems created by that dependence.*
>
> *Agrochemical companies are investing millions of dollars in biotechnology research to create genetically engineered plants, animals, and microorganisms to repel pests, make fertilizers, and enhance yield. The USDA, following the lead of agribusiness, is also a major promoter of biotechnology, placing it high among its research priorities and investing millions of taxpayer dollars in research. USDA officials even distribute promotional buttons that read: "Biotechnology the Future of Agriculture."*[65]

Genetic engineering techniques have made possible the extension of the private ownership

the ownership and control of the world's seed diversity - most of which has been developed and maintained by traditional farmers in the Third World – into the hands of First World corporations. Meanwhile, seed/biotech corporations have been buying out or taking control of seed banks and smaller seed companies in order to reduce the availability of unpatented and non-hybrid seed varieties. It is in the interests of these corporations that farmers repurchase these patented seeds year after year.[66]

There are two strategies now being used to prevent farmers from being able to save and replant their seeds from the previous year's crop. Firstly, seeds may be engineered to be biologically sterile, like the hybrid seeds of the Green Revolution. Hybrid seeds produce high yields but do not perform well if they are saved and replanted, ensuring that farmers repurchase their seeds every year. Genetic engineering now makes possible the creation of hybrid varieties of some common food crops that had previously proven too difficult or too costly to hybridize using earlier plant breeding techniques. It will also be possible for scientists to deliberately engineer any crop variety to be sterile or non-reproducible. This technique, which critics refer to as 'Terminator Technology', has been patented in the USA, and will be used to target important crops such as wheat and rice. In these ways, the logic of 'planned obsolescence', and therefore the interests of the corporation, will be able to be engineered directly into the seed's DNA.[67]

In developing new products, scientists take plant samples from the field to the laboratory, where the simple act of moving a single gene from one spot to another within a cell - whether or not it causes an actual variation in the next generation, creates a "plant variety" deemed sufficiently "new" to qualify as a patentable invention. In most cases, such genetic engineering experiments produce nothing worthwhile. In a few cases, the variations have desirable traits that can be reproduced and marketed. The emphasis on finding and isolating plants with the most marketable traits leads to the decline of other plant species, as only those required to create the new techno-varieties are cultivated. In the U.S. alone, the focus on commercial varieties has already led to the loss of many varieties of plants in seed bank storage. A survey of U.S. seed banks showed that many varieties of non-commercial crops have been lost entirely.

In addition, the privatization of genetic resources that have been engineered and patented accelerates the trend toward monocultural cropping. A mere handful of varieties of patented hybrid corn now cover millions of acres of the midwestern U.S. corn belt, where prairies once hosted thousands of varieties of grasses supporting birds and butterflies, bees and other life. So too will the biodiversity of other lands shrink as patented crops take over.[68]

To take another example, in India, peasant producers now cultivate some 50,000 varieties of rice, developed through traditional practices over the millennia. These astonishing varieties arose from subtle differences in soil and climatic conditions through mutation, evolution, and the deliberate application of cultural preferences. The GATT-TRIPs rules would prohibit these farmers from harvesting and reusing the seed of any rice variety that has been patented. (Unlike hybrid species cultivated by plant breeders, genetically engineered plants do produce viable seed.). Lack of access to seed stocks will cause much of India's biologically diverse agriculture, which sustains healthy diversity in surrounding ecosystems, to be abandoned.

At the heart of the issue is horizontal gene transfer - the transfer of genes by vectors such as viruses and other infectious agents - that is exploited by genetic engineers to make transgenic organisms. Horizontal gene transfer is the transfer of gene by infection, between species that do not interbreed. It has been known to occur among bacteria and viruses for at least 20 years.[69] While natural vectors respect species barriers, the barrage of artificial vectors made by genetic engineers are designed to cross species barriers, thus greatly enhancing the potential for creating new viral and bacterial pathogens, and spreading drug and antibiotic resistance. Totally unrelated pathogens are now showing up with identical virulence and antibiotic resistance genes.[70]

Secondly, all patented seeds will now be legally sterile, as the new patenting and plant breeding regulations give patent holders rights which enable them to prohibit farmers from freely saving and replanting their seeds. Farmers either have to repurchase their seeds, or pay royalties to the company to save and replant patented seeds. To help enforce these regulations, new DNA 'finger-printing' techniques can be used to identify the genetic structure, and therefore the ownership, of crops growing in any farmer's fields. For the first time in history farmers are losing both the ability and the right to save and replant their seeds. Yet it is these very practices of saving, replanting and crossbreeding seeds by farmers that has created the enormous diversity of domesticated crops and crop varieties we have today.[71]

One of the consequences of the non-reproducibility of these 'static' seeds is that plants will no longer be able to dynamically evolve within and maintain their adaptation to local agro-ecological conditions, such as local climates, soils and pests. Through these processes the seed is transformed from a self-generating and shared resource into a commodified input of

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[69] There are three different ways for genes to be transferred. Conjugation, the mating process, requires cell to

an industrialized production system. These biotechnological interventions can also be understood as further extending the colonization and commodification of the seed.

Techno-industrial agriculture colonizes the seed in the sense that it penetrates into and takes control of the functioning of the seed, and imposes its own logic upon it - the logic of accelerated productivity, in-built obsolescence, and private-corporate ownership. The seed is commodified in two senses: first, in the sense that farmers must pay for a product that they formerly attained from the plant at no cost; and secondly, in the sense that farmers are no longer involved in the reproduction of the seed. Instead of being able to shape the character of the seed, farmers will be delivered a ready-made, pre-packaged product. In these ways, farmers will become more dependent on the agribusiness corporations that supply the seeds and other agricultural inputs.

Biotechnology is being developed with the same vision that promoted chemicals to meet the single, short-term goals of enhanced yields and profit margins. Farmers that are already locked into the techno-industrial system will find it difficult to avoid the adoption of any new seeds or inputs that increase the 'productivity' of their farms, regardless of how narrow, short-term and ecologically degrading these 'productivity increases' are. Farmers otherwise risk being priced out of the market due to the downward pressure on prices that result from increased levels of output. "*It is small-scale Third World farmers whose livelihoods have been most seriously affected by such dynamics.*"[72]

The new biotechnologies also present a further threat to farmers where new tissue culture techniques are used to manufacture industrial substitutes for agricultural crops. For example, the development of artificial sweeteners replaces the need for sugar-cane crops, thereby reducing their demand and further depressing prices. Other crops that are currently threatened by industrial substitutes include cocoa and vanilla. "*Third World communities and countries that have been forced into dependency upon these cash crops are the hardest hit by this form of substitutionism.*"[73]

The countries from which the original plant material came, see few of the benefits - or the cash - derived from its use. These generally go to big corporations in the developed world, which can take out patents on parts and processes of plants, animals - and even humans.

the crop's commercial value - thanks to a wild tomato strain found in Peru, a country which in 1993 could afford to spend a mere $28 on health per person. The sugarcane industry in the southeastern U.S. has been saved from collapse thanks to a disease-resistant gene from a wild Asian strain of sugarcane. Last September, RiceTec, Inc., an Alvin, Texas based company won U.S. patent #5,663,484 claiming the breeding of Asia's famous aromatic "Basmati" rice. The patent covers Basmati grown anywhere in the Western Hemisphere. RiceTec also slapped its brand on any breeding crosses involving 22 farmer – bred Basmati varieties from Pakistan – and, effectively – on any blending of Pakistani or Indian Basmati strains with the company's other proprietary seeds. This patent jeopardizes an annual Basmati export market of Rs. 1200 crores (approx. US $277 million), and threatens the livelihood of thousands of Indian farmers.[74]

Since the 1980s, human material too is patentable. Indigenous peoples are particularly vulnerable as their genes have been relatively isolated and therefore are more likely to have 'useful' properties. The Human Genome Diversity Project is a multi-million dollar scheme that aims to 'harvest' the genes of indigenous peoples. In 1991 cells were taken from a Guaymi woman from Panama who had leukemia. Without her consent, the U.S. Government filed a patent on her cell-line in 1993, effectively acquiring rights over part of her body to be used for commercial purposes. In 1995 the US Government filed a patent on a human cell-line of a Hagahai person from Papua, New Guinea. The cell-line is potentially useful in treating adult leukemia. It also filed patents on the cell-lines of two people from the Solomon Islands with a potential for producing vaccines. The people from whom this blood was taken knew nothing about it. Although the above patents have now been withdrawn after huge opposition, more are in the pipeline.[75]

Another threat is where genetic engineering accelerates the trend of substituting crops with industrial systems based on cell culture. Corporate giants would control biosynthetic food factories. Farmers and consumers would have little choice over what is produced. Supplementing these factories would be like contract-controlled farming.[76]

Genetic-industrial agriculture will enable seed-chemical corporations to extend their control over farmers in both the developed as well as the developing world, and over the entire industrial food chain. A recent example is a patent filed by W R Grace & Company on a neem product and a process of extracting the storage-stable compounds preventing farmers using neem as a source of homemade pesticide. The argument that improved varieties of

knowledge about its use are generally the farmers in rain fed regions who will not benefit much from this.[77]

For patents to be granted, their application must include a full written description of the invention and how to carry it out. Patents on biological materials have been criticized by some for not fully disclosing necessary details to enable the invention to be successfully repeated. The very nature of life forms makes such a full description impossible. Some argue that "life" patents run counter to the very rules of the patent system in which it is assumed that an inventor gets a patent in return for a full disclosure of the invention. Proponents of the system deny that this is a major problem, but fully agree that invention concealment, where it occurs, is unacceptable.

Conclusion

New technology should be viewed with one eye towards proper implementation that will bring about public and private good, and the other towards unanticipated events associated with its use. The benefits and risks associated with biotechnology could be compared to that of nuclear power. The possibility of a runaway process is very real in either case.

It is essential that we closely regulate biotech products and apply brakes to the power of large transnational corporations who are busy patenting the world's food supply and developing chemical triggers in plants that only respond to their proprietary products. Failure to enact and take precautionary steps in biotechnology and industrialized farming methods will result in a loss of more farmers from their land. It will also lead us to an agricultural model that is only a synthetic or biochemical charade of food with unknown risks to the environment and ourselves. Let us choose to keep our food supply in the hands of a large number of farmers and not surrender to the current trends and forces at play.

Alternative Organizational Structures: Implications for Competitiveness of Markets

By John Ikerd[78]

The current lack of competitiveness in agricultural markets is a direct reflection of a national obsession with the industrial paradigm of business organization. Specialization, standardization, and centralization characterize the industrial paradigm. Specialization, with each person or unit performing fewer functions, allows each function or step of a production process to be performed more efficiently – i.e. division of labor. Standardization allows the various specialized functions to be integrated into an efficient overall production process – i.e. assembly line production. Specialization and standardization allow, in turn, efficient centralization of management and consolidation of control – i.e. economies of scale.

The Old Industrial Organizational Paradigm

Economies of scale allow fewer firms or business organizations to grow larger and thus to gain greater control over the total output of an industry – e.g. allows fewer packers to gain control over total livestock slaughter and processing. As firms become fewer and larger, they acquire increasing market power – the ability to reduce buying prices and increase selling prices – leading to further economies of "size," still greater market power, and chronically declining competitiveness of markets.

An industrial organizational structure has evolved to facilitate specialization, standardization, and centralization of control. Organizations are separated into specialized units – divisions, sections, departments, etc. – so as to facilitate gains from specialization. The function of each unit then must be specified and standardized so that all units work together effectively to achieve the overall purpose of the organization.

All workers in an industrial organization have responsibilities to carry out the specific, standardized tasks associated with their particular position within the organization. Workers with more highly interrelated responsibilities are grouped together within work units to facilitate integration of their individual functions – e.g. sales representatives make up the sales department. Likewise, units with more highly interrelated responsibilities are grouped together to form higher

at each level of organization, but decisions of mid-level managers are narrowly bounded by the demands of the overall organization. Within industrial organizations, the ultimate responsibility for all decisions is centralized in the position of the chief executive officer of the organization. Mid-level managers certainly may have input in decisions made at higher levels in the organization, as do boards of directors, but ultimate responsibility for management lies with the chief executive officer.

By its very nature, the focus of the industrialization must be on functions, procedures, and positions rather than people. Each person who fills a position within an organization, including the chief executive officer, must perform the functions associated with their position according to prescribed procedures in order for the organization to function effectively. Any significant deviation from the prescribed standards by any person – no matter how innovative, creative, or potentially productive – detracts from the overall functioning of the organization. All of the individual parts must work together in a prescribed manner for the good of the organization as a whole.

Each organization must have a purpose; otherwise there is no logical reason for bringing people, money, and other resources together. If a purpose can be achieved as effectively and efficiently by a collection of unrelated individuals, an organization is unnecessary. The organization is designed so that its specific functions, procedures, and responsibilities, if carried out properly, will ensure that the purpose of the organization is achieved. In a sense, the purpose is designed into the organization.

A well-run industrial organization works like a well-oiled machine. Each machine is designed to fulfill a purpose – which may be as simple as drilling a hole or as complex as assembling the body of an automobile. Each part of a machine is designed to perform a specific function by a specific process in so that all parts working together allow the machine to fulfill its purpose. Each machine is controlled by an operator who may do something as simple as flipping a switch or as complex as guiding the machine through a series of intricate maneuvers. However, the role of the operator is matched with the design of the machine – together they fulfill a purpose.

A machine must be maintained if it is to continue to perform effectively. A poorly maintained machine is vulnerable to breaking down and wearing out. Even under the best of care, individual parts may wear out and have to be replaced. Machines with interchangeable, replaceable parts can be repaired rather than replaced, and thus, have a tremendous advantage over machines that are manufactured as single units. Eventually however, any machine will become obsolete – it will no longer be able to fulfill its purpose as well as some newer design.

An organization requires constant maintenance to ensure that each person in the organization performs his or her function in support of the overall organization. Even in the best of organizations, individuals eventually "wear out," – become disabled, retire, or simply lose their commitment or usefulness to the organization – and will have to be replaced. However, a "new person" can be hired to fulfill the specific responsibilities of the "old person" – the parts are interchangeable – and the organization will again function as before.

If the organization becomes obsolete – is unable to perform its purpose as effectively as some competitive organization – it must be reorganized, restructured, or redesigned so as to make it run more effectively. The ultimate responsibility for redesign lies with those who own the organization, the stockholders in the case of a corporation, but may be delegated to top level management. Regardless, someone must decide when an organization has become obsolete and thus must be redesigned or discarded.

Many of the problems of industry today arise from the unfortunate combination of the industrial model of organization combined with the corporate model of ownership. Corporate ownership has become the dominant ownership structure because it complements the industrial model of organization. Corporate ownership allows firms to centralize decision making by becoming ever larger and increasingly powerful in their respective markets. Industrialization provides the motive for separation of management from ownership, and incorporation allows it to happen. However, while industrial organization has allowed the management to become concentrated in the hands of a few high level managers, the corporate financial structure has caused ownership to be dispersed among many individual shareholders, each of which has relatively little if any control over the companies they collectively own.

Corporate managers have little incentive for reorganizing the companies they control – particularly if reorganization might mean they would have less power, a smaller paycheck, fewer stock options, or no "golden parachute." It's easier for top management to use their market power to discourage or destroy would-be competitors and to extract profits from suppliers of raw materials or consumers of their products rather than to reorganize or liquidate. Shareholders are far more interested in dividends and growth in the value of their portfolios than in either the true efficiency or ethics of the companies they own. So as long as a corporation shows quarterly profits and continues to grow, no one demands that it be reorganized or disbanded -- no matter how inefficient or obsolete it may become. Inefficiency and obsolescence become apparent only if markets are open to new entrants – but this requires competitive markets.

The current competitiveness crisis in agriculture markets is a symptom of obsolete organizational and ownership structures. The industrial organizational paradigm not only

substantive way, even if they wanted to. In general, no individual stockholder has the power to restructure, redesign, or to liquidate the corporations in which they own shares. So industrial corporations can only continue to do what they were designed to do – nothing more or nothing less. Corporations are designed to make profits and to grow.

Government can't stop the corporations, because politicians too have come under their power. Politicians are strongly influenced, if not controlled, by the agribusiness corporations through their large contributions to political campaigns. Agricultural constituencies are influenced, if not controlled, by the general farm organizations and commodity groups. These groups are far more concerned with maintaining production and profits for agriculture as an industry than in maintaining competitive markets or viable family farms and rural communities. The USDA and the rest of the government bureaucracy has an organizational structure much like industry that responds far more to agribusiness interests than to the needs of family farmers. Consequently, government either supports or at least offers no meaningful resistance to corporate consolidation and ultimate corporate control of agricultural markets. Thus, American agricultural is dominated by an obsolete organizational structure that is essentially out of control.

The crisis of competitiveness in agriculture markets will not pass unless or until the current industrial organizational structure is replaced with an alternative self-regenerating, post-industrial organizational paradigm. Such a paradigm quite likely will emerge from the dozens of different ideas that are currently being tested in the twenty-first century marketplace. Ultimately a new, post-industrial organizational model will replace industrialization as the dominant paradigm for organization of productive resources.

Post Industrial Organizational Structures

> *We are at that very point in time when a 400-year-old age is dying and another is struggling to be born – a shifting of culture, science, society, and institutions enormously greater than the world has ever experienced. Ahead, the possibilities of the regeneration of individuality, liberty, community, and ethics such as the world has never known, and a harmony with nature, with one another, and with the divine intelligence such as the world has never dreamed. (Dee Hock)*

Dee Hock, the founder of VISA Corporation, is perhaps the most effective critic of the old industrial, hierarchical model of organizational control, and the most vocal advocate of organizational change. Hock advocates what he calls a "chaordic" (a combination of chaos and order) organizational paradigm as the replacement for industrialization. However, Hock most certainly is not alone in his belief that the industrial model is obsolete, at best – that industrialism

industrial era is ending and a new post-industrial era is emerging – a new era that will require a new and different organizational paradigm.

The commonality of all these new post-industrial approaches is a focus on purpose, principles, and people. The post-industrial organization, like any organization, must have a purpose. However, the purpose is much more prominent and important to the post-industrial organization. For the industrial organization, purpose was of primary importance in designing the organizational structure. However, once the structure was in place – each position identified, given a specific function, and placed within the management hierarchy – the purpose became secondary. If the responsibilities of each position were performed effectively, the organization would fulfill its purpose. With post-industrial organizations, however, the purpose of the organization must remain continually in the consciousness of everyone in the organization. The focus is on the people who fill the positions rather than on position descriptions.

The structure of post-industrial organizations is dynamic rather than fixed. Positions, departments, divisions, organizational units, take on new meaning. They are continually changing and evolving, forming, and dissolving as the organization transforms and renews itself to meet the ever-changing demands of a dynamic marketplace in an ever-changing economic, social, and natural environment. This is the *chaotic* part of Hock's *chaordic* organizational model. The *order* part of the *chaord* is embodies in a set of organizational principles. The purpose and principles of the organization remain unchanging -- leaving the structure to evolve as needed to maintain the effectiveness and efficiency of the organization.

The post-industrial organization is embodied in its principles of operation rather than its organizational structure. The principles of an effective organization must embody the standards of individual conduct that are both necessary and sufficient for the organization to fulfill its purpose. If a principle is not necessary for the functioning of the organization, it will unduly constrain the ability of the organization to adapt to changing needs. If the set of principles is not adequate or appropriate to ensure success if followed completely, the organization may not function effectively.

Principles are fundamentally different from the specific functions that make up a position description. A person in a post-industrial organization may still have specific responsibilities, but will be free to meet those responsibilities by any means consistent with the principles of the organization. The person in a position, not the position description, will determine the most appropriate means of pursuing the purpose of the organization. And the person may change their means of fulfilling their responsibilities at any time to adapt to different situations or changing organizational environments. Thus the focus of post-industrial organizations is on purpose,

Capra contends that all systems have three basic characteristics: pattern, structure, and process. The "pattern" is the conceptual framework for the system. For a dead system, the pattern is the blueprint or design. For a living system, the pattern is embedded in the DNA – in the genetic code. The pattern is constant, unchanging, or fixed for both dead and living systems. A machine always is a machine and a person always is a person.

The "structure" of a system is the physical embodiment of the pattern. For dead systems the structure in the thing you see or touch – the machine, the building, the road, etc. For a living system the structure also is the thing you see or touch – the plant, the animal, the human body, etc. The primary difference between dead and living systems is found in the structure. For dead systems, the structure is fixed – it can never change on its own. It may wear out or it may be rebuilt or redesigned, but it has no autonomous ability to change. A machine keeps its same physical structure for all of its useful life. However, the structures of living systems are in a continual state of change. Living things are born, they grow, they mature, they reproduce, and they die. This continual change is a fundamental characteristic of life.

"Process" also is different for dead and living systems. Dead systems perform their purpose or tasks by linear sequential processes of input, transformation, and output. The fundamental purpose of dead systems is to transform some input into a more useful or desirable output. A person rides a bicycle to transform kinetic energy embodied in leg muscles into mechanical energy that turns the wheels and propels the bike down the road. An engine transforms the kinetic energy in fossil fuels into mechanical energy to perform some useful task. Input results in output.

Living systems perform useful purposes or tasks as well, but living processes are self-renewing and self-regenerating as well as functional. Living processes are circular and simultaneous rather than linear and sequential. Living systems operate in cycles of birth, growth, and reproduction – before death. Function and regeneration occur simultaneously for living system – they renew themselves in the process of fulfilling their purpose.

In summary, dead systems are designed to accomplish some purpose according to some blueprint or pattern, they function for the duration of their usefulness, and then they are either redesigned or discarded. On the other hand, the pattern and purpose of a living system in embedded in its genetic makeup, in its DNA. The processes of a living system include both functional usefulness and self-renewal. Living systems continually change and renew their structure in accordance with the unchanging genetic code embedded in their DNA.

The industrial organization is a dead system. Post-industrial paradigms are living

The post-industrial organization doesn't have to be reorganized, restructured, or liquidated by some outside force. It is self-making, self-renewing, and even self-liquidating. Once a living organization loses its ability to adapt sufficiently to fulfill its purpose it will reproduce itself as another organization. Or if its purpose is no longer relevant to society, the post-industrial organization quite simply will die. Unlike the industrial organization, a living organization has no fixed structure to keep it on "life support" long after it is "brain dead."

The corporate industrial organizational structure evolved to meet the apparent needs of the industrial era of economic development, but the industrial era is rapidly coming to an end. New economic activity – investments, jobs, income – is not being generated in the industrial sector of the economy, but is rising from post-industrial technology, information, and service based enterprises. New economic activity is not being generated by the large, industrial firms of the past, but instead by small entrepreneurial enterprises which employ a handful to a few dozen people. The old industrial firms still exist, but they are not the source of true innovation or new economic growth.

While many of the large technology and service based businesses have adopted the old industrial organizational paradigm, most top managers now realize that the industrial organizational paradigm has become obsolete. They are desperately seeking some way to make their organizations more dynamic and flexible without having to discard entirely the archaic structure of which they are a part. The world is changing at an accelerated pace and they are falling behind. Today's corporate managers are like the southern plantation owners of Civil War days who knew that slavery was a thing of the past, but they were simply unwilling to give up their familiar way of life without a fight. The new information based firms, regardless of size, have all but abandoned the industrial model of hierarchical command and control. And smaller businesses of all kinds are finding it more effective to focus on purpose, principles, and people rather than structure, functions, and positions.

Organizational Structures in Agriculture

Agriculture was industrialized last because it was poorly suited for specialization, standardization, and centralization – the requirements of industrialization. Agricultural systems are living systems. As a consequence, industrialization of agriculture has generated fewer benefits and has created more negative environmental and social side effects than has the industrialization of any other industry. Agriculture is just entering the final stage of industrialization – corporate consolidation. However, most of the rest of the American economy already is moving into a new era of post-industrial development. Hopefully, the industrial era in agriculture will be brief – for the good of all concerned.

takeover of agriculture and the government's lack of willingness to maintain competitive markets are but the natural consequence of past agricultural policies.

A prerequisite for restoring competitiveness of agricultural markets will be a fundamental change in public policy, first to remove the subsidies for industrialization and then to provide incentives for changing to a paradigm more appropriate for the organization of living systems. To achieve this objective, the policy process should adopt a living-systems approach as well. New agriculture policies should spell out clearly the purpose of the legislation and the principles that must be pursued for the legislation to be effective. The rules and regulations should be dynamic and flexible allowing them to be adapted to different situations and to the ever-changing economic and natural environment. In the future, meeting the letter of the law should never be considered adequate or sufficient; complying with the principle will be the only acceptable evidence of compliance. The focus should be on empowering people of principle to fulfill the purpose of the law.

Conclusion

Moving from the industrial to post-industrial organizational paradigm will be not quick or simple – neither for corporate agribusiness nor for government. Both are locked into a hopelessly out-of-date system that is essentially beyond their control. However, it is unrealistic to expect that competitiveness will be restored to agricultural markets, or to any other markets, unless and until society breaks free of the grip of the industrial organizational mentality.

Change is inevitable, and society will continue to transform itself as it enters a new, post-industrial era of human progress. The primary question is whether this will be an orderly evolutionary process of logical and reasonable change or instead will be a revolution sparked by some economic or social catastrophe. Policies that address symptoms without addressing cause will bring society no closer to real and lasting change. The relative magnitudes of the tasks will likely result in far more efforts being focused on restoring competitiveness of agricultural markets, a symptom, than on changing the industrial organizational agricultural paradigm, the cause. However, the most optimistic results from such efforts will be a temporary relief from the symptoms. A lasting cure can be achieved only by removing the cause – by changing the organizational paradigm.

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A Theory of Agrarian Antitrust[79]

By Jon Lauck[80]

Antitrust cases involving agricultural markets require a unique set of considerations. Unlike other industries that may not have existed at the time of the passage of the Sherman Act, agriculture maintains a special status as an industry that heavily influenced passage of such legislation. The Congressional response to agrarian concerns indicates that farmers were specifically considered as a group that suffered or could suffer antitrust injuries. Such a status partially explains the continued clamoring in agricultural circles for antitrust action to address the economic woes of the farmer.

Antitrust law, particularly in recent decades, has failed to consider its agrarian grounding. By incorporating the economic theories of the Chicago school into its analysis, it has failed to take structure as a serious factor in decision-making. As a result, non-economic considerations advanced by Congress such as decentralization have been spurned, contributing to a persistence of economic concentration in many sectors of the American economy. Consequently, the monopsonistic relationship between some sellers and buyers, a structural consideration of particular importance to farmers, has not been widely recognized by the courts.

In the future, courts should weigh the agrarian origins of the antitrust laws and the importance of structural factors when deciding antitrust cases. In so doing, courts can elaborate on recent developments in antitrust law, mostly outside of the agricultural context, which question the usefulness of Chicago analysis. By applying the information analysis of the Kodak decision, courts can take into account the power differential between farmers who lack information about market conditions and large processing firms who have more information than any other entity in the market.

The possession of information is also a component of "sophistication" analysis, which does not naively assume an equal footing for market actors, but recognizes that mom and pop often exist within markets alongside a multi-billion dollar multinational firm. Such a firm possesses bargaining power over those who sell to it, explaining why some courts allow the merger of large sellers when a "power-buyer" is present in an adjacent market. It also explains why a few courts have considered the existence of monopsony power. The emergence of "post-Chicago" antitrust analysis allows for greater consideration of the particulars in antitrust cases.

protection, the antitrust statutes should be interpreted where possible to strengthen farmer bargaining power.[81]

While an agrarian theory of antitrust has applications in all areas of antitrust law, it has particular relevance in merger analysis. The Sherman Act was motivated by a concern about mergers and their impact on levels of economic concentration.[82] Similar concerns motivated passage of the Clayton Act twenty-four years later,[83] which embraced merger regulation as a method of stopping economic concentration in its "incipiency before consummation."[84] Still concerned with concentration levels and the frequency of mergers that compounded concentration, Congress passed the Celler-Kefauver antitrust amendments in 1950, prohibiting corporate mergers the effect of which "*may* be to substantially lessen competition."[85] Congress again intended the merger provisions to serve as a "prophylactic measure"[86] which could "cope with monopolistic tendencies in their incipiency,"[87] choosing to focus on "probable harm [to competition] rather than actual harm."[88] The Congressional mood is even reflected in the title of the law, a self-proclaimed "*Anti*merger Act."[89]

In the 1960s, courts met Congressional hopes for a restrictive merger policy. In United States v. Philadelphia National Bank, for example, a merger was found to be presumptively illegal if it caused a "significant increase in [market] concentration."[90] In United States v. Von's Grocery, the Supreme Court disallowed a merger between firms that would have had a mere 7.5 percent market share.[91] In Von's, the Court sought to "prevent economic concentration in the American economy by keeping a large number of small competitors in business."[92] In subsequent years, after the adoption of the merger guidelines by the Department of Justice, merger cases continued to focus on structural considerations such as market share.[93]

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81 William N. Eskridge, Jr., *Public Values in Statutory Interpretation*, 137 U. Pa. L. Rev. 1007, 1032 (1989) (noting a "special rule of statutory interpretation [which] is not stated as such in any of the [Supreme] Court's decisions but can be discerned from their overall pattern: Statutes affecting certain discrete and insular minorities—'Carolene groups' shall be interpreted, where possible, for the benefit of those minorities").

82 Phillip Areeda & Donald F. Turner, *Antitrust Law* ¶ 901, at 2 (1980) ("[I]t was a series of mergers, virtually monopolizing several leading industries, that was primarily responsible for the passage of the Sherman Act"); Grant, Dahl et al, at 16 ("It was the rampant merger activities of the railroads and, later, the oil companies that prompted the original antitrust legislation at the turn of the century").

83 Cargill, Inc. v. Monfort of Colorado, Inc., 479 U.S. 104, 124 (1986) (concluding that the Clayton Act was passed "because Congress concluded that the Sherman Act's prohibition against mergers was not adequate") (J. Stevens, dissent).

84 S. REP. NO. 698, 63rd Cong., 2d Sess. 1 (1914).

85 15 U.S.C. § 18 (italics added).

86 United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 597 (1957).

87 S.Rep. No. 1775, 81st Cong., 2d Sess., 4-5 (1950).

Unlike the restrictive merger policies of an earlier generation of cases, however, the current inquiry does not end with the consideration of structural factors. Enforcement agencies now extend their analysis beyond concentration levels, weighing a "variety of economic factors" which could determine the anticompetitive effect of a merger.[94] Such factors include the potential efficiencies generated by the newly combined firm[95] and the ease of entry into the merged firm's market.[96] Enforcement agencies do not adopt unique considerations for agribusiness mergers.[97]

Despite greater sophistication in recent years, the economic analysis of mergers has never overcome the shortcomings outlined by Derek Bok in the earliest stages of section 7 commentary. In 1960 Bok maintained that the "the problem of indeterminateness" discussed earlier would undermine any attempts to assess the probable competitive consequences of a merger.[98] The commentary of two of the foremost scholars in the field of antitrust law indicate the subjectivity, randomness, and pure chance of economic analysis in the context of conglomerate mergers, with no apparent irony: "Th[e indeterminacy] problem could be moderated by the use of presumptions. One could, for example, adopt the presumptions earlier set forth. Yet one might remain skeptical; presumptions will not simplify the matter if rebutting economic evidence is allowed. On the other hand, conclusive presumptions could cover far too much. That result might not be cause for great concern if such mergers never benefited the economy, but they sometimes do."[99]

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[94] Chin, at 1171. The merger guidelines of the FTC and DOJ declare that "market share and concentration data provide only a starting point," adding the assessment of "other market factors that pertain to competitive effects, as well as entry, efficiencies and failure." § 2.0 Merger Guidelines.

[95] Merger Guidelines, § 4; Robert M. Vernail, *One Step Forward, One Step Back: How the Pass-On Requirement for Efficiencies in FTC v. Staples Undermines the Revisions to the Horizontal Merger Guidelines Efficiencies Section*, 7 Geo. Mason L. Rev. 133 (1998) ("Early enforcement agency Guidelines treated efficiency claims with great skepticism, but the recently revised Efficiencies Section in the current Horizontal Merger Guidelines clearly acknowledges the potential benefits of efficiencies").

[96] Merger Guidelines, § 3. Malcolm B. Coate, *Evaluating Mergers in Food Industries Under Procedures for Litigation or Regulation*, in Strategy and Policy in the Food System: Emerging Issues, Proceedings of NE-165 Conference, June 1996, Food Marketing Policy Center, Department of Agricultural and Resource Economics, University of Connecticut and Department of Agricultural and Resource Economics, University of Massachusetts, Amherst, at 111 (explaining how food company mergers tend to focus on market definition, market entry, and efficiencies, making no allowance for supplier considerations).

More recent commentators have recognized this difficulty with particular reference to the efficiencies defense in merger cases.[100] Despite alleged advancements in economic theory[101] and the ubiquity of "efficiency" as a justification for business activities,[102] it is still extremely difficult to predict the existence of efficiencies in a merged firm. As FTC chairman Robert Pitofsky has noted, the efficiencies defense is "easy to assert and sometimes difficult to disprove."[103] One court has termed efficiency claims by defendants in merger cases to be "speculative self-serving assertions."[104] Doubts about the competitive consequences of mergers and efficiency claims and the problems of proof that they both present has even crept into the analysis of Chicago school stalwarts such as George Stigler, Richard Posner, and Robert Bork.[105] The most reliable source of doubt about efficiency claims is the poor economic record of mergers.[106] The largest merger of the 1980s, for example, was recently reversed, earning a high rank in "the century's pantheon of financial ignominy."[107]

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[100] Alan A. Fisher and Robert H. Lande, *Efficiency Considerations in Merger Enforcement*, 71 Calif. L. Rev. 1580, 1596 (1983) ("efficiencies still are enormously difficult to predict on a case-by-case basis and . . . balancing problems remain at least as difficult as the courts had anticipated earlier"). The merger guidelines adopted § 4 "Efficiencies" in 1997.

[101] Id., at 1583, 1596 (explaining the efficiency argument as emerging from claims about better information/theory about their effect, especially the work of Oliver Williamson).

[102] Louis B. Schwartz, *Institutional Size and Individual Liberty: Authoritarian Aspects of Bigness*, 55 NW. U.L. Rev. 4, 17 (1960) (criticizing the "hypnotized respect for the efficiency of corporate giants as the modern analogue of the deference paid in other days to the 'divine right' of kings, or the magical powers of wizards. In all ages humanity has attributed to the major temporal powers of its day a mythical sanction which, so-to-speak, legitimates it"). The new term is "synergy."

[103] Joseph Kattan, *Efficiencies and Merger Analysis*, 62 Antitrust L. J. 513, 514 (1994).

[104] FTC v. Butterworth Health Corp., 946 F.Supp. 1285, 1301 (W.D. Mich. 1996), aff'd, 121 F.3d 708 (6th Cir. 1997).

[105] Bok, at 258, fn 133 (noting that even Stigler wanted to draw a line against mergers which create 20 percent market share or more); RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 112 (1976) (concluding efficiencies measurement to be "an intractable subject for litigation"); Kattan, at 520 (explaining that the evidentiary problems with efficiency analysis "led then-Professors Posner and Bork, the two most influential exponents of the Chicago School's efficiency-based antitrust analysis, to argue against recognizing any kind of efficiencies defense"); Stephen Calkins, *Economic Concepts and Antitrust Analysis: A Critical Reexamination*, Panel Discussion, 56 Antitrust L.J. 91, 95 (1987) (explaining that "several scholars are starting to question the basic assumption that mergers generally enhance efficiency—the assumption that provides much of the popular and intellectual support for a liberal merger policy").

[106] Joseph Brodley, *Proof of Efficiencies in Mergers and Joint Ventures, 64 Antitrust L.J.* 575, 576 (1996) (noting a "recent review of economic studies [which] concluded that projections of merger efficiencies were 'surprisingly and consistently inadequate' and that, despite near-unanimous predictions of future profit, fully 60-80 percent of mergers were unsuccessful ex post"); SULLIVAN AND HOVENKAMP, at 824 (noting growing evidence that "firms who have experienced recent mergers actually perform more poorly than other firms in the

Debating the economic effects of mergers also crowds out the consideration of other policies undergirding the anti-merger provisions of the antitrust laws. In passing the Celler-Kefauver amendment in 1950, Congressional action was premised on concerns about economic concentration and the tendency of mergers to further increase concentration.[108] Congress was concerned about the effects of concentration on personal freedoms, the disappearance of small businesses, and the impact of concentrated economic power on democratic institutions,[109] and "efficiency was of small concern."[110] Failing to consider non-economic concerns undermines the broader purposes and concerns of the statute.[111] The prominence of these considerations led courts in the 1960s and 1970s to condemn mergers, despite possible efficiencies.[112] Judicial deference to Congressional concerns about mergers contributing to economic concentration was wise, especially in light of the inability to confirm or deny the presence of economic efficiencies.

A merger analysis that devolves into irresolvable economic theorizing and fails to weigh structural considerations undermines agrarian antitrust. By not considering concentration levels per se, the importance of the overall bargaining context is diminished. The calculation of economic outcomes—which often solely involves a debate over the potential for price

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service their debt and have tried to reduce their debt either by divesting, restructuring their debt, or returning to public ownership").

[107] Bryan Burrough, *RJR Nabisco, an Epilogue*, N.Y.TIMES, March 12, 1999 (explaining the spinoff of R.J. Reynolds tobacco from Nabisco); See also, *A Disastrous Merger* (editorial), N.Y.TIMES, Feb. 12, 1999 (explaining the failure of the BMW-Rover merger: "The lesson of BMW should remind them that mergers often do not work out as planned, and that savings are easier to anticipate than to realize"); Albert A. Foer, *Making Antitrust Tougher; Playing Monopoly*, The New Republic, April 12, 1999, at 16 (noting that in 1995 "when the Union Pacific and Southern Pacific Railroads wanted to merge, they projected huge efficiency gains. Within a year after the merger, however, the new railroad was plagued with logistical problems").

[108] Bok, at 234-5.

[109] Bok, at 236 (explaining the "sociological arguments" underlying the legislation: "The ill effects of big business on initiative and individuality were forcefully described. There were arguments that concentration narrowed the opportunity to have one's own business, depressed local initiative and civic responsibility, and diminished the scope of entrepreneurship by forcing small businesses to become ever more subject to the dictates of large concerns").

[110] Fisher and Lande, at 1592; Bok, at 318 ("There is little basis for concluding that the achievement of lower costs as such should give rise to favored treatment under section 7. The possibility of lower costs was brushed aside in the legislative deliberations and there is every reason to believe that Congress preferred the noneconomic advantages of deconcentrated markets to limited reductions in the cost of operations").

[111] Bok, at 247 ("Nevertheless, it seems abundantly clear that 'competition' meant far more to Congress than prices, costs, and product innovations. Hence, where economic doctrine is to be applied, it must be a doctrine which takes account of the broader range of interests which Congress had in mind if the statute is to be fairly interpreted"). Id., at 305 ("Section 7 was amended for the purpose of achieving and safeguarding the values expressed in the

increases—and the consideration of efficiencies also indicates a decidedly pro-consumer bias in merger analysis, offering little or no opportunity to consider the negative impact of a merger on suppliers. A possible component of an efficiencies defense, for example, is that a merged firm will be able to maintain "bargaining advantages" over other economic actors.[113] Such an argument implicitly recognizes that those who sell to a large firm resulting from a merger will often be at a disadvantage, but fails to consider the impact on suppliers as an autonomous factor in merger analysis.

A stricter merger policy in the past could have made a critical difference to the industrial structure of farm product buyers.[114] In the early part of the century, the food industry was defined by numerous small firms that started to grow larger and more powerful in the 1920s, partly through merger.[115] In the postwar period the concentration concerns became more pronounced as the number of food manufacturers dropped by over 50 percent from 1947 to 1972.[116] In the mid-1960s "an avalanche of mergers broke loose in the U.S. economy"--"merger mania,"[117] and from 1971-1975 food-tobacco manufacturing firms made 25 percent of all large manufacturing acquisitions.[118] A.C. Hoffman, an early pioneer in the field of competition in the food industries, claimed that "[n]ever before in the history of capitalism [had] such great aggregations of economic power been created."[119] The abandonment of Warren-era merger

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113 Brodley, at 581.

114 Bruce W. Marion, *Government Regulation of Competition in the Food Industry*, 61 Amer. J. Agricultural Econ. 178, 180 (February 1979) ("There is rather convincing evidence that the Celler-Kefauver Amendment has affected and can still significantly affect the structure of markets if it is vigorously enforced"). Marion also notes that most antitrust activity in the chain from farmer to consumer takes place in manufacturing and food retailing, with "little interest until recently in producer-first handler markets." Id., at 181; Willard F. Mueller, *Market Power and Its Control in the Food System*, 65 Amer. J. Agricultural Econ. 855, 858 (1983) ("Given the modern corporation's insatiable appetite for growth by merger, the absence of strict prohibitions on horizontal mergers would doubtless have led to much greater concentration in most food retailing and manufacturing markets").

115 A.C. Hoffman in Bruce Marion (ed), THE ORGANIZATION AND PERFORMANCE OF THE U.S FOOD SYSTEM (1986), xix-xxv.

116 Marion, "Government Regulation," at 181.

117 Russell C. Parker, *Antitrust Issues in the Food Industries*, 58 Amer. J. Agricultural Econ. 854, 856 (1976) ("The increase in aggregate concentration with the largest food manufacturers is strongly related to mergers. When food company mergers were examined in 1966, it was found that were it not for mergers the combined share of assets of the fifty largest food manufacturers would have declined between 1950 and 1965...Since 1965...mergers have eliminated a significant percentage of the remaining number of independent medium-sized and larger food manufacturers"). Russell also notes that "FTC analysis [in 1966] of detailed product data for the twenty-five largest food manufacturers indicated that nearly 90 percent of the product areas entered by the companies were directly traceable to merger." Id., at 856. Russell concluded that "Merger enforcement policy probably has more impact on industry structure and performance than any other single area of enforcement." Id., at 858. Part of the problem with using merger policy to slow the growth of food companies is that so many food industry mergers were product

policies by enforcement agencies and the courts, which "virtually [stopped] all but very small mergers by the leading ten food chains,"[120] contributed to the "record volume of food manufacturing acquisitions" in the 1980s.[121] One study concluded that two-thirds of the increase in concentration levels during the 1980s could be explained by mergers and acquisitions, many of which violated the Department of Justice's own merger guidelines.[122]

Throughout this period, very little attention was paid to farmer organization in merger analysis. In Cargill v. Monfort,[123] a major 1980s Supreme Court case involving the merger of the second and third largest beef packers, the issue of supplier interests was not even considered.[124] The controversy stemmed from a lawsuit brought by Monfort against Cargill, the second largest beef packer, which was attempting to acquire Spencer Beef, then the third largest beef packer.[125] Monfort argued that the resulting firm would be able to price in a manner that undermined Monfort economically.[126] The case thus focused on the legitimacy of such an antitrust "injury."[127] The District Court and the Court of Appeals accepted Monfort's argument that Cargill would undercut Monfort's prices to retailers and outbid Monfort for cattle from

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120 Willard Mueller and Thomas Paterson, "Policies to Promote Competition," in Marion (ed) THE ORGANIZATION AND PERFORMANCE OF THE U.S. FOOD SYSTEM, 387; Marion, "Government Regulation of Competition in the Food Industry," 180.

121 Bruce W. Marion, *Government Regulation of Competition in the Food Industry*, 61 Amer. J. Agricultural Econ. 178, 180 (February 1979) (explaining that "[s]ince the mid-70s, the antitrust agencies have relaxed their posture on food industry mergers. A recent surge in mergers by large grocery chains appears to be a direct response"); Sandra O. Archibald, Alex F. McCalla, and Chester O. McCorkle, Jr., *Trends in the U.S. Food-Processing Industry: Implications for Modeling and Policy Analysis in a Dynamic Interactive Environment*, 67 Amer. J. Agri. Econ., 1149, 1153 (1985) ("In recent years, the dominant form of mergers have been conglomerate and concentric facilitated in part by less stringent enforcement of antitrust laws"); *The New Food Giants; Merger Mania Is Shaking the Once-Cautious Industry*, Businessweek, Sept. 24, 1984, at 133 (explaining how food processing companies in the 1980s "took advantage of the antitrust environment, more tolerant of big deals than it has been in decades, to increase their size and marketing clout"); Jon Lauck, *Competition in the Grain Belt Meatpacking Sector after World War II*, 57 Annals of Iowa 135, 147-8, 151-2, 158 (Spring 1998) (detailing the raft of mergers which contributed to concentration in the meatpacking sector and noting that the "slowing of antitrust activities in the 1980s, together with the conglomeration of food processing, remains a concern for farmers given potential abuses of market power and the often disorganized nature of farmers marketing"). See generally, William G. Shepherd, *Causes of Increased Competition in the U.S. Economy, 1939-1980*, LXIV Rev. Econ. and Statistics, 613, 613 (November 1982) (concluding that "[a]ntitrust policies emerge as the strongest single cause of rising competition" in his study of market structure from 1958 to 1980).

122 Bruce Marion and Donghwan Kim, *Concentration Change in Selected Food Manufacturing Industries: The Influence of Mergers vs. Internal Growth*, 7 Agribusiness 415, 427, 429 (1991); Adesoji Adelaja, Rodolfo Nayga, Jr., Zafar Farooq, *Predicting Mergers and Acquisitions in the Food Industry*, 15 Agribusiness 1, 1-3 (1999) (noting

suppliers, causing a "price-cost squeeze" which would injure Monfort.[128] The Supreme Court cited case law requiring that the injury suffered by Monfort as a result of the merger actually derive from a violation of the antitrust laws, not simply the merger itself, and reversed the lower court holdings.[129]

Such a holding is hardly remarkable. The remarkable aspect of the case is the dog that did not bark, the suppliers of cattle to the newly merged firm. More recently, after a decade of agribusiness consolidation and farmer concerns about the concentration issue, an antitrust theory invoking agrarian concerns was not employed by farmers or any other parties involved in a merger of major cereal companies.[130]

One possible approach would be to argue for a return to the Philadelphia National Bank (PNB) standard for mergers in the agribusiness sector. In PNB the Supreme Court stopped the merger of the second and third largest banks in Philadelphia, holding that the combination of

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[128] Id. Monfort alleged that the financial power of Cargill would allow it to carry out the plan long enough to drive smaller competitors from the market. Id., at 114.

[129] Id., at 109 (citing Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477 (1977)). Justice Stevens made a strong case for distinguishing between a § 4 treble damages claim, which should require Brunswick-type injury, and a § 7 claim for injunctive relief, which should only require a "threatened harm." Id., at 128 (J.Stevens, dissent). Monfort's complaint was based on § 16 of the Clayton Act, which only required the showing of a "threatened loss or damage by a violation of the antitrust laws." 15 U.S.C. § 26. The majority did not reach the section 7 controversy since Monfort could not prove the required injury under section 16. Id. at 122. The majority conflated the injury requirements under §§ 4 and 16, holding that they both must involve an "injury of the type the antitrust laws were designed to prevent." Id., at 111. The majority holding relating to injury may also frustrate an agrarian antitrust.

[130] State of New York v. Kraft General Foods.

large firms in a market created an inferential violation of section 7.[131] Such a presumption, the court held, was particularly important in an economic sector where concentration was increasing.[132] A similar presumption in the case of agribusiness mergers would address the historic and contemporary concerns of farmers with the concentrated power of their buyers, a consideration particularly important after the growth of concentration in the last decade. A presumption would begin to compensate for overlooking the impact on suppliers in recent cases such as Cargill v. Monfort. Moreover, the presumption would tip the balance in favor of farmers in merger cases which are prone to inconclusive determinations about economic effects, more faithfully addressing Congressional concerns about economic concentration and the bargaining power of farmers.[133]

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[131] U.S. v. PNB, 374 U.S. at 365. The court also noted the difficulty of reaching a decision given the "complex and elusive" nature of the economic data. Id. at 362.

[132] Id. at 367 ("A fundamental purpose of amending section 7 was to arrest the trend toward concentration, the tendency to monopoly, before the consumer's alternatives disappeared through merger, and that purpose would be ill-served if the law stayed its hand until 10, or 20, or 30 more Philadelphia banks were absorbed. This is not a fanciful eventuality, in view of the strong trend toward mergers evident in the area"). The court noted that the number of commercial banks in Philadelphia had declined from 108 in 1947 to 42 in 1963 and that the concentration level of the largest seven banks had grown from 61 percent to 90 percent during the same time period. Id. at 331.

[133] See generally, Areeda, at 977 (arguing that when confronting the oligopoly question in merger cases, "enforcement authorities will and should ultimately settle toward the more prohibitive side of the academic dispute, for the statute's prophylactic purpose means, I believe, that we should be cautious in accepting the view that even significant concentration within a market is not harmful").

Farmers and Agribusiness: Partners or Competitors?

By Richard A. Levins[134]

I began my career as an agricultural economist in 1974. For most of those years, I have seen farmers and agribusiness corporations acting as if they were partners. "A rising tide floats all boats" has been the battle cry for everything from free trade to biotech to opposing environmental regulations. Farm income problems have almost always been blamed on a chronic imbalance of supply and demand.

> Lately, things have been changing. I have seen several surveys that indicate farmers are starting to question their partnership with agribusiness: what is good for one may not be good for the other. I was especially surprised by a survey I helped with in Swift County, Minnesota, last year. As part of that survey, 62 traditional farmers, most of them in corn and soybeans, were asked to "rate the following groups as to how much you think they care about your survival in these difficult times". One of the groups was state environmental agencies; another was "agribusiness interests (e.g. Monsanto, Cargill, etc.)". State agencies and agribusiness were clear leaders for the honor of having the most farmers answer "don't care at all". One in three rated agribusiness in the lowest category.

What are we to do in a world where farmers and agribusiness compete for a share of the food dollar, rather than work together in mutual self-interest? For one thing, we must fundamentally rethink our farm policies. Our policies have, in general, viewed the farm income problem as one in which the farming sector sits down to dinner at a table upon which a pie has been set. When farm income is low, economists who favor government intervention see the pie as being too small and set themselves to finding ways to make it bigger. On the other hand, more market oriented economists are inclined to address the problem in one of two ways. First, the number of farmers sharing the pie must be made smaller. For another, the farmers at the U. S. table are encouraged, through various export enhancement programs, to dine at the tables set out for farmers in other countries.

Neither traditional commodity programs nor recent "freedom to farm" alternatives have done much to stem the constant complaint of low farmer income. Furthermore, neither approach so much as admits agribusiness exists, much less accounts for it as a place farm profits might be "leaking". In this paper, I propose that we imagine a pie set at a table, only this time there are

Farming Is Not the Whole Picture[135]

When we think of agriculture, we usually think of farming. Farming is an important part of agriculture, but it is not the only part of agriculture. On the one hand, farmers buy seed, chemicals, and equipment from agribusiness interests and rent land from non-farm landlords. On the other hand, farmers sell their products to giant processing companies. These input suppliers and processing companies are also an important, and growing, part of agriculture.

We all know that farmers are trying to increase their profits. There are, in general, three ways they have tried to do this. First, farmers have tried to increase their gross revenue through higher prices for what they sell and higher yields. Second, farmers have tried to cut their production costs by getting more efficient. And, last but not least, farmers have been on the receiving end of huge government payments for several decades. None of this seems to have helped, at least not for long. Farm numbers continue to fall, and farmers continue to complain of low income.

How about the input suppliers and processors? What are they trying to do? Like farmers, they are trying to increase their profits. But the way they do that is often in direct conflict with the actions farmers are taking to increase profits. For example, processors don't make money by paying more for grain. They make money by paying less. On the other hand, seed companies and landlords want to charge more, not less, for the inputs they supply to farmers. Incentives such as these make agribusiness and landlords competitors, not partners, in the farmer's quest for higher profits.

Government payments, in particular, are a difficult case once we allow that there is more to agriculture than farming. If there are only farmers, government payments stay with farmers because there is no place else they could go. But with powerful corporations on either side of the farming sector, each having incentives to advance their own profits at the expense of the farming sector, things could work out very differently. The "pie" is made bigger by government payments, but there is no guarantee that farmers will get a larger share. Government payments to the farm sector could increase farm sector profits, they could be capitalized into the value of land or some other scarce input, they could subsidize the processing industry by allowing the farm sector to operate with lower product prices, or some combination might arise.

To summarize this section, once we admit that agribusiness exists, we can no longer limit our policy attention to profit levels in the farming sector. We must also be concerned with how profits are distributed throughout the agricultural system. There are powerful interests in the agricultural system that want to keep these profits in their own hands, not in the hands of

The Question of Supply and Demand

With economic models that consider only the farm sector, the product of the farm sector is usually regarded as being purchased by "consumers", and these consumers are in turn conceptualized as people sitting down at the dinner table somewhere. In a food system approach, however, farm products are purchased by the processing sector and then converted into consumer products. Farm products are but one of the things necessary to make those consumer products. A casual observer might even question whether farm products are the most important component of final food products placed before consumers. In 1995, USDA estimated the farm value share of a market basket of food products was 24 percent. For bakery and cereal products, the number was eight percent. Looked at another way, the total farm value of food products in 1995 was barely twice the value of the packaging in which those products were sold.

Here, we are considering the demand for farm products at the processing level. In particular, many of the major and most troubling commodity crops such as corn, wheat, and cotton, have no retail demand. Instead, they are purely sold as inputs to industrial processes that yield livestock, sweeteners, bread, and clothing. Plant capacity, not final consumer demand, becomes critical. On the processing side, plant capacity is determined by the long-run investment decisions of very large firms. On the supply side, the ability of the input supply sector to furnish inputs to the farming sector is also determined by capacity. The amount of productive land, the number and size of farm equipment manufacturing plants, and seed and chemical production capacity are all limited in the short run by past investment and policy decisions. Both the input and processing sectors will achieve maximum profits and economic power with maximum capacity utilization. (See Karier for a comprehensive discussion of this.)

With this in mind, we now consider the case of a bountiful harvest in a particular year. This certainly puts processors, that is, those who buy farm products, in an enviable position. There is more product being offered for sale than is necessary to fully utilize existing plant capacity. The balance must be disposed of in other ways, such as subsidized sales in foreign markets or government storage programs, thereby signaling a lower price for the product and consequent higher profits in the processing sector. Meanwhile, there is turmoil in the input supply sector. Less money is available in the farm sector to pay "costs". The public views this as a tragic problem for farmers, and not the bad luck of landlords or other input suppliers, so money is doled out to farmers so they can "pay their bills". In this way, the input supply sector is able to continue to operate at full capacity and no land goes idle, no seed unplanted.

The opposite case is one of a short crop, perhaps due to widespread drought or disease problems. The question of processing capacity now becomes especially important. There may

costs creates the illusion that all is well for farmers. Soon, however, farmers are once again complaining of costs that are too high.

We might also think of the supply and demand for food at the retail level. This is largely irrelevant to the discussion here, especially for major commodity crops. The processors, of course, have to pay close attention to consumer demand in making long-term investments in plant capacity. The processors must also be ever mindful of costs, but farm products were not the only cost facing the processing sector. The non-farm costs paid by the processors also figure into the decision. And, as it turns out, these non-farm costs were estimated by USDA to be four times higher than the farm costs in 1995. A processor would be more likely to pay attention to labor costs ($195.7 billion in 1995) than those for farm products ($114.1 billion in 1995).

Rather than worrying about supply and demand, we should think of warfare among giant corporations, each trying to fully utilize existing plant capacity in the short run and adjust that capacity to fit long-run profit plans. These long-term adjustments in capacity are, most often, brought about by mergers that further increase economic power in the sectors. Who will win these great battles? This is difficult to determine. It may be processors, it may be input suppliers, or it may be some "dirt to dinner" or "plow to plate" vertically-integrated hybrid. One thing is certain, however: The farm sector and a well-intentioned public will be among the losers, and the reason why has little to do with supply and demand.

Some Policy Directions

In my view, the farm income problem is better described as a problem of profit distribution within the system. Failure to recognize this can have disastrous consequences for the farming sector. For example, persistent calls to get the government out of agriculture resulted in the 1996 Farm Bill, popularly known as "Freedom to Farm". The farm sector was to be freed from troubling public restrictions and allowed to compete on a "level playing field". The playing field to be leveled was that of trade barriers between farmers in the United States and other countries. In other words, the global farming sector was to become even more competitive. Meanwhile, the multinational processors and input suppliers went on about their business of mergers and acquisitions in an all-out effort to become less competitive. If the government's goal is to strengthen the farm sector, it set out to level the wrong playing field. Competition lowers profits while economic concentration has the opposite effect.

A second approach, that is receiving more attention as of late, is an anti-trust program aimed at fostering greater competition in the processing and input supply sectors. The idea here is to ensure that all sectors have equal, and very low, economic power. As difficult as

the principal beneficiary. Then, too, if only some agribusiness giants are targeted for anti-trust actions, losses to them may be absorbed by other players more powerful than farmers.

A third approach would accept that, for whatever reason, the largest agribusiness corporations must be of such size to achieve maximum efficiency. If so, the possibility of operating those corporations as public utilities arises. Cochrane (1958) has long ago suggested such a plan, but his thinking was oriented toward the farming sector. Here, public regulation of profits and business practices would be directed exclusively toward the processing and input supply sectors. There could be many variations on this theme, including rent controls on farmland.

A fourth approach would accept that economic power in the processing and input supply sectors leads to higher-than-expected profits. Rather than trying to eliminate these profits, one would try to increase the economic power of the farming sector. Additional profits to the farming sector would come not from government action, but from collective action by farmers to strategically redistribute profits. One such plan for doing this was developed by the Farmer Summit, a group of Midwestern farmers working together to find ways to better their situation without resorting to massive government intervention. In the Farmer Summit view, profits are plentiful in the food system; the farm income problem arises directly from the sector's low economic power.

It would also be interesting to revisit the supply control ideas advanced by Cochrane (1958, 1959) and later placed in historical context by Levins (2000a). Cochrane's plan would have issued production quotas to all farmers in such a way that supply would be managed to avoid surplus production. Unfortunately, all of the attention given the plan regarded its ability to raise prices by limiting supply. (The plan was also roundly criticized as limiting farmer freedom, but that is another story.) As I have explained, price increases from limiting supply do not necessarily benefit farmers. The input supply sector stands ready to harvest any additional profits that might arise. What Cochrane's program also did, however, was create a barrier to entry to farming: without a quota, one could not farm. This never-explored consequence could, if administered properly, have substantially increased the power of farmers to bargain with other sectors.

Conclusion

Should the public choose to continue its long-standing commitment to the independent farmer, one capable of making a decent living, of maintaining adequate numbers to protect natural resources, and of managing the nation's food production, it must take a new approach.

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The Failure of the 1996 Farm Bill: Explaining the Nature of Grain Markets

By Daryll E. Ray[136]

The 1996 Farm Bill, commonly known as Freedom to Farm, was intended to be transitional legislation. The vision was that if we "give the market a chance" there would be no need for restrictive governmental programs that can distort prices and constrain farmers' ability to freely decide which crops they plant. Acting on that vision, the 1996 legislation eliminated all farm program mechanisms that directly support or moderate farm prices or restrain, or in someway affect, planted acreages.

The legislative vehicle for the transition away from governmental programs was a gradual reduction in direct payments to farmers over the seven-year life of the legislation. The stated intent of the legislation's most ardent backers was the total elimination of farm programs, after the 2002 expiration of the legislation, along with the federal budget outlays needed to support those programs.

Price Responsiveness Is the Issue

By its design, the 1996 farm legislation provides a real-time public policy experiment where the farm economy is the laboratory and agricultural producers and consumers are the test subjects. The hypothesis under test is: Without planting restrictions, price supports and other government program interventions, grain producers and grain users will respond to price signals sufficiently to overcome market disturbances and inventory imbalances. For the last seven decades, we could only speculate about how price responsive farmers and users of farm products would be in a free market environment.

Recall that it was the lack of price responsiveness that led to the enactment of farm programs in the first place. During the 1930s, output growth outpaced demand growth causing lower prices. Farmers did not respond by significantly reducing output nor did consumers respond to the lower prices by significantly increasing the quantity demanded. Inventories kept building, and prices continued to plummet. Since the grain markets failed to self-correct, farm programs were instituted.

occurs depends on the responsiveness by grain producers and buyers to commodity prices and production costs.

Agricultural economists have long known why crop agriculture tends to have price and income problems. But since the 1970s that explanation has been drowned out by the very compelling argument that the nature of agricultural markets has changed to point that now the crop sector can adjust rapidly to changes in economic conditions just as the textbook suggests. Yet when unleashed to the open market—free of government program constraints—crop agriculture's adjustments to two years of low prices have not been sufficient to rebalance inventories and raise prices and incomes.

Agricultural Production Does Not Decline with Falling Commodity Prices

> In contrast to other product-producing industries, there is no leading grain producer to balance grain supply to match demand. In fact, each producer's output is so minuscule compared to the sector total there is no perceptible influence at all on industry supply and price. In stark contrast, leading firms are large enough in typical nonfarm industries that they can and do influence product prices by governing supply to match demand.

Unlike nonfarm product-producing industries, crop agriculture does not deliberately plan the production capacity of the sector. In the farming industry, production capacity is driven by technology. Since farmers cannot influence price, the only way they can increase per unit net returns is to slash per unit costs. This competitive struggle to cut per unit costs, therefore, translates into a continual escalation of productive capacity. Farmers clamor for new cost-reducing and output enhancing technologies. Publicly funded agricultural experiment stations and private firms develop the new technologies including higher-yielding, disease-resistant seed strains, improved chemicals for controlling weeds, insects and diseases and more productive machinery. This combination of ready sources of technology and eager innovators ensures the perpetual launching of new technology adoption cycles in agriculture thus continually increasing the production capacity of agriculture.

Nonfarm industries usually maintain sufficient capacity to meet peak demand periods but they pull back on production schedules when demand is slack. If orders fail to keep pace with production and inventories begin to balloon, selling prices may be reduced but usually as a last resort. Rather, the work week is shortened, or workers are furloughed, material purchases are delayed, and production is curtailed. By restraining production, operating costs can be sharply reduced which generally generates a better 'bottom line' than making steep price cuts and trying to move large quantities of output. If the imbalance is prolonged, the firm's highest cost plants

Farmers tend to fully use the productive capacity of their land not only during the crop year but also from one production season to the next. Even when supplies are excessive, individual farmers find it in their best interest to continue full production while readily shifting from one crop to another, where possible. They often find that slowing down farm operations reduces their gross income faster than total costs. Adjustments in input applications per acre may reduce or retard growth in yields somewhat, or land may be converted to less intensive uses but few acres are totally idled. Any contribution toward paying fixed costs including taxes and insurance—after paying out-of-pocket crops expense—beats no returns at all.

The natural tendency of most farmers is to stay in business as long as possible. Farmers are emotionally tied to the land. Also, farmers tend to take the long view. They believe that financial hardships come with the territory, but if you persevere, reduce per unit costs by using the latest proven technologies, be a steward of the land, work hard and have faith in the future, times will eventually get better. Again, the bias is toward producing at full tilt.

When industry capacity far exceeds demand at acceptable prices, both farm and nonfarm firms go broke or reluctantly decide to leave before all their capital is depleted. But the effects are vastly different.

If there are too many tire or tractor plants, the closed plants are offered for sale to some *other* industry. The plants are removed from the industry list. The total size of the industry is reduced in plant capacity and the real property becomes part of a different industry.

But transference of land and buildings to another industry is usually not possible when a farm fails. Housing developments, high-rise office buildings, and shopping centers are possibilities for farms on the periphery of cities and towns. But most farmland is not so ideally located. What usually happens is that another farmer takes over the land, perhaps, at a lower price or rental rate. He adds the land to his existing operation. And, since his methods may be better, the transaction may actually increase the original farm's output but at a lower fixed cost. Unlike the typical nonfarm industry, the size of the farm industry is usually not reduced when a farmer goes out of business. Some marginal farmland may leave, but it produced very little before.

To summarize: farmers tend to stay in agriculture as long as they can, but even if financial bankruptcy forces a farmer to leave, another operator typically takes over the land and keeps it in agricultural production. In another industry, the land and other resources would be shifted to a totally different industry. But since this doesn't happen in agriculture, supply declines very little even when prices for major grains drop by nearly one-half, as they have since

such demand explosion has occurred in the grain market. So what is it about the nature of the demand for agricultural products that makes it react differently than in other industries? Just as in the case of supply, the unique nature of agricultural demand has long been known by agricultural economists, but with the surge in grain exports in the 1970s and 1980s came a more price-responsive interpretation of grain markets, muting the long-established understanding of these markets.

By far, the characteristic that most defines the nature of food demand (feed demand in the case of animals) is that it is absolutely required for life. This fundamental difference between agricultural products and the products of most industries is a positive and a negative for agriculture. On the positive side, every person/animal must be fed so as population increases so does demand. But there is also a negative.

Price is of little consequence in the case of the domestic food market. That does not mean price is not important, it just has little effect on the quantity of food consumed. This gets back to its most fundamental attribute, food, unlike all but a few other economic goods, is absolutely required for life. A person who has not eaten for days—and has money—will pay an exorbitantly high price for food. But once his stomach is full and he feels secure about the availability of food, food prices can be cut by 90 percent and he would buy very little more.

The demand for food at “low” versus a “high” price can be likened to a sponge which continues to soak up water until it is saturated but, once it saturated, it makes no difference if the sponge is in a small pail or a large lake—no more will be absorbed. Food tends to be close to the saturation point at all price levels, especially when compared with most consumer goods.

There is a striking difference in how price changes affect the quantity demanded for nonfarm versus farm products. The demand for nonfarm goods is generally more responsive to price. For example, when first introduced, VCRs were priced well above $1000. When most of the development costs had been recouped and economies of scale had lowered per unit costs, the industry greatly increased revenue and profit by lowering its price. Selling 20 million units with a margin of $100 beats selling 1000 units with a margin of $800.

When demand increases by a larger percentage than the price reduction, demand is said to be price elastic. A product is price elastic if a percentage change in price (say, one percent) causes the quantity demanded to change in the opposite direction by a greater percentage (more than one percent). Thus, to an elastic demand, a fifty percent reduction in price must generate more than a fifty percent increase in the quantity demanded.

This lack of response in quantity demanded in agricultural markets to price changes (i.e., this price inelasticity) means that, to clear the market following a surge in output, price must decline dramatically to offset buyers inherent unwillingness to buy more. Food (and hence agricultural) demand is very rigid. Ideally, there should be a shock absorber effect such that additional output would move through the market with a relatively small price decrease and, conversely, a relatively small price increase would significantly reduce product sales following a crop shortfall. This shock absorber function is accomplished in many markets, but much less so in agriculture. Instead, an over expansion in supply causes extreme farm price and income declines. As consumers learned in the 1970s, prices also go up dramatically when agriculture supplies become low.

Export Demand Expected to Increase with Declining Prices

The perceived influences of exports on the farm economy is one of several forces that have driven farm policy changes over the last two decades. In an attempt to improve price competitiveness in international markets, farm policy shifted from supporting crop prices through market intervention to supporting incomes with direct payments.

While earlier legislation contained some export-related policies, the drop-off in exports during the early-to-mid 1980s and concurrent price and income problems set the stage for legislation in the 1985 Farm Bill, which was especially designed to expand crop exports. Support prices were reduced by about one-quarter initially. In the case of corn, by 1990, support prices were reduced by nearly forty percent using a combination of moving averages of market prices and the discretion of the Secretary of Agriculture. Since the 1996 Farm Bill, with the implementation of the loan deficiency payment program (LDP), "support prices" no longer support prices. Their current major use is to determine LDP rates.

By lowering prices for program crops, several things were expected to happen.

- In the short-run, by being more price competitive, the U.S. would increase its export share as importers purchased more from us and less from other suppliers.
- In the longer-run, in addition to further increases in our market share, the size of the world export pie would increase. With lower prices and time to adjust, importers would consume more and, if they produced the crop, produce less.
- Export competitors would respond to the lower prices by devoting fewer resources to agriculture and producing less for the export market.

The overall expectation was that lower prices would drive demand growth and increase U.S.

three crops. While there is significant year-to-year variation, trend for all three crops is down. For comparison purposes, average percentage shares were computed for three time periods:

- The ten years prior to the 1985 Farm Bill,
- The ten years after the 1985 Farm Bill (covers the 1985 and 1990 Bills), and
- The first four years of the 1996 Farm Bill.

In the case of corn (Figure 1, Panel A), the overall downward trend in the U.S. share of the world export market is evidenced by the 69, 66, and 61 percent average shares for the ten years before the 1985 legislation, the next ten years, and the most recent four years, respectively. Looking year-to-year, the dips in market share in 1985, 1993, and 1997 are especially sharp and occur under widely different U.S. production and price conditions. In the 1985 marketing year, the U.S. experienced record level corn production and the price averaged 40 cents below the previous year, but U.S. share of world corn exports dropped to 51 percent from 64 percent in 1984. Similar U.S. circumstances surrounded the drop in market share in 1997. In 1993, on the other hand, U.S. corn yield and production were down significantly from the past and corn price was about 40 cents higher than the previous year.

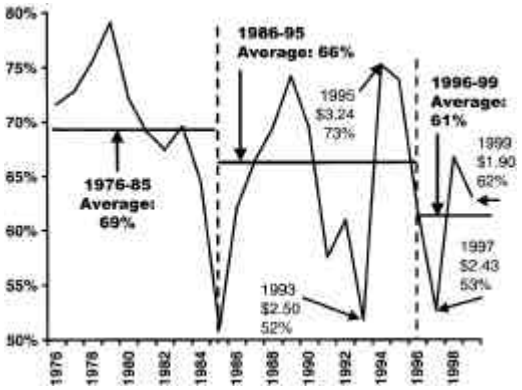
Contrasts in U.S. production/price circumstance also occur during years in which our market shares are relatively large. In 1995, for example, corn season average price was record high at $3.24 per bushel and the U.S. captured a 73 percent share of the world export market. While price is always a factor, it is evident that other events in a given year, especially yield-determined production levels of our export competitors and export customers, are of considerable importance.

Compared to corn, the U.S. average share of world soybean exports (Figure 1, Panel B) dropped considerably further the ten years after 1985 and slightly more than corn the last four years. These numbers do not include meal exports. If they did, the scale would change and the percentage point drops between the first and second period averages would be greater since export market share eroded at a faster rate for soybean meal than for soybeans during that time. The percentage point drop between the second and last period would be slightly less if meal were included. Note that the lowest U.S. market share for soybeans during the 24-year period occurred in 1998, a year when the price was a relatively low $5.00 per bushel. The 1999 expected share is only slightly improved and the 1999/2000 season average price is expected to be record or near-record low for the entire 1976-99 period.

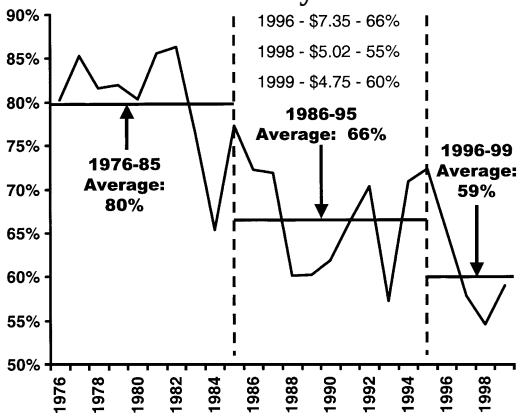
Figure 1, Panel C, Wheat, shows information on the changes in U.S. wheat export share since 1976. The trend is clearly down with the rate of decline steeper than for corn and roughly

Figure 1. U.S. Exports as a Percentage of World Export Volume

Panel A. Corn



Panel B. Soybeans



Panel C. Wheat

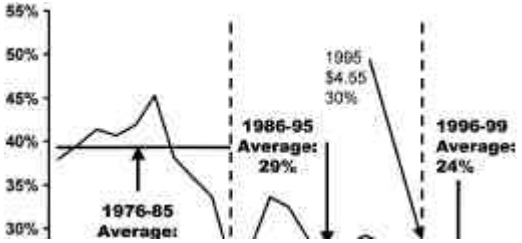
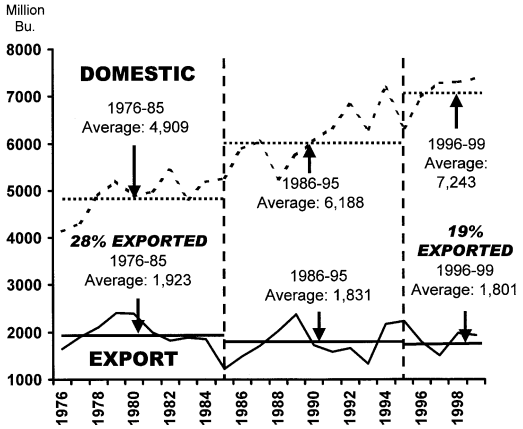
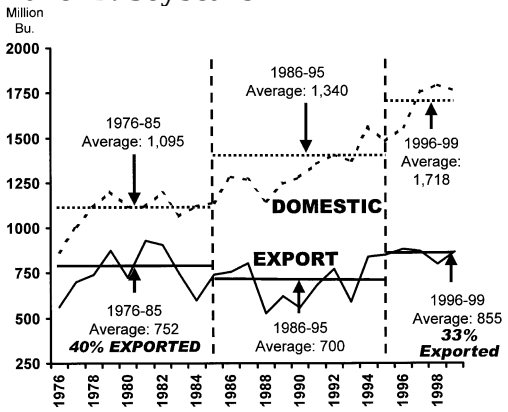


Figure 2. U.S. Domestic and Export Demand

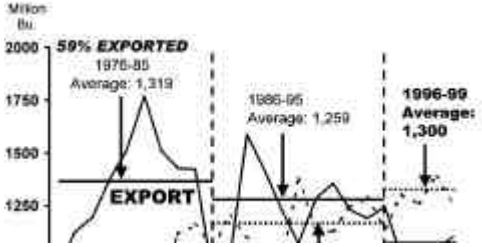
Panel A. Corn



Panel B. Soybeans



Panel C. Wheat



Corn exports trended upward from 1976 to about 1980 and then flattened out. Domestic demand, on the other hand exhibits an upward trend over the full period. The average for domestic corn demand for the 1996-99 period is 2.3 billion bushels above average domestic use during 1976-85. On the other hand, the average of corn exports for the last period, 1996-99, is 122 million bushels less than the average for the first period, 1976-85. During the first period, 28 percent of corn use was exported. By 1996-1999, exports accounted for 19 percent of total corn use. Even if corn fed to export-bound livestock and livestock products is taken into account the same picture remains.

Soybean domestic demand increased over the full period and at a significantly faster rate than soybean export demand. Domestic demand averages for the 1976-85 and 1996-99 periods increased by 600 million bushels while export averages increased by 100 million bushels. If soybean meal equivalent of soybean exports were included in the calculations, the export curve and averages would be scaled upward and the domestic curve and averages would be scaled downward but, since domestic soybean meal use has increased faster than exports over the analysis period, the same general pattern would remain. Just as in the case of corn, adjustments to account for livestock exports have not been made but doing so would not change the overall comparison of domestic versus export demand growth.

Average wheat domestic demand increased by 400 million bushels between 1976-85 and 1996-99 while export demand averages between the two periods decreased by nearly 300 million bushels. During this span of time, export demand and domestic demand switched places. Exports exceeded domestic demand by 400 million bushels, on average, during 1976-85 but for the 1996-99 period, exports averaged 300 million bushels less than domestic demand.

Since the mid-eighties, grain demand has been driven by domestic demand, not exports. Does that necessarily mean that exports could not take off again like they did in the 1970s? No, but the fundamentals that drive worldwide grain supply and demand do not point to exponential growth of grain exports in the next few years, although in ten to thirty years they may. Of course, a series of weather or other events could provide relatively short-lived surges in export demand at anytime. Clearly, changes in farm legislation beginning in 1985 did not offset the tangle of political, sociological, and economic factors that influence the U.S. grain export market.

But, what the last fifteen years have taught us is that lower crop prices do not cause competing exporters, including Canada, the European Union, Brazil, Argentina, and Australia to fold up shop and give the United States their market share. Just as in the U.S., total crop acreage in competing countries declines very little in response to lower prices. When U.S. prices drop, our competitors quickly lower their selling prices for crop exports, as well.

An additional factor in the case of importing countries is that most of them import agricultural products because they have to—not because they want to. If they can reasonably produce it themselves, they probably will. Thus, following a price decline, importing countries may not increase their imports of an agricultural product significantly, even if it now costs more to produce it themselves than it costs to import it.

It's one thing to depend on another country for television sets or some other nonessential item; it is quite another to depend on another country for something that must be consumed everyday to sustain life. As difficult as it may be to accept, in the case of food related products, price advantage often loses out to political and non-price considerations.

Governments of nearly all countries intervene in farm markets. For many countries, especially those that have experienced food shortages, wars, and other instabilities, short-term economic distortions caused by market factors are dwarfed by longer-term considerations. These may include the preservation of the country itself, domestic tranquility, and economic and political independence.

The WTO and other trade organizations will have some successes in freeing trade. Freer trade should be actively pursued and yet it is probably naïve to think that these countries will implement a wholesale withdrawal of support for their farm sectors. When it comes to food and those who produce it, it is very likely that countries will use traditional means as well as imaginative new ways to protect the availability of one of the most basic requirements for life and those who produce it.

Therefore, there seems to be no reason to believe that the U.S. is about to begin a sustainable export boom in the near future. An increase in exports is unpredictable since each of the last three booms involved significant political events and/or decisions. There also is no reason to believe that, by following a low price policy, the United States will be any more successful in the future than it has been in the past in recapturing export levels and export shares like those generated at the height of the last boom. Finally, just as is true for domestic supply and domestic demand, the nature of export demand for food and agricultural products is different from the nature of demand for products that are not essential for life.

This realization about the nature of the demand for crop exports has been a gradual and painful process. Among the reasons for the extended learning curve are the suddenness of the last grain export explosion in the 1970s through the mid-1980s. Another reason is that many of the non-price and political considerations that affect grain exports only originated and intensified a relatively few decades ago, following World War II.

Given this inability of the market to self-correct quickly, Freedom to Farm, as an experiment, may show that the unfettered market does not consistently generate politically acceptable incomes. Farm payments by the federal government hit an all time record in 1999, even though the premise of Freedom to Farm was that it would eventually reduce to zero the overall governmental outlays to agriculture. At the same time many farmers are in increasingly difficult financial condition.

The thing farmers like best about Freedom to Farm is the freedom to switch their acreage from one crop to another. Even though flexibility has not guaranteed farm prosperity, statements are made that suggest planting flexibility should carry the day, trumping all other considerations.

In the final analysis, after stripping away all the "only ifs" and side issues, whether or not setting grain agriculture "free" will result in a prosperous crop sector hinges on the price responsiveness of crop agriculture. Any farm policy must take into account the lack of price responsiveness in crop agriculture and crop agriculture's continuing ability to overproduce. For timely market self-correction to occur under free markets, production must decline significantly with a price drop and/or demand must increase significantly after a price drop. Evidence to date (and logic) suggests that decades-long conventional wisdom that both the aggregate supply and demand for grains are relatively unresponsive to price, or price inelastic, appears to still be true.

A Short History of Agricultural Institutions

By Mary Summers[137]

It is time for the American people to reclaim what should be some of our noblest institutions: the Department of Agriculture; the land grant universities; the experiment stations; the extension service; and our nation's farm programs. Conceived in commitments to enhancing the lives, the labor, and the land of the vast majority of Americans who were once farmers, these institutions have in recent decades all too often furthered environmentally destructive forms of industrialized agriculture that have driven farm families off the land. These institutions increasingly work only for the giant corporations that dominate more and more of this nation's food production and distribution business.

Our country desperately needs new dialogues between farmers, consumers, farmworkers, scientists, nutritionists, and responsible leaders in business and politics about how best to rededicate these institutions to the well being of the American people and an environmentally and economically healthy farm economy. In our effort to initiate such a dialogue, we begin here with a brief sketch of the people and movements that shaped our national agricultural institutions in the belief that many of their goals and aspirations continue to represent the foundations for a better future.

The Origins of Agricultural Institutions

Our agricultural institutions were established in difficult times. Congress authorized a national agricultural bureau and the Morrill Act with its land grants for state colleges in 1862 during the Civil War. It passed the Hatch Act funding a system of agricultural experiment stations in 1887 and gave the Department of Agriculture cabinet status in 1889 in the midst of great farmers' uprisings. The Extension Service was established in 1914 at the beginning of World War I; and it was in 1932 in the depths of the great depression that Congress passed the first Agricultural Adjustment Act, the beginning of contemporary farm programs. These periods of division and desperation were also times when many Americans fought hard to establish a more perfect union, a union that would better honor the hard work and aspirations of American citizens.

fairs and farm papers with a focus on the products, soils, and markets of working farm families that they began to win any significant state funding for agricultural societies. The opposition of Southern planters continued, however, to make the creation of any **national** agricultural institutions virtually impossible.

In the decades before the Civil War in the North, where many reformers argued that the government could and should "serve the people," campaigns for "people's colleges" urged state support for the education of the "industrial" classes: the farmers, "mechanics," and their children, who seldom made their way to the colleges that had always educated "the professional classes." Several state legislatures followed Michigan's example in establishing a state agricultural college. In Washington, however, President Buchanan's veto supported by Southern Congressmen twice prevented Congress from authorizing the use of land grant funds to establish such institutions throughout the country.

In part as a result of such opposition, proposals for state sponsorship of agricultural science and education became increasingly associated with "free labor" critiques of plantation agriculture. Plantation owners recklessly exploited the soil, northern reformers declared, just as they did the labor of other men; but free men and women working their own land were committed to keeping their soil fertile and making their farms and homes as productive as possible. Free men and women would, therefore, work hard to acquire all the tools and assistance that science and education could give them. "Popular education, our Peculiar Institution" was a slogan that underlined the difference between the political commitments generated by plantation agriculture and household production on family farms. Students from Michigan State carried it on a wagon, decorated with hoes, axes, and shovels, when Senator William Seward arrived in Lansing with the Lincoln campaign in 1860.[138] It was not until after the South had left the union, that a national agriculture bureau (dubbed by Lincoln, the "people's department") and the land grant colleges were finally established: institutions that together with the Homestead Act embodied the Republican party's commitments to a political economy based on the free labor of men and women on their own farms.

After the Civil War the Grangers, Greenbackers, Farmers' Alliances, and Populists fought for a government that would abolish economic monopolies and insure that farm families benefitted as much from the great changes of the new age as industrialists and entrepreneurs. The land grant colleges became battlegrounds over what sort of curriculum best met the mandates of the Morrill Act "to promote the liberal and practical education of the industrial classes." Despite the great hopes that had been invested in the idea that agricultural colleges would improve the lives and the living of people who worked the land, most agricultural education in this period consisted of rote learning from a handful of European textbooks. Such courses seldom attracted

The Battle for the Agricultural Colleges

The Grangers succeeded in wrestling the land grant funds away from institutions like Dartmouth and Yale, whose scientists argued that they were under no obligation to work in fields with farmers and their children, because advances in agricultural science would only be made in laboratories. Brown, the University of Mississippi, and the Universities of North and South Carolina all suffered similar losses of Morrill Act funds to "separate" state agricultural and mechanical colleges.

Besieged college administrators often belittled farm groups' goals as fights for "trade schools" for "plough boys and dough girls." But the range of the debate within farmers' movements over how "their colleges" could best serve their sons and daughters became clear, when the Populists took over the Board of Kansas State Agricultural College for a few years in the late 1880's. The new board replaced the former administration, whose emphasis had been on teaching "practical" courses in scientific agriculture and home economics, with men from Harvard, Johns Hopkins, and Cornell, who expanded the college's offerings in economics and the social sciences. They also recruited Helen Campbell, an associate of Charlotte Perkins Gilman, who had written books on poverty and women's working conditions to teach the college's courses in home economics.

The pressure on the land grant colleges to admit and serve the general farming population resulted in many experiments with more democratic forms of education, including coeducation, extension programs, more open admissions policies (which would today be known as affirmative action programs for farmers' children), and the recruitment of men and women with a variety of skills and backgrounds, but often without conventional academic credentials, to teach courses in agriculture and home economics. Farm leaders, faculty, and administrators began to find common ground as they increasingly agreed that before the colleges could begin to meet farmers' needs, there must be much greater investments in applied experimental work that would develop a body of knowledge relevant to local soils, climates, and markets. Both the Grangers and the Farmers' Alliances agitated for the passage of the Hatch Act that provided national funding for the experiment stations that initiated much of the extraordinary growth in the applied agricultural sciences in the next century. Organized farmers' efforts to analyze the causes of farm bankruptcies and depressions played a major role in the development of the analytical and statistical social sciences, especially agricultural economics and rural sociology.

The Battle for the Department of Agriculture

The development and expansion of the Department of Agriculture also reflected ongoing

family...."[139] He not only cut the funds for much of the Department's experimental work, but took out all the telephones in the Division chiefs' offices and cut the salaries of all but five of the women who worked for the Department to $1200 a year or less.[140]

All Morton's cost cutting efforts and the political viability of the principles on which he stood were, however, irreversibly undone by President McKinley's appointee to the office of Secretary of Agriculture, James Wilson, a man who had long represented and worked with the farmers' movements that Morton so despised. Better known as "Tama Jim" after the Iowa county where he farmed, Wilson was a former "Granger" Congressman, who had also served as professor of agriculture and director of the experiment station at Iowa State College (despite his lack of a college degree), after his friend "Uncle Henry" Wallace had organized a major movement among Iowa farm organizations to protest the college's failure to develop a serious program in agricultural science and education. As Secretary of Agriculture for sixteen years under McKinley, Roosevelt, and Taft, Tama Jim became the longest serving cabinet member in American history, supervising a vast expansion of both the scientific and the regulatory functions of the USDA. By 1912 the Department had placed more than 11,000 employees in the field, and its budget had increased from $3.6 million in 1897 to $21 million dollars in 1912.

A producers' theory of value lay at the heart of the Department's expansion: the idea that hard work, that results in products that all the world needs, should be rewarded. Both agrarian agitators and Agriculture Department personnel saw organizing and protecting strong cooperatives and building economic, educational, and state institutions that would provide producers with access to credit, science, and technology as means towards insuring farmers a better return for their labor. Farmers' struggles against the giant trusts that dominated the expanding economy resulted in programs to regulate the stock yards and the grain trade. Department personnel like Gifford Pinchot in the Forestry Service, Hugh Bennet in the Soil Conservation Service, and the chemist Harvey Wiley, who crusaded for the passage of the Pure Food and Drug Law, were associated with ongoing efforts to protect the nation's natural resources and consumers' health in an age when the drive for higher profits seemed to threaten every other value and priority.

The expansion of the USDA also involved ongoing criticisms of the agricultural colleges and the Department's own failures to insure that the sciences they were developing made a positive difference in farm families' lives. Seaman Knapp, the "father" of the Extension service was another friend of Tama Jim and Uncle Henry Wallace, who had participated in farmers' struggles in Iowa. Knapp was convinced that there were a few simple principles that could help many more farmers make an adequate living from the land: improved stock, tested seed, crop rotation, diversification, and account keeping; and he was passionately critical of the failure of

who knew how to work with individual farmers in their fields. Farmers themselves were the best and most convincing teachers for their friends and neighbors; their own fields and farms the best possible "demonstration project." Knapp extended his model to include women extension agents who worked with farm women not only to enhance the comfort, health, and self-sufficiency of their homes and families, but also their financial independence as producers in such fields as egg and chicken production.

There were equally sharp critiques of the Department's emphasis on sciences that served only to increase agricultural production, when commodity prices started to fall after World War I. After the Bureau of Agricultural Economics was established in 1922, the USDA became increasingly involved in efforts to analyze the economics forces that affected farmers' ability to make a living from the land. As the depression deepened, there was increasing pressure for direct intervention in the agricultural economy.

The New Deal Agriculture Department

The sometimes sharply conflicting hopes and aspirations associated with farmers' political movements were most fully realized in the programs of the New Deal Agriculture Department. Organized farmers provided the precedents for --and demanded-- even the most shocking of the New Deal programs: the spring plough-up of every third row of cotton and the slaughter of the 6,000,000 baby pigs in 1933. Marketing cooperatives and farm strikes, the chief organizing tactics of many farm groups, had long served to reinforce the idea that controlling production represented the key to maintaining commodity prices.

As the Agricultural Adjustment Act with its efforts to set a floor under commodity prices with production controls and loan programs was implemented, however, John Simpson, President of the Farmers' Union, and Miles Reno of the Farmers' Holiday Association repeatedly expressed their outrage at the government's implementation of production controls at a time of such widespread poverty and deprivation. The government should rather, they argued, work to expand demand and farmers' purchasing power by guaranteeing "cost-of-production" commodity prices.[141] Sharecroppers, tenants, and farmworkers also organized and dramatized the ways in which Department efforts to aid commercial farmers had often been at their expense.[142]

Spurred in part by these critiques and organizing efforts, Roosevelt and the leaders of the New Deal Agriculture Department including Henry Wallace, Rexford Tugwell, and Under Secretary M.L. Wilson established the Resettlement Administration, followed by the only somewhat less controversial Farm Security Administration, in an effort to address some of the problems of the rural poor. These men also began to argue for planning programs directed

towards promoting an economy of abundance, rather than accepting the grim logic of an economy of scarcity. They were increasingly attracted to the idea of making good nutrition for all Americans a unifying theme for the nation's farm programs, "binding together all interests in agriculture, and outside agriculture ...in a new agricultural policy, and a policy in reference to low-income people."[143] With encouragement from Wallace and Wilson, agricultural economist Howard Tolley made the Bureau of Agricultural Economics the corner stone of efforts to move beyond the emergency programs of the Agricultural Adjustment Act to promote economic and land-use planning programs directed towards the goals of good nutrition, soil conservation, and a full employment economy. As steps towards these goals, the Department promoted programs for free school lunches and a food stamp plan.[144]

The expanding programs of the FSA and the BAE brought to a head many of the underlying conflicts of race and class that had often been ignored or over-ridden in earlier drives for equality for agriculture. Much of the leadership of the American Farm Bureau Federation, for example, whose own organization had in large part been built by the Extension Service's efforts to promote the education, mobilization, and economic well-being of farmers, went on the offensive against programs to extend similar services to sharecroppers and farmworkers. Cotton planters, organized into the newly forged Cotton Council, were outraged by what they correctly perceived as the desire of many of the leaders of the FSA and the BAE to dismantle the structures of racial and economic exploitation associated with plantation agriculture. Working in alliance with southern and western representatives of plantation agriculture and agribusiness, these groups used the annual hearings of the House Agricultural Appropriations Committee in the mid-1940's to accuse these agencies of such crimes as paying clients' poll taxes, allying with the CIO, the NAACP, and consumers, and insisting that imported Mexican labor be paid a minimum of thirty cents an hour. In the context of these relentless attacks, the Truman administration finally agreed to abolish the Farm Security Administration and to stop most of the BAE's sociological research in 1946; its economists were to be confined to statistical and fact finding work, aimed only at improving the accuracy of crop and livestock reports.[145]

Faced with unrelenting attacks on their budgets and motives, many of the more innovative Agriculture Department personnel left the government's service. Efforts to promote mass consumption and expand international trade --programs that the BAE's economists had regarded as a means of guaranteeing a full employment economy and a better, more stable living on the land -- became for many policymakers ends in themselves, divorced from any commitment to meeting the needs of farmers or workers, much less the rural and urban poor.

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[143] Citation from M.L. Wilson, The Land, vol. II, No. 4, 309, in Russell Lord, The Wallaces of Iowa. (Boston: Houghton Mifflin, 1947), 386.

Post New Deal Agricultural Policy

Jamie Whitten, a Mississippi Congressman and cotton planter, who helped to lead the attacks on the BAE in 1946, became chairman of the House Agricultural Appropriations subcommittee in 1949; he remained in this position until 1994 (except for the few years of Republican control of the House in the mid-1950's). Whitten functioned for more than forty years, according to The Almanac of American Politics, as "a kind of permanent Secretary of Agriculture."[146] Jamie Whitten and his allies succeeded in quite literally rewriting the Department's mandates and institutional history. Their deep resentment of agrarian New Dealers' efforts to forge alliances with consumers and workers obscured the major role played by such alliances in the free soil/free labor movement that established the Department and its expansion throughout the Progressive era. Historically the Department had played a critical role in the first government efforts to protect birds, forests, and watersheds; but Whitten was particularly ferocious in his attacks on environmentalists. After the publication of Silent Spring, he published That We May Live (1966), a book in defense of pesticides as "an absolute necessity to our way of life." Under Whitten's leadership, cotton, one of the most environmentally costly crops, remained the most financially expensive of all Federal agricultural subsidy programs.[147]

Whitten called himself a New Dealer because he supported programs that protected commercial farmers from drops in commodity prices and catastrophic crop failures. After the Congressional Democratic Caucus began to elect all committee chairmen by secret ballot, Whitten also began to regularly lead fights against cutbacks in the food stamp program--a favorite of Congressional Democrats and the black voters in his district, if not of Whitten himself before 1975.[148] Whitten's methods of operating, however, reinforced cynical views of all such programs as pawns in a log-rolling game designed chiefly to preserve government handouts to agribusiness. As any coherent sense of the Department's goals was lost or defeated, policy makers were increasingly left with little but abstract notions of market efficiency as the sole principle on which to construct conceptions of the public welfare. And the lobbying efforts of companies like Monsanto and Con-Agra helped to guarantee that market efficiency became increasingly identified with a capital intensive, industrialized agriculture that was not only environmentally destructive, but resulted in more and more farm bankruptcies, whenever commodity prices fell.

The Modern Era and the Future

The result of these trajectories was what we saw in the 1980's: family farmers fought to restore some of the commitments of the New Deal farm programs to a more environmentally and

Farm Act with its promise to eventually dismantle the nation's farm programs. But the results of "freedom to farm" have been only further farm bankruptcies and increased agribusiness concentration.

Our nation has lost so many farmers that we can no longer rely only on their voices and movements to remind us of what we as a people once knew: that there is a value to maintaining our farms, our soil, and our watersheds; a value to helping men and women make a decent living from working on the land; a value to healthy food and cooperatives and farmers' markets; a value to standing up to the giant corporations that have sought to dominate every aspect of our economy for so long --and now seem so close to complete success. It is not yet too late for all of us who share these beliefs and concerns to work together to establish agricultural policies that will work to affirm these basic values.

There is no denying that our national agricultural institutions have aided and promoted the industrialization of American agriculture, in part at first in efforts to help farmers make a better living from the land, but increasingly in recent decades because they too have been dominated by priorities set by agribusiness. Rather than dismantling or dismissing these institutions, however, we need to remember the hopes and aspirations that were once invested in them and the powerful force for change that they have been and can be. Undoing the harm that has been done by industrialized agriculture and once more taking up the fight for a healthy, sustainable farm economy are challenges as great as any of those faced by America's farmers in the nineteenth century. We need all the help that their legacy can give us, as we take these challenges on.

CAFO Operations and the Destruction of Agricultural Communities

By William J. Weida[149]

Introduction

There is a strong link between rural community viability and food policy. Conventional family farms cannot exist without the support of a viable agricultural community. Rural communities must thrive if non-corporate food policy is to remain an option. Hence, the most damaging effect of concentrated animal feeding operations (CAFOs) is their destructive impact on the agricultural communities that support conventional farms.

The Certainty Of Unfavorable Regional Impacts From CAFOS

The central issues of CAFOs initially seem to be ones of price and efficiency. However, the real issues are ones of information and information control. As Jones notes, "[u]ntil greater transparency of information in economic signals between [agricultural] levels occurs, there is a strong incentive for producers to develop formal partnerships through cooperatives, joint ventures, or vertical arrangements."

These ventures create two contracts of interest when a CAFO enters a region:

1. A legal contract with the CAFO's organization where information is equally shared and where the motives of all players are a consistent and singular search for profit, and
2. An implied contract between the community and the CAFO where asymmetrical information exists.

It is this second contract that is of interest in the following pages.

When a CAFO enters a region, it strikes a bargain with the community in that region. This implicit contract is usually formed around stated, not written, promises of jobs and

incentive for the CAFO to shift costs between the two contracts based on each party's access to information about those costs. The party with the least information about costs – the region – is most likely to have costs shifted in its direction.

Local, state, and national laws affect the ability of CAFOs to control information about their operations. These laws predetermine the physical relationship between a CAFO and a region.

These laws are usually based on the critical assumptions that:

1. All agricultural operations are similar to the conventional, closed systems that previously dominated agriculture.
2. Animal waste, as a natural product, while annoying, is essentially harmless, and not as toxic as human waste.

When a CAFO enters a region it encounters a set of rules based on these assumptions. The rules are generally structured to control a type of agricultural production whose inputs and waste byproducts are not representative – either in quantity or chemical composition – of a CAFO.

At issue here is not whether the CAFO can make an implied contract with the region. Instead, the point is that this contract is being defined around incorrect assumptions and on asymmetrical information. This context heavily favors the economic cost-shifting interests of the CAFO. Specifically, the implied contract with the community is likely to work in only one direction – to increase the profits of the CAFO by shifting the operating costs of the CAFO either to the region in which it is situated or, through some mechanism of pollution migration, to another region further removed from the CAFO. The certainty of this outcome follows directly from existence of asymmetrical information about the operation of the CAFO and from the motivation of the operators of the CAFO.

In theory, a CAFO permitting process should insure that residents of a region are fully informed about all aspects of a CAFO's proposed operation. If this was true, there would be no asymmetrical information. However, the nature of the permitting process – which is also based on the incorrect assumption that all agricultural projects are conventional in nature – allows the CAFO operator to acquire an operating permit while withholding significant amounts of information from residents of the region by:

1. Claiming that its methods of handling waste are proprietary.

5. Using a series of short-term, turn-key projects with no record of performance or reliability.
6. Rushing the permit approval process so regions lack the time to do research on the proposal.

As a result of all these factors, the county or other permitting agency inadvertently creates what economists call a moral hazard, a process that occurs when one party is better informed than the other about the characteristics of the transaction. By definition, a moral hazard leads to lower efficiency and higher costs to the least informed party (in this case, the region hosting the CAFO.)

Having created a moral hazard, the region is now faced with a second economic condition called adverse selection. Adverse selection means that there is an incentive for additional producers who also want to shift costs to the residents of the region to migrate to the area. The only recourse for the region is monitoring by knowledgeable regulators. However, the factors that make it difficult to get information on proposed CAFO operations during permitting also complicate attempts to monitor CAFOs, a condition called low separability. Separability is "...the feasibility to see who has done the work. With low separability, the principal [in this case, the region] will face either high control costs or intense cheating." The history of CAFO operations shows that cheating is likely.

The Fiction of CAFO Efficiency

Insofar as animals and their confinement facilities can be treated as machines, the CAFO philosophy is that they can be "improved" through the addition of capital to the production process. This "improvement" comes through standardization of hog and chicken breeds and sizes, control of growth rates and animal disease, and increased specialization of workers, managers, and animal raising facilities.

If this were all there was to a CAFO, one would expect efficiency to continually increase as more capital was added to the operation. The maximum efficient size of CAFOs would be extremely large because efficiencies would cause average costs to continue to drop. This is not the case. Efficiency peaks at relatively low levels of firm size because the real cost of waste disposal rises sharply after one exceeds the ability of the land to absorb animal waste. When all economic costs of CAFOs are considered, two economic concepts, diseconomies of scale and diminishing marginal returns, both mandate that the maximum efficient size should be relatively small.

Diminishing returns also limit the efficient size of CAFO operations. When units of a variable resource (hogs) are added to a fixed resource (land) one reaches a point where the marginal product (the revenue gained from the last hog added to the operation less the cost of the last hog added to the operation) of the variable resource begins to decline. The real costs of responsibly handling animal waste closely link the point of this decline to the ability of the land to absorb and recycle the manure generated by the CAFO. Diminishing returns to scale quickly lead to costs of animal confinement that overwhelm any benefits of CAFOs.

Since these two concepts imply that large CAFOs operate at an inefficient scale, why have CAFOs been able to capture a large and increasing share of the hog market over the last thirty years? There are three reasons: First, the costs of dealing with animal waste from CAFOs have been successfully avoided by CAFO owners and shifted to the surrounding regional population as health problems, traffic, social problems and pollution (odors, chemical and particulate air pollution; chemical, pathogen, and particulate water pollution). These costs are neither paid by the CAFO nor are they included in the price of the products they market.

Second, CAFOs have been major beneficiaries of industrial and agricultural tax breaks and industrial and agricultural subsidies. To achieve this, CAFOs have been designed to take full, economic advantage of the assumptions about agriculture listed in the previous section. These assumptions allow important costs of CAFO operations to be either omitted or understated in their profit and loss calculations. They also allow a CAFO to take advantage of important tax and investment opportunities that, in effect, subsidize its operation. These factors artificially inflate the amount of profit available from CAFO operations, generate short term gains for investors, and draw more investment into CAFO operations.

Third, CAFOs have benefited from a degree of vertical integration that appears to be in violation of US antitrust law. The US packing industry is a regulated industry governed by the Packers and Stockyards Act of 1921. Most credible experts conclude that this Act specifically prohibits the vertically integrated marketing structures, i.e. meatpackers owning CAFOs or contracting with them outside the open market, in which CAFOs generally participate.

These three advantages, arising not out of the market place but through disproportionately favorable government policy treatment, have been able to compensate for declines in CAFO production efficiency due to diminishing returns and diseconomies of scale. Unfortunately, these same advantages also contribute to regional economic decline.

Unfavorable Regional Impacts

2. CAFOs receive numerous tax reductions because they are treated both as industries and farms. These write-offs significantly decrease the amount of taxes paid to a region while CAFO operations create social, health and traffic costs that the region must finance.
3. Vertical integration requires purchases from and sales to other members of the vertically integrated company, not from local producers and suppliers.
4. The CAFO leaves behind the costs of its odor, health risks, surface water pollution, ground water pollution and in the long run, its abandoned lagoons and facilities. This directly effects both long and short run economic development.

Suggested Remedies

CAFOs can only compete with conventional agriculture when they can shift the costs of their operations to others, when they receive heavy direct or indirect government subsidies, and when they enjoy a vertically integrated structure that restricts the ability of conventional producers to market their goods. Thus, these factors must be controlled to keep the CAFO from degrading the long-term economic health of a region. To accomplish this, both lawmakers and local citizens should insist that:

- Agribusiness corporations accept responsibility for all the environmental impacts of CAFO production at their contract farms. These corporations should be legally liable for violations of permits, waste management plans, and other environmental harm to neighbors or the general public.
- No CAFO be permitted unless air-tight, written contracts cover every phase of CAFO operations as well as every promise, statement of intent, and assurance given to the local region. Further, every contractual element should be bonded. Additional bonds should be required to assure that resources will be available to close and clean up waste lagoons.
- Legislation to deal with agricultural pollution and market problems should be guided by and constructed with input from conventional ranchers and farmers and local communities, not merely CAFO operators, their representatives and representatives of corporate agricultural interests.
- Agricultural subsidies be directed solely toward conventional farmers who responsibly account for all costs of production.
- The US government enforce the Packers and Stockyards Act of 1921.

Conclusion

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Agriculture, Food and Social Justice

By Robert Gronski[150]

Agriculture and food are integral parts of a nation's economic system. Indeed, agriculture is the foundation of a nation's security and liberty. Given that food is essential for life, and that care of the land is crucial for future generations, agriculture and food carry a moral significance well beyond their economic functions. This significance is made evident in situations of hunger, to which our response is clear: "For I was hungry and you gave me food, I was thirsty and you gave me drink" (Mt. 25:35). As the twentieth century ends, the United States is blessed with an abundance of food, yet there is deep pain in the countryside. Rural communities are grappling with a dilemma that threatens to turn the countryside into a land barren of human dignity and hope. Are we witnessing the final days of independent family farms as predominant producers of food? If so, what is our response as citizens and people of faith?

The social and ethical traditions of the United States once celebrated the moral significance of family farms as the seedbeds of faithful communities and democratic society.[151] Contemporary practices of commercial production have scraped away this significance. Economic efficiency claims, not moral considerations, dictate agricultural production and food choices. This has led to a false abundance, because economic models did not account adequately for a host of external costs. As land and water resources bear the ravages of intensive commodity production, and as food safety and security concerns rise, the American public is growing sensitive to how food is produced.[152] A growing number of consumers are looking for new food sources, such as community-supported agriculture and organically-grown foods, as a counter to the economic forces of global agribusiness. Can these urban consumer concerns connect with rural culture and preserve family farms as a way of life?

The past few years have shown once again that family farms are financially and emotionally stressed during a time of strong growth in the national economy. Grocery stores and restaurants are full of food - so where is the food dollar being captured if not by farmers? This is a question of social and economic justice. If this question is not raised by people of faith, then we are at fault for our lack of concern towards the personal worth of farmers and agricultural workers. According to the National Conference of Catholic Bishops, "Economic decisions have

should not reduce agriculture to a mere economic activity; farmers should not be turned into hired labor for giant agri-food companies. Over the past century, Catholic social teaching has progressively addressed the changing structure of agriculture and food production in the light of social justice.[154] There are social consequences to how we till the land and offer food for the table; there are moral consequences to how we hear and take to heart the word of the sower (Mark 4:1-20).

Social Consequences to Food Supply Chains

Catholic social teaching begins with the premise that the human being is created in the image of God. Accordingly, no one is created to serve the needs of the economy; rather, the economic system is meant to serve the needs of people. Any reduction of the human being to a mere laborer, a "commodity" to be bought and sold, violates the sacred dignity reserved for all human beings. The food we eat should be grown and produced in the grace of that dignity.[155] The abundance of food and fiber we reap today was achieved at a cost to a dignified way of life - the family farm. A once highly competitive and widely-dispersed ownership system of farming has been transformed into a highly-concentrated and corporate-controlled one. Modern agribusiness subordinates production to marketing, which relegates farming to first produce profits rather than to feed people.

Conglomerate proponents of "food supply chains" rationalize that those farmers who wish to remain in commercial agriculture will need to enter into production contracts with one of the few agri-food corporations vying for market control.[156] The Organization for Competitive Markets has rightly raised the implication of this policy for the livelihood of open and competitive markets. Church leaders have expressed their concern about the future of independent farms under such a chain system, especially those managed by families who live and work on the land they own.[157] Whereas the history of the United States began with anathema to indentured labor, rural America now braces for modern day serfdom. The economic formation of food supply chains controlled by a few agribusiness cartels suggests that farmers are herded to join food supply chain gangs. This is not the economic grouping appropriate for a democratic society, nor one based on human dignity.

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[154] Martin M. McLaughlin. See "Agriculture" section in The New Dictionary of Catholic Social Thought; The Liturgical Press; 1994. See also Rerum Novarum, 1891 encyclical by Leo XIII, when the Holy See first addressed the "social question" of labor and capital. This question, including direct references to agriculture, was regularly reviewed throughout the 20th century: Quadragesimo Anno, 1931; Mater et Magistra, 1961; and Centissimus Annus, 1991.

During a most trying period earlier this century, national leaders looked to agriculture to pull the country out of the throes of the Great Depression. Catholic rural life leaders were also proposing a new agrarian landscape - "rural roads to security" - in order to counter the industrialism, corporationism and centralization of the countryside which they felt were antagonistic to democracy and liberty.[158] As noted above, similar circumstances exist today for rural communities, and likewise we can consider a response as proposed by Church leaders then. They recognized, as we do now, that the individual person can only succeed in making agriculture a way of life through the formation of economic groups.[159] But rather than corporate-managed food supply chains, a new food system needs to be built that is consistent with the social and ethical traditions of this country. The Catholic Bishops state resoundingly: "The ever present temptation to individualism and greed must be countered by a determined movement toward solidarity in the farm community."[160]

A Food System founded on Social Justice

Social justice pertains to the structural requirements that uphold human rights and respect the dignity of each person. Moreover, social justice "is designed to evaluate and redirect those public institutions of society that hinder the achievement of the common good."[161] The notion of social justice allows the Catholic church to offer a set of principles or social values which support the dignity of human life and the common good, which embraces the integrity of creation in all its diverse forms. These principles can be applied to the structural requirements for a just economic system or, in this case, a just agriculture and food system. Without care for these principles, the church prophesizes a degrading and socially unjust system built on the structures of sin. Without care, people fall into the temptation of greed and gross individualism, acting in the marketplace without regard for the common good or care of the earth.

In order to maintain an open, fair and competitive market system, economic groups and actors need to abide by social values along with market values. Catholic social teaching identifies the following values or attributes for economic groups:

* Respect for Human Dignity: First and foremost is the democratic and religious virtue of respect for human dignity. Democratic, because we are founded on the belief that we are "created equal" and each person is "endowed with certain inalienable rights." Religious, because we are created in the image of God, and any diminishment of that dignity violates Judeo-Christian convictions.

* Voluntary: Farmers and farm families should be able to exercise choice and act according to their own will. Conversely, absolute authority should not be imposed by the state or

powerful financial interests. Contracts must be entered into freely. Viable farming options should be available so that farm families are not dependent on a single buyer in their area.

* Equitable: Economic groups are equitable when a person's position is not based on rigid class determination. Land and property ownership should be widely distributed to meet the needs of all markets, local and global. Social policy should induce as many people as possible to become property owners. While economies of scale have their advantages, the principle of equitability counters the slide into concentrated ownership, whether land or capital, and the creation of a food cartel system.

* Cooperative: Various cooperative arrangements among farmers, between farmers and consumers, and between rural constituencies and state/local governments offset the aggressive market tendency to dominate all productive actors. Cooperation, rather than competition, becomes a fundamental value for economic groups. While property and earnings still remain in the hands of individuals, market efforts are directed towards group solidarity rather than domination. Local food producers and rural communities intrinsically understand cooperation, whereas global food conglomerates and corporate boardrooms speak a language of competition and acquisition.

* Concern for the Common Good: The democratic notion of human rights requires us to be well-mannered and respective of others. The religious notion of the common good asks us participate fully in society for the benefit of all. An economic group should not press people into extreme individualism or repressive collectivism. The common good means to live in communion and community, existing with and for others. Although often hidden from the sight of the consuming public, farm families, agricultural field laborers and food process workers are part of the common good.

* Care of Creation: Natural resources and the environment, essential for our human needs, are also respected in their own right as part of creation. Land, water and other resources are meant for the common good and for generations to come. Caring for God's creation is an act of stewardship, which implies that legal title to a portion of the earth does not confer absolute ownership of it. The earth belongs to God alone, but humankind is given a sacred place in Nature: "Those who are God's stewards on the land are also co-creators with God in guiding the land's productive power and in conserving the land's natural gifts."[162]

* Family-Centered: Farmers are connected through economic groups with consumers; on the farm itself, the farmer is best identified as a family member. Farming is a way of life carried out by families, and farm communities should be many families living on the land, not hired

Renewed Agrarian Landscape

Using the attributes above and keeping a clear eye on social justice in the economic system, the outline of a renewed agrarian landscape takes form. Such a landscape will appear in different forms based on the food or fiber grown and the natural resources of a region. Yet a naturally appealing landscape takes shape when social justice joins rightfully with economic efficiency.

* Moderate-sized farms operated by families on a full-time basis thrive throughout the countryside. The U.S. Catholic Bishops place this as a high priority for agricultural policy in Economic Justice for All. Their reasoning is that genuine social and economic value is best maintained in a wide distribution in the ownership of productive property. "The democratization of decision-making and control of the land resulting from wide distribution of farm ownership are protections against concentration of power and a consequent possible loss of responsiveness to public need in this crucial sector of the economy."[164]

* Local landscapes offer a diversity of social, cultural and agricultural practices. This counters the concentration of monocultural livestock or grain production over great swaths of land. More than this, the countryside retains the presence of families living on the land in communion with others and the natural environment. Biodiversity creates balance and offers more opportunities for rural development and recreational amenities.

* Main Street revives and cultural life once again thrives in small towns and rural communities. The greater number of independent farm producers, the likelihood of more businesses, services and organizations in the community. The greater number of families, the more schools, social activities and cultural events.

* Urban visitors are a welcome sight in the countryside as they form local relationships with farmers. They visit farms where they regularly buy produce and other fresh farm products. School children make educational visits; retired adults take recreational trips. Urban and rural cultures come together in respectful social exchanges.

* Farm practices and effective stewardship are seen as one in the same. Stewardship is a contribution to the common good and involves the care of natural resources entrusted to us by God for the benefit of all. Farmers fulfill their obligation to the common good by participating in conservation programs and practicing long-term, environmentally sustainable agriculture. Society in general shows support through "green payments" and other appropriate incentives.

Depression, still ring true today. The ring is understandably dull, and indeed may be a death knell in the minds of many. But in the hearts of a few, a struggle continues for renewed agrarian landscape based on social and economic justice. This paper has listed the attributes and appearance of a new food system; it now concludes with a possible avenue to reach the vision.

Whereas agrarian proposals in the past called for a detachment of farm communities from the forces of industrialization - or what may be called "rural roads to self-reliance" - a more pragmatic course of action is urban-rural crossroads to solidarity. Urban and rural communities working together can act to develop the economic community and political representation, founded on the basis of human dignity given to us by God, to preserve agriculture as a way of life. In some parts of the country we are beginning to see urban-rural linkages among environmental, consumer, labor and farm groups. Faith groups are also coming to these crossroads; people of all faiths are beginning to see agriculture, food and the environment as religious issues. They see care of the land and provision of food as moral concerns, and it is fitting they should do so during this Jubilee Year 2000.

During Jubilee Year 2000, we are asked to renew the Earth and turn away from exhausting the resources of Creation. We are asked to forgive debts and to restore land to previous owners. We are asked to return the means of production to as many people as possible. We are asked to bring hope to the disenfranchised. Recall that Jesus of Nazareth stood up in the synagogue of his home town one day to read from the prophet Isaiah: "The spirit of the Lord is upon me, because the Lord has anointed me to bring good tidings to the afflicted; he has sent me to bind up the brokenhearted, to proclaim liberty to the captives, and the opening of the prison to those who are bound; to proclaim the year of the Lord's favor" (Luke 4:18-19). The Jubilee is not merely the recurrence of an anniversary in time; Jubilee Year 2000 once again characterizes all the activity of Jesus.[166]

The new farm and food system advocated by the Organization for Competitive Markets is appropriate in this Jubilee season and rightly follows from the Catholic bishops' call for social justice. Farmers, consumers, state legislators and corporate boards are asked to act for the achievement of the common good. This obligation falls upon all in society: the pursuit of self-interest is no longer a stand-alone choice in our market system. Social justice in the U.S. agriculture and food system will only be accomplished through organized civil activity - through urban-rural crossroads of solidarity.