

# ***The 2002 Farm Bill: Policy Options and Consequences***



## ***2002 Farm Bill: Policy Options and Consequences***

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# The 2002 Farm Bill: Policy Options and Consequences

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# Farm Policy Setting Overview

Ronald D. Knutson, Texas A&M University

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Over the past two decades the level of farm subsidies has been driven by the relative weight of two primary forces – the budget and farm income. When farm income falls below \$ 45-50 billion the economic and political pressures build for more subsidies. Farmers demonstrated in the period 1999 to 2001 that they still base considerable political clout. But during this period the budget constraint was not as obvious. It appears that these two opposing forces are coming back into balance, along with WTO compliance considerations. In addition, there are several forces or “drivers of change” that are impacting agriculture. The following three articles provide a prospective overview of the potential impacts of these economic and political forces whose balance will ultimately be revealed in the 2002 Farm Bill.



# Drivers of Change

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## Introduction

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The 2002 Farm Bill will be debated during a time of dramatic changes in the structure of the agri-food system. Changes in the economic structure of production agriculture and in those industries aligned with agriculture throughout the food system (stretching from farm input suppliers to retailers) are being driven by economic and social changes that are often far beyond the control of farmers or other members of the food system.

These drivers of change are altering the political and economic characteristics of the agricultural and food industries, thereby influencing the alternatives available to policy makers and stakeholders in the Farm Bill debate. These characteristics further determine the consequences of each policy alternative (i.e., the potential “impact” of each policy alternative and the probability that a given alternative will accomplish its intended objective). These drivers of change also affect the policy agenda, which selects the issues that will be considered during the Farm Bill debate. This paper will examine some of the drivers of change that are affecting the food and fiber system, and the impact of these drivers of change on

the policy agenda and policy alternatives that will be considered during the upcoming Farm Bill debate.

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## Drivers of Change Reshaping the Agricultural and Food System

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At least four major forces of change in the food system deserve examination. Each of these drivers is affecting the structure of the food system and the relationships between food and agribusiness firms and farmers. As a result, the impact of these drivers of change on public policy is an important consideration.

**Changing consumer food demands.** The first driver of change is the changing demands of American consumers for food products. As U.S. consumers continue to enjoy rising affluence, their demands for food products continue to change. Along with this affluence comes a reduction in personal time, with many having more money than time. As such, consumer demand for convenience is at an all time high, with a larger share of consumers’ food expenditures being spent on food prepared away

from home (e.g., restaurants and take-out). In addition, this rise in personal income has contributed to a continuing decrease in the percentage of incomes spent on food.

Consumer demand for an expanding variety of food products is also increasing. This is coupled with an increase in the diversity of the U.S. population, including growth in Asian and Hispanic communities. Thus, the demand for food product variety — particularly ethnic foods — is significantly increasing the variety of food products offered to consumers.

As this demand for convenience and variety continues to increase, the marketing bill for the services of food manufacturers, food service operators, handlers, and retailers continues to increase, and the share of consumers' dollars received by farmers continues to decline. This is mainly due to the fact that dollars are placed where consumers perceive value is added in the agri-food supply chain. Value is added in the processing and preparation end of the chain as consumers want to perform fewer of these tasks on their own.

The forces behind these changes (changes in family size and structure, the rise of ethnic populations in the United States, and the increasing share of dual income couples working outside the home, for example) suggest that major social trends will continue to re-shape the food system. Such changes will cause further shifts in traditional consumption patterns (more fresh products rather than processed products, for example, or more meals eaten away from home). These trends ultimately reach the farm level as changes in the demand for specific products (such as increased demand for a larger variety of fresh fruits and vegetables), or for ingredients that may be more suitable for restaurant preparation rather than home preparation.

**Changing technology.** At least three areas of technology will continue to re-shape the food system and the relationships between farmers and food and agribusiness firms. Biotechnology, and the debate over the use of biotechnology, continues to influence production practices at the farm level and the relationship between farmers and other players in the food-marketing channel. Biotechnology continues to change input use at the farm level and also, perhaps, farm size and structure (to the extent that it reduces

some of the labor demands in agriculture). The impact of biotechnology and the potential markets for segregated GMO and non-GMO products, along with the potential impact of biotechnology in creating farm products, will remain one of the most important issues facing the food system in the coming decade. The changes that will be required to effectively segregate such products, along with consumer acceptance of these products, will almost certainly require a change in the traditional marketing and distribution systems that have dominated agriculture and food industries.

Further, biotechnology offers the potential for creating completely new food markets that may satisfy the demand for greater nutritional value in foods. Traditionally, nutritional enhancements have occurred in manufacturing — such as vitamin-enriched breads and cereals, calcium-enriched orange juice, and the new Fit Milk (which boasts more calcium than regular milk). Biotechnology offers the ability to create “designer foods in the field” that would offer similar nutritional enhancements while reducing less desirable traits (e.g., fat or cholesterol) and/or creating new traits (e.g., longer shelf life). The success of such foods hinges on consumer acceptance, but it is clear that biotechnology geared only at improving agricultural efficiencies, rather than providing tangible consumer benefits, is not likely to receive strong support.

A second area of technological change that will continue to affect the food system will be information technology. Changes in computer, telecommunications, and satellite technology are all likely to continually reduce the costs of collecting, analyzing, and communicating information. As a result, relationships between farmers and agribusiness and food firms will continue to change. Agri-food channel members who have information about consumer buying habits — mainly retailers and food service industries — will play a larger role in dictating production and processing decisions designed to satisfy end consumer demands.

At the other end of the food system, information about production practices will provide value and a competitive advantage to the party that is able to maintain the property rights of such information. There will be segments of the downstream system (e.g., manufacturers, retailers, and consumers) that

will pay more for the verification and assurance of product integrity – such as organic or non-GMO certifications, and product traceability. This technology allows consumers to become more knowledgeable than ever about their food product choices, and it highlights real consumer concerns over food safety. These concerns, even if they are unfounded, still impact consumers' willingness to purchase products. Other drivers of change — such as consumers' demand for food safety — will combine with new information technologies to permit more detailed identification of the source and destination of products from the farm level to the consumers' plate.

Technological change has the potential to expand the opportunity for a consumer direct supply chain through the Internet and other mass mailing/local delivery formats which by-pass the retail end of the food system. While Internet grocery providers are struggling lately, consumer demand for convenience will continue to encourage entrepreneurs to find the right marketing mix for this type of service. When (and if) that occurs, the location where products are produced may be of little consequence, since logistical systems can support extremely short delivery times (one-half to two days) across the world. Replenishment systems (e.g., weekly deliveries of milk, bread, etc.) as well as social retail buying situations (e.g., meal ideas and special events) may create two distinct (possibly separate) food channels.

#### **Changes in international market integration.**

A third driver of change in the food system is the international integration of markets. An increasing share of U.S. food production is exported. This trend will increase since consumer demands for more variety, along with the existence of more open markets, is also on the rise. In this respect, the U.S. food system is now international in scope at nearly every level of the food marketing channel.

As markets become integrated across national borders, new policy issues arise and old policy issues gain new dimensions that make policy decisions more complex. The impact of a commodity program on either exports or imports, for example, becomes an increasing consideration for policy makers. Exchange rates and macroeconomic policy, which are well beyond the control of agricultural policy makers and

perhaps beyond the control of any one national government, will begin to affect the food system. Additionally, the already complex areas of food policy, such as food safety standards or environmental regulatory standards, are further complicated when national governments struggle to adopt comparable regulatory systems.

In some cases, international policy considerations may limit the alternatives available to policy makers. Policy makers could determine, for example, that production controls are less effective in an integrated global market than in a relatively closed market in which a small share of production is traded. In such cases, international integration of markets may limit the ability of national governments to make unilateral policy decisions.

**Increasing demand for environmental quality.** The final driver of change affecting the food system is the increasing demand for environmental quality among the public at large. To understand the rise of environmental regulation in the United States, and the likely future direction in such regulation, it is important to consider the role of environmental “goods” among the voting public.

If voters view environmental quality as a good that is similar to another good in the economy — such as food, cars, or housing — then, it is very likely that voters will treat environmental goods (air quality, water quality, availability of wilderness, etc.) as they treat these other goods. Economic theory suggests that when individuals' incomes increase, they will increase their demand for most goods. In a wealthy country, such as the United States, some goods — such as food — may experience only a small increase in demand as consumers' incomes increase, while other goods may experience larger increases in demand. If voters view environmental quality as a good, and if their demand for that good increases as their incomes increase, then they are likely to express their demand for environmental goods by supporting an increasing level of environmental regulation across all industries — including agriculture.

This income effect, which studies of environmental quality and income levels across nations have confirmed to exist, would suggest that the food system, including agriculture, will continue to face demands from society to reduce the

environmental impacts of agriculture. Moreover, if voters' demand for food increases slowly (because consumers will not increase their demand for food when they are already well-fed) while their demand for environmental quality increases more rapidly as incomes increase, the public could be relatively unconcerned about the impact of environmental regulation on the total quantity of food produced.

In such a case, the public is likely to continue calling for stronger environmental regulations, even if such regulations affect farmers' ability to maintain the current level of farm output. This could be particularly troublesome for small farmers who may not be able to bear the cost of complying with new regulations. These small farmers may face far better returns on investment from land development than from farming. If environmental regulations increase the costs faced by these farmers, they are more likely to leave agriculture or to opt for the "greener pastures" offered by real estate development.

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## Consequences

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These drivers of change are likely to have several consequences for policy makers as they consider the future of farm policy. First, the changing structure of the food system suggests that there will continue to be changes in the relationships between farmers and agribusiness and food firms. The increased use of contracting or vertical integration, for example, could result from a number of sources, including changing consumer demands (such as the intention of food processors and retailers to trace food products back to the farm level to assure food safety) or the rise in information technology (which makes tracking of products less costly). By fragmenting food and farm markets, such changes in marketing arrangements may make it difficult or impossible to use traditional policy mechanisms. If an increasing share of grain is sold through contract arrangements, for example, the loss of transparency in market prices makes it difficult for policy makers to use traditional policy mechanisms (such as target prices or loan rates) that traditionally have been tied to open market prices.

A second consequence of these drivers of change is that the integration of U.S. farm and food

markets with international markets may limit U.S. policy makers' ability to make unilateral decisions (for example, U.S. farm program options may be limited by international policy commitments negotiated under NAFTA or the WTO).

A third consequence is that these drivers of change will almost certainly increase the diversity of the farm sector, with the U.S. "farm" sector ranging from large industrial farms to small farms that are little more than rural residences. Such diversity will make a one-size-fits-all approach increasingly outdated and ill suited to address the diversity of policy issues that will be expressed to policy makers.

A final consequence is that the rising demand for environmental quality among voters is unlikely to be reversed in the near future. As a result, environmental policy has probably established a permanent place on the farm policy agenda. The need to design policies that satisfy this rising demand is probably an essential element of any farm bill in 2002 and beyond.

# Political Setting

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## Background

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Based on past experiences, the outcome of farm bill deliberations can be greatly influenced by four factors:

- Congressional leadership
- Administration leadership
- Budget pressures
- Economic conditions in agriculture

With an emphasis on the political setting, this article will focus on the first three of these factors. Another paper in this series provides details the economic conditions within agriculture.

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## Congressional Leadership

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### Shifting political pressures

The often-quoted phrase, “all politics are local” has substantial meaning for farm bill development. The initial positions taken by agricultural constituency

groups are heavily influenced by developments at the local level — in the county and state meetings of farm organizations. If you do not believe in the importance of local influence, reflect on the change in philosophy that has occurred within the American Farm Bureau Federation (AFBF). Only a few years ago, AFBF carried the flag, as much as any farm organization, for free trade and substantially reducing the role of government subsidies in agriculture. If any farm organization was “out front” in supporting the philosophy of the 1996 Farm Bill, it was AFBF. Six years later, and under newly elected leadership, AFBF has substantially moderated its stance on the need for government involvement in production agriculture.

In 1996, when farm prices were generally favorable, there was considerably less local pressure for government support for farmers. It was easier for farm organizations to be for freer trade and less government involvement in agriculture. In 2001, when the debate begins, the situation is significantly different — as reflected in the changed AFBF philosophy.

The local politics of government involvement in agriculture has shifted toward an attitude that accepts the need for farm programs given the liquidity pressure on commercial agriculture. The questions for 2001 are: How far has this shift moved the center

of the farm bill debate? How will this shift express itself in terms of policy proposals, and how much farm support will the budget allow? While the last question may have been answered before this paper is printed as congress will likely substantially increase the baseline support for production agriculture over the next decade, the first two are still up in the air.

This shift is reflected in the report of the 21<sup>st</sup> Century Commission on Production Agriculture which, while still embracing the philosophy of the 1996 Farm Bill, recommended a continuation, even expansion, of government support for agriculture. In addition, at the conclusion of the House Agriculture Committee hearings, it appears that we have unanimous support for increased government involvement through more effective safety nets.

It is this type of pressure, which the new members of Congress face when they return to their local districts and states to discuss farm program issues. It was for this reason that there was little discussion of farm policy issues in the 2000 election. However, avoiding farm policy issues will not be as easy in 2001 and 2002 when the farm bill debate begins in earnest.

### **An Equally Divided Congress**

The writing of the 2002 Farm Bill will be done by the most even split of power between the two parties in the modern history of U.S. politics. While the Senate is nearly equally divided (50 Democrats, 49 Republicans and 1 Independent), the Democrats have, at the time of this writing, control of committee chairs. The Republican majority in the House is equally slim (221 to 212 with two independents). There are at least two important implications from this split:

- The farm bill, like all other legislation, will require bi-partisan support to pass the Congress. Neither party is likely to retain the unanimous support of its members for any legislative action. Consequently, assembling a coalition of members, each of which brings unique constituent concerns and issues to the process, must pass each legislative action.

- The even division of power guarantees that there will be intense competition between the parties in anticipation of the 2002 congressional election. In this environment, Congress and the President are likely to be receptive to the political demands of relatively narrow interest groups that may have an impact on the outcome of elections in individual congressional districts.

### **House Committee on Agriculture**

With the Republicans still in the majority, albeit by slimmer numbers, neither the makeup of the House nor the key leaders have changed significantly. Larry Combest (R-TX) has been the Chair of the House Committee on Agriculture since 1997. Charles Stenholm (D-TX) is the ranking minority member of the committee. The subcommittee chairs also have not changed significantly. The new members of the committee represent much of the same types of districts and commodities as the previous members (Table 1).

The 1996 Farm Bill was decided behind closed doors with the Congressional leadership deeply involved. The 2002 Farm Bill's provisions are being decided in a very different political environment. This will not be so easily accomplished in the 2002 debate because farmers and their organizations will be watching closely due to depressed farm liquidity position. The control issue in 1996 was philosophical — should the United States move toward a more market-oriented policy? In 2002, the question is how to protect a fragile farm economy, while sustaining trade agreement, and recognizing budget issues.

### **Senate Committee on Agriculture, Nutrition and Forestry**

The issues in the Senate are much more difficult to decipher than in the House. The question is how the 50-49-1 split of Democrats, Republicans, and Independent will affect the 2002 Farm Bill. This is an issue that is by no means limited to agricultural legislation. Recent actions that place the Democrats in the leadership will likely pose a different posture



### Senate Agriculture Committee Membership

Tom Harkin, IA Chairman	Richard G. Lugar, IN Ranking Republican Member
Patrick J. Leahy, VT	Jesse Helms, NC
Kent Conrad, ND	Thad Cochran, MS
Thomas A Daschle, SD	Mitch McConnell, KY
Max Baucus, MT Blanche Lincoln, AR Zell Miller, GA Debbie Stabenow, MI E. Benjamin Nelson, NE	Pat Roberts, KS Peter Fitzgerald, IL Craig Thomas, WY Wayne Allard, CO Tim Hutchinson, AR
Mark Dayton, MN	Mike Crapo, ID

### House Agriculture Committee Membership

Larry Combest, TX Chairman	Charles Stenholm, TX Ranking Minority Member
John A. Boehner, OH	Adam Putnam, FL
Richard W. Pombo, CA	Mark Kennedy, MN
Nick Smith, MI Terry Everett, AL Frank D. Lucas, OK Bob Schaffer, CO Saxby Chambliss, GA Jerry Morgan, KS John R. Thune, SD	Gary Condit, CA Collin C. Peterson, MN Calvin M. Dooley, CA Eva M. Clayton, NC Earl F. Hillard, AL Earl Pomeroy, ND Tim Holden, PA
William L. Jenkins, TN	Sanford D. Bishop, Jr., GA
John Cooksey, LA	Bennie G. Thompson, MS
Gil Gutknecht, MN	John Elias Baldacci, ME
Bob Riley, AL	Marion Berry, AR
Michael Simpson, ID	Mike McIntyre, NC
Doug Ose, CA	Debbie Stabenow, MI
Robin Hayes, NC	Bob Etheridge, NC
Ernie Fletcher, KY Charles Pickering, MS Tim Johnson, IL Tom Osborne, NE Mike Pence, IN Dennis Rehberg, MT	Christopher John, LA Leonard L. Boswell, IA David D. Phelps, IL Ken Lucas, KY Mike Thompson, CA Baron P. Hill, IN
Sam Graves, MO	Joe Baca, CA

for the farm bill debate, although the bipartisanship nature of the farm bill debate remains.

The switch to a Democratic majority placed Senator Tom Harkin (D-IA) as the chairman and Senator Richard Lugar (R-IN) as the minority leader, opposite the case for the 1996 Farm Bill debate. While the 50-50 power agreements are likely to hold through December 31. All bets are off come January 1. Current Senate majority leader, Tom Daschle (D-SD) is expected to play a pivotal role in the 2002 farm bill debate, since he represents a rural constituency that always has a strong interest in agricultural policy.

Traditionally, the Democrats in the Senate have tended to lend stronger support for government subsidies and, particularly, for consideration of inventory management and higher loan rate options. Senator Lugar and especially Senator Pat Roberts, who championed the 1996 Bill in the House, will be put in a weaker position of either defending its provisions or proposing modest changes.

### **House and Senate Appropriations Committees**

It would be a mistake to ignore the role of the House and Senate Appropriations Committees as players in the 2002 Farm Bill debate. The new Chair of the House of Agriculture Appropriations Subcommittee is Congressman Bonilla (D-TX), while Senator Kohl (D-WI), is likely to chair the Senate Appropriations Committee. By exercising their power over funding, the Agriculture Appropriations Subcommittees play a primary role in allocating funds to implement farm bill provisions and, in recent years, adding new commodities to the list of eligible producers. The new commodities that have been provided supplemental payments, in addition to those authorized in the 1996 Farm Bill, include onions, hogs, apples, cranberries, peanuts, honey, wool, mohair, tobacco, and dairy. These new commodity interests will now become part of the 2002 Farm Bill debate as they try to obtain a place in the authorizing legislation for AMTA payments and maintain their share of the farm subsidy pie. While the focal point of the 2002 debate will be in Agriculture Committees, rest assured that the members of the Agriculture Appropriations Subcommittees will put in a bid for

writing a new set of commodities into the 2002 Farm Bill provisions.

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## **Bush Administration Leadership**

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While the Office of Management and Budget has always played a key role in coordinating the executive branches position on farm bill provisions, USDA has varied widely in its level of involvement in the farm bill debate. For example, Willard Cochrane, as USDA chief economist, was an active designer and advocate of supply management proposals for President Kennedy. Secretary of Agriculture Earl Butz, on the other hand, asserted that it was unwise for the administration to design a farm bill, but worked like a beaver behind closed doors to seek compromises and cut deals for the Nixon Administration, generally forcing less government. During the Clinton Administration, Secretary of Agriculture Dan Glickman adopted a more hands-off approach.

President George W. Bush was elected with the support of the South and the Great Plains. Although little was said in the campaign about farm bill issues and few promises appear to have been made, it is well known that the Administration is oriented toward freer trade. At the same time, the President has pledged to work with both Democrats and Republicans in designing policies. Whether these factors become reality and carry over to the farm bill will be a matter for historians to evaluate. With the recent Democratic control in the Senate, administration involvement may be essential to getting a farm bill out of the Senate in 2002, and any bill that passes the Senate will require bipartisan support. In both the House and Senate, it may be essential to obtaining the type of provisions and level of subsidies that the administration feels it can live with.

Secretary of Agriculture Ann Veneman, from California, will provide USDA leadership for designing the Bush position on the 2002 Farm Bill. Secretary Veneman is a veteran at USDA, having previously been Deputy Secretary and Administrator

of the Foreign Agriculture Service. With this background, she is expected to continue her strong interest in trade issues.

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## Budget Constraints

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For many years during the period from 1970-1997, it was asserted that constraints on the level of government spending determined the outcome of farm policy debates. Farm program provisions were often designed to achieve the level of spending mandated by the Budget Committees. From time to time, set-aside provisions were included as a means of controlling budget costs, since the government did not make deficiency payments on land that was set aside. Thus, set-aside provisions were used as a means of controlling spending despite the fact that some administrations were opposed to supply management. Loan levels and their impact on marketing loan benefits operate in much the same manner because they are made on the basis of production. The higher the loan level, the greater exposure for increased government spending.

Budget constraints appeared to become a less of a factor in the determination of farm bill provision in the late 1990s when spending soared from \$7.3 billion in 1997 to \$32.3 billion in 2000. This lack of spending restraint has been attributed to a number of factors including:

- Low farm incomes in the absence of high subsidies.
- The existence of a current and projected budget surplus.
- Political factors, including challenges to the presidency and elections.

In all probability, the large government surplus will begin to decline, perhaps as early as 2002, because of some combination of the following factors:

- Increased spending.
- Tax cuts.
- Reduced economic growth.

Given the uncertainty of the budget outlook, it would be unwise to assume that the budget constraint has disappeared as a factor influencing farm policy, and particularly the 2002 Farm Bill.

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## Conclusion

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Enacting a farm bill inherently involves a process of accommodation. Initially this accommodation will be among the commodity and agribusiness organizations that are the most direct beneficiaries of farm programs. Then, the realization sets in that the farm bill has to gain a minimum of 218 votes in the House and 51 votes in the Senate to be sent to the President for signature. The issue then becomes one of how to accommodate the interests of environmental groups and food stamp/school lunch interests to secure the minimum votes required for passage. Whether farmers and ranchers like it or not, this process of accommodation is essential to practicing the politics of coalition-building that is inherent in the farm policy making process. This process also requires accommodation with the Bush Administration, since these interests may not share the Administration's views on a number of key issues.



# Economic Setting Overall and by Commodity

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## Introduction

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The Food and Agricultural Policy Research Institute (FAPRI) and the Agricultural and Food Policy Center (AFPC) briefed the Senate and House Agricultural Committees in February 2001 on the expected status of U.S. agriculture in the coming decade. These projections are based on a continuation of the Federal Agriculture Improvement and Reform (FAIR) Act, policies adopted in the World Trade Organization (WTO), average weather, trend technology growth, and economic conditions as projected by Standard and Poor's DRI.

This combination of factors suggests farm liquidity pressure will continue through the middle of this decade. It is anticipated that net farm income for U.S. agriculture will decline from an average of \$47.4 billion (1996-2000) to \$40.1 billion (2001-2005). In real terms, this would be equivalent to income levels experienced during the financial crises of the early 1980s. The projected financial conditions will certainly be of considerable interest as the debate for the 2002 Farm Bill continues.

Our discussion deals with, first, the global economic situation as projected by DRI; second, global food demand with likely implications for U.S.

trade of grains, fibers, and livestock; third, the supply situation with special attention paid to technology growth and the potential for area expansion in South America; fourth, price implications; and fifth, policy considerations. All are contributors to the expected supply and demand situation over the 2001-2010 period.

### **The Macro Economy: Implications for Global Demand and Trade for Agricultural Products**

Over the 25-year period from 1965-1991, global economies grew at an annual real income (GDP) rate of 3.5 percent. Projections by Standard and Poor's DRI suggest growth at 3.6 percent over the next 5 years — slightly outpacing the previous 5 years of 3.2 percent. This reflection of economic activity implies continued strength from the demand side. Average total tonnage of agricultural crops exported from the United States during 1996-2000 was 144 million metric tons — roughly the same level achieved from 1982-1985. Projections for the next 5 years improve modestly to 161.7 million metric tons. During the 1990s, animals and animal products reflect a much stronger growth rate, with exports more than doubling over the decade. Growth is expected to continue over the coming decade, although at a slower pace.

While global income growth has been positive and is projected at a fairly strong pace, several factors have hampered U.S. exports. Developed economies represented the major growth area from 1996-2000 — in many cases, expanding at 50 to 80 percent more than the pace achieved in the previous five years. Unfortunately, this was not the case for developing countries in the Pacific Rim, which are major markets for U.S. commodities. Their economies contracted substantially and are only expected to recover to 1991-1995 levels by the middle of this decade. Further complicating the trade situation are exchange rates. On a trade-weighted basis, U.S. currency has appreciated 25 percent relative to 1995-2000. For the same period, the U.S. dollar has appreciated about 42 percent relative to our competitors.

The second half of the coming decade suggests continued opportunities to expand global trade with global real income growth projected at 3.3 percent. Many of the developing economies are projected to move back into the growth ranges experienced in the late 1980s and early 1990s. A major concern still rests with projected exchange rates. Although not expected to sustain previous rates of depreciation against the dollar, the rates do reflect a considerable disadvantage for a strong U.S. recovery in world markets.

Additional concern is associated with the more recent rise in energy prices. DRI projections suggest

crude oil prices averaging about \$25 per barrel over the next decade, adding about 20-25 percent to the energy bill in contrast to the last decade.

The outlook reflects a recovery in U.S. trade, but with a declining trade share. Total world trade of crops is projected to increase from 250 million metric tons in 2000-2001 to about 325 million metric tons by 2010-2011. For the same period, the U.S. share of this projected 75 million metric ton growth is only 20 million metric tons, about 27 percent of the overall projected growth.

Feed grains from the United States are expected to continue at around 80 percent of world trade. Stronger competition from European wheat, and expansion of Brazilian and Argentine soybean production results in a gradual decline in the U.S. share of total crop trade.

The picture is much different from the value added point of view. Bulk commodities will likely average \$21.2 billion for the 2001-2005 period, which is slightly below the \$21.8 billion average for 1996-2000. A modest increase is projected for 2006-2010 at \$25.7 billion. Value added products, however, almost triple — moving from an average of \$16.0 billion in 1982-1985 to a projected average of \$42.3 billion for the 2006-2010 period. Even with the continued exchange rate disadvantage, the U.S. clearly benefits from the expansion of global income growth. Total world trade of meats in 2000 (at about

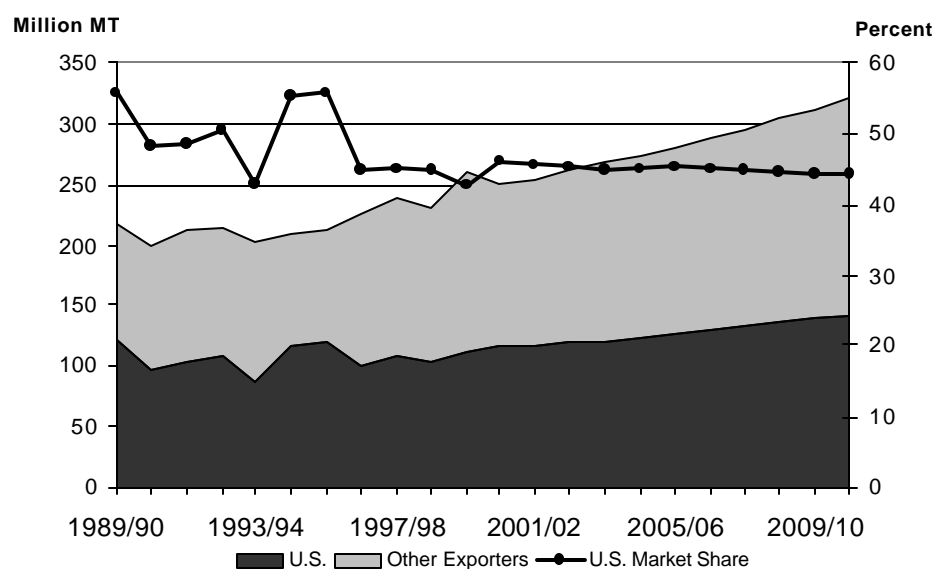


Figure 1: World Crop Trade and U.S. Market Share

9.3 million metric tons) is projected to increase to 12.0 million metric tons by 2010. The U.S. share is projected to increase from 25 to 30 percent. Low projected feed costs will keep the United States in a very competitive position in world markets for livestock products.

### World Supply, Stocks to Use and Yield Growth

The global crop production pattern suggests a gradual but persistent shift in land area across commodities. The area devoted to wheat and rice is projected to remain stable at 370 million hectares throughout the decade. Cotton area ranges between 34 and 35 million hectares. The persistent global income increase over the last 25 years contributes to a rebalance in favor of meats relative to food grains. As a result, global acreage and allocation of land area reflect this pattern. Since 1991-1995, global land area for the 5 major crops listed has increased about 30 million hectares. Over half this area is associated with soybean expansion (16 million hectares). Corn accounts for 8 million hectares of the total increase. Food grains and cotton make up the difference of an additional 6 million hectares.

Accompanying the shift towards relatively more feed grain and high protein area is the potential for expansion of land area and development in South America. Of the approximate 6 million hect

increase in land area over the coming decade, about 3.1 million can be attributed to soybean area expansion in South America. As farmers respond to projected increases in global soybean prices, the expansion is expected to be stronger in the latter half of the decade.

Global yield growth has slowed over the last 10 years in contrast to the 1980s. While optimism exists with regard to the technological potential associated with genetically modified research, consumer attitude in significant importing regions poses a serious constraint on the acceptance of these products. Until this barrier is successfully penetrated, our expectation is that yield growth for the next 10 years will reflect the most recent past. For this reason, we are perhaps more on the lower side of expected growth than many researchers in the industry.

Obviously, this is an area of serious debate and contention. Since our projected rate of yield growth only marginally exceeds the last 10 years, this leads to land expansion as prices begin to increase in the latter part of our baseline projection period.

With demand marginally outpacing production, global stocks are expected to decline moderately over the next decade. With the exception of soybeans, global stocks-to-use relationships are projected to be at historically low levels in the later part of the decade. However, it is important to remember that the high global stock of the 1980s was largely due to

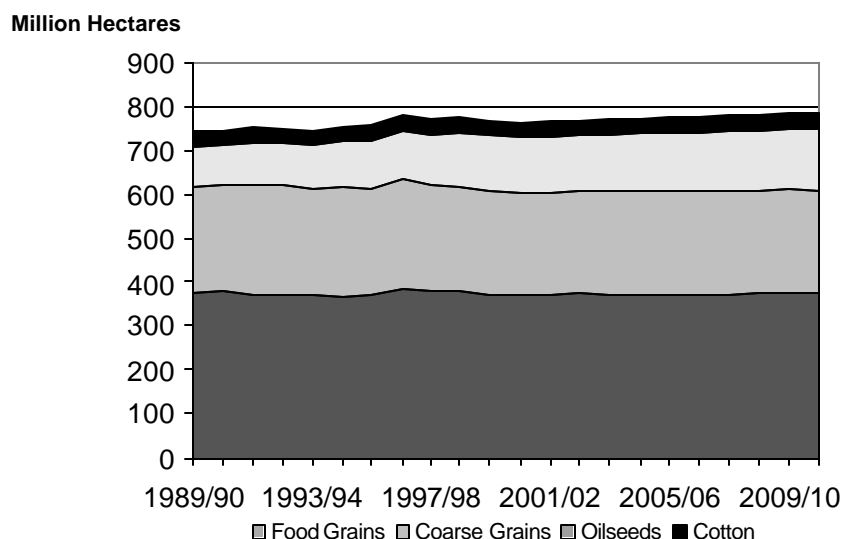


Figure 2: World Crop Area

stocks held in U.S. government programs. In the current environment, the majority of the stocks are privately held. This perhaps helps explain the current stocks/price relationship. Longer term demand outpaces production, and global stocks show a moderate decline. This implies the potential for great price variability with significant upside potential in the latter part of the decade should poor weather, additional demand strength, or a combination of the two, enter global markets.

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## Price and Farm Income Implications

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Crop prices projected for the 2001-2005 period are at, or near, lows experienced over the previous 20 years. The first, and one of the more significant, contributors to the low prices is the rather positive global weather pattern that has been experienced recently. While some regions around the world have experienced drought over the last four years, this has not been the case for primary production areas like the Midwest Corn Belt, South America, and Europe. The second factor is an unfavorable trade situation for U.S. products, reflecting considerable economic pressure plus exchange rate disadvantages in major trading markets. This situation has turned more positive, but current expectations suggest that it may be near the middle of the decade before the full export potential is achieved. Further complicating the situation is the European Union, which due to the weakening of the Euro against the U.S. dollar, is now in a position to sell wheat on the world market without the use of subsidies. For the next several years, they are likely to capture most of the growth in global trade, leaving the United States on a fairly stagnant export path.

Additional pressure on U.S. exports is expected to come from South America. The possibility that a considerable amount of new land can be brought into production (with proper price incentives as well as improvements that are being made in transportation and infrastructure) suggests that South America will play a stronger role in export markets for soybeans

and soybean products in the coming decade. Finally, by design, a change in the U.S. farm program to a marketing loan structure allows markets to clear without government intervention. As a result, price support mechanisms no longer apply. This results in prices below previous government-supported levels.

Many factors that tend to soften prices have occurred at the same time, and have lingered longer than most of us thought they would. This implies crop prices over the next five years will be somewhat below previous expected longer run averages. Over the next 5 years, wheat is projected to average at or near \$3.00 per bushel, corn at \$2.15, and soybeans at \$4.75. Rice is projected to average \$6.82 per hundredweight, and cotton at around \$0.56 per pound.

The latter half of the decade paints a more optimistic picture for U.S. producers. The demand side of the equation shows continued domestic strength, with the export market showing signs of recovery for feed grains and cotton. However, as indicated earlier, soybeans and soybean products, wheat, and rice will continue to face strong competition from overseas.

Net farm income is projected to average \$40 billion per year over the 2001-2005 period without additional emergency spending by the government. This represents a \$7 billion decline relative to what was experienced over the past 5 years. In real 1997 dollars, this suggests an income level comparable to the financial crises that U.S. agriculture experienced in the 1981-1985 period. Further complicating this situation is the increase in energy and fertilizer prices.

This combination of factors suggests that many of our traditional commercial farms will experience negative cash flows. AFPC analysis of its representative farms concludes that 40 of the 42 crop farms modeled are under substantial liquidity pressure over the 2001-2005 period. The livestock sector is expected to experience positive gains in prices in this year and next (2001 and 2002). The cattle cycle has reached the bottom with projected price strength through most of the next five years. However, our models do suggest that the cattle cycle is alive and kicking, which implies stronger production in the latter part of the decade with corresponding price declines. For 2001-2005 fed steers should average \$75 but decline to about \$68 for 2006-2010.



AFPC representative livestock analysis supports these aggregate findings. Three of the cow-calf operations appear in good shape for 2001-2005, while 3 of the 6 hog farms made it through the period with little equity pressure.

The pork cycle will continue to be very active in the coming years. Price strength in 2000 and most of 2001, in conjunction with low input prices, sets the stage for low prices by the fall of 2002 with prices expected to average about \$35.00 per hundredweight for barrows and gilts. A recovery to around \$45 per hundredweight is expected by 2004. Longer term prices average in the low \$40s.

Milk prices are also a concern. As mandated in the FAIR Act, the milk support price program ends in 2001. That results in all-milk prices falling in 2002. A gradual increase is expected afterward, although the average for all milk prices over the next 5 years will be at \$12.40 per hundredweight.

AFPC representative dairy analysis suggests that dairy farms are in moderate to poor shape over the 2001-2005 period. Of the 25 dairy farms analyzed only, 9 appear to make it through the period in good financial condition.

Broiler production growth is expected to slow over the next 10 years relative to the 1990s. Although demand, both domestically and internationally, is expected to remain firm, the rate of growth is projected to soften over much of the next decade, keeping broiler prices below \$60 per cwt.

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## Policy Implications

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A starting point for the analysis of the 2002 Farm Bill is a valid baseline that reflects likely consequences for U.S. agriculture if the FAIR Act is maintained without additional government support. Our discussion has focused on expected results from the FAPRI/AFPC 2001 Baseline presented to the Senate and House Agricultural Committees in February 2001. Our results support the serious nature of the financial stress, and certainly lend support for modifications that would address periods of sustained low prices.

What are possible directions for farm policy from here? Based on the various farm program options that the FAPRI consortium has been asked to evaluate, most would likely maintain the basic structure of the FAIR Act. However, many alternatives add a counter cyclical strategy that provides greater protection in low price/income years. The options may be counter-cyclical to either price or revenue and trigger based on some reference value.

Policy options under consideration are evaluated with the baseline as a point of reference. In cases evaluated thus far, an implied — and yet unresolved — question is the amount of government support necessary to sustain agriculture over the longer term with an adequate safety net in financially stressful periods. This makes the baseline projections and corresponding analyses even more critical since a starting point in reaching this conclusion is the expected level of support implied if the FAIR Act is continued.

FAPRI expects that more options will follow as we go through the remainder of 2001. The options will be evaluated at the sector-level, as well as the farm level. At the sector level, options will be evaluated in a stochastic framework. This will provide the ability to assess the performance of alternative policies across a range of price and production outcomes.

The national set of representative farms maintained by AFPC will be utilized for all options under consideration. Analysis will reflect the risk and implied probability distribution for key financial indicators such as net farm income, liquidity, and solvency.

An obvious challenge of the stochastic analysis is conveying the results to a broad audience. The staff at FAPRI/AFPC expects to be extremely busy in the coming months with briefings and presentations to Congressional staff, as well as to farm organizations.

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# Farm Safety Net Policy Overview

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Over the past six decades the federal government has employed a wide variety of policy instruments with the intent of satisfying various policy objectives. This section of 10 papers addresses some of the options Congress has at its disposal for developing a farm safety net. Each is discussed in the policy options and consequences context. One of the papers deals with the impacts of completely eliminating all farm safety net policy instruments. Eight papers detail the alternative farm safety net instruments that have been used or could potentially be used alone or in some combination, including:

- fixed AMTA payments,
- commodity loans,
- whole farm counter-cyclical payments,
- crop and disaster insurance,
- supply management,
- stocks management,
- farmer savings accounts, and
- supplemental (ad hoc) income payments.

All of these instruments except farmer savings accounts have been utilized in the past at one time or another. The last paper in the set discusses issues related to targeting farm program benefits.



# No Farm Safety Net

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## Background

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A *farm safety net* is defined as a public policy to assure farmers of at least minimal economic security in the face of uncertain markets and forces of nature. The policy safety net for a farmer can be comprised of one or more public programs directed at supporting commodity price, yields, revenue, or whole-farm gross or net income. Possible instruments include the entire range of past support programs: recourse or non-recourse loan rates, supply management, crop yield or revenue insurance, ad hoc disaster assistance, coupled or decoupled compensatory payments, market orders, stock accumulation, import restraints, export subsidies and promotion, and long-term land retirement. Related programs not ordinarily considered part of the safety net include public protection of the environment, and public provision of research, education, extension, and information programs. *No farm safety net* would end federal safety net programs designed to support the farm economy above market levels.

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## Alternative Policy Goals and the Role of a Farm Safety Net

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Measuring the economic justification for a farm safety net begins with assessing the purpose of that net. The purpose can be broad, such as improving the well being of people by promoting economic equity and efficiency. Or, the goal may be preserving the environment and family farms or reducing risk, poverty, and food insecurity. It is traditional for economists to list alternative goals and how a safety net contributes to each. The policymaker judges which goals (and their attendant means) are to be achieved. Several goals and farm problems, and the implications of a farm safety net to achieve or resolve them are discussed below.

### Economic efficiency

This goal is furthered by allocating resources and products to their highest and best uses in a competitive market corrected by taxes, subsidies, and the like so that private costs (benefits) are aligned with social costs (benefits) at the margin. Consequently, actions that raise utility for individuals

and profits for firms also produce benefits for society. The public sector provides an institutional environment where markets can work — through property rights, rule of law, sound macroeconomic policy, and other public goods.

Compelling evidence indicates that farm commodity markets work efficiently to allocate and reward farm resources. Competently managed commercial farms (the top half of farms with crop and livestock sales of over \$250,000 annually) on average have earned returns at least comparable to what their resources would earn elsewhere (see Tweeten 1989, pp. 118-122). In 1997, for example, farms with sales of over \$250,000 earned rates of return averaging nearly three times that of nonfarm businesses (Hopkins and Morehart). Of course, small and inefficiently operated farms earned low returns just as do small, inefficiently operated nonfarm businesses.

Farm commodity programs operating as a safety net tend to cause too little output (supply management) or too much output (insurance subsidies, commodity loan support rates), hence distorting domestic as well as international markets. These distortions reduce real national income (see Tweeten 1989, p. 366). Taxpayers lose more than producers gain from commodity programs — the difference is lost to farm resource-use distortions and to administrative costs and lobbying cost that could be avoided in the absence of a farm safety net.

### **Economic equity**

Measures such as broad-based investments in human capital serve both economic equity and efficiency. If the well being of people is a social goal, economic transfers are inappropriate from lower income/wealth individuals to higher income/wealth individuals. A related issue is farm poverty. Commercial agriculture, the principal focus of commodity programs, has almost no poverty except among hired workers — a group not served by the current commodity program safety net. Few farm commodity program benefits go to limited resource families.

If farm commodity safety net programs are suspect in providing economic equity and

economic efficiency, perhaps they better address farm problems of environmental degradation, economic instability, exploitation by concentrated agribusinesses, family farm loss, rural community decline, or food insecurity. Evidence indicates that either these are not problems, or that current farm commodity programs do not cost-effectively address the problems.

### **Family farm loss<sup>1</sup>**

Farm numbers fell by only 0.1 percent per year from 1992 to 1997, a rate well below that of previous decades since the 1950s (U.S. Department of Agriculture, March 1999). In the long run, farm size and numbers are determined mainly by technology, economies of size, and land market laws rather than by commodity programs. In fact, commodity programs provide capital and financial security, encouraging farmers to buy out and consolidate their smaller farm neighbor over the long run.

Commodity programs have been highly useful in preserving family farms in the short run such as during the financial crisis of the early 1980s.

### **Instability**

Annual and cyclical yield and market instability are perhaps the major economic problems of commercial agriculture. Small farms accounting for most farms diversify to handle farm risk through off-farm income that dwarfs their farm income. Many larger farms have sufficient resources and managerial capability to utilize effectively the multitude of private risk management tools available such as insurance, forward pricing, contracting, storage, liquidity, and the like.

The mid-size family farms that frequently are least able to cope with risk can be provided with a risk safety net most cost-effectively by focusing stability on the “bottom line,” net farm income, rather than on price, yield, gross revenue, or cost

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<sup>1</sup> The family farm is a prized American institution that 82 percent of American adults say they wish to preserve (Jordan and Tweeten). Farmers seem to adapt pretty well to employment off the farm. By a 3:1 margin, Oklahoma farmers who have left the farm in mid-career said they were better off (Perry et al.). Similar results have been found in other states (Bentley et al.).

components of income that can vary to offset and hence stabilize each other.<sup>2</sup> An investment retirement account type program with the government matching a farmer's contribution and giving tax-exempt status to interest is an option to address farming instability at low cost, and might be administered by the Internal Revenue Service.

## **Environment**

Degradation of land, air, and water resources and depletion of natural resources such as phosphate reserves entails externalities not addressed by the market alone. For example, soil erosion brings "downstream" costs or "takings" from farm neighbors and urban people utilizing water-supply reservoirs impaired by soil sediment and chemicals. Such problems are real, but may be dealt with cost-effectively through public purchase of easements for riparian strips or conservation tillage rather than through farm safety net programs.

## **Rural community loss**

Rural areas, defined here as nonmetropolitan counties (no cities of over 50,000 residents), have been growing in population. Farming-dependent counties, defined as those in which at least 20 percent of income is derived from farm labor and proprietor income, accounted for one-fifth of U.S. counties in 1990 and many are losing population. Less than one-tenth of the rural (nonmetropolitan) labor force works in production agriculture, and 93 percent of the rural population resides in non-farming-dependent counties (having less than 20 percent of their labor force in agriculture) (Wright, p.17). Many farming-dependent counties are located in the Great Plains that are suited by climate and sparse population to deal with environmental problems associated with livestock feeding-processing clusters to which the nation is headed. They can expand livestock feeding and processing to raise income and employment.

Farm safety net programs may not be a cost-effective means to assist rural towns and cities. Many farming dependent communities are best helped with

extension programs to effectively use their resources. In many cases, greater federal and state resources can be justified to better prepare local rural youth for employment at home or elsewhere. Thus, local communities do not have to be burdened with paying the cost for human resource development programs that accrue benefits to communities elsewhere — often to growing urban areas — where former rural residents live and work.

## **Food security**

Food insecurity is a huge problem in many parts of the world. At issue here is whether American farm commodity safety net programs are essential to ensure future food security. The answer is no. The world has been blessed with food availability, even abundance, since World War II. The food insecurity problem traces to lack of productivity and buying power in poor countries. As the world's largest exporter of food, the United States will likely remain food secure with or without a farm safety net.

## **International competitiveness and agribusiness concentration**

It is said that a farmer can compete with other farmers at home or abroad, but he/she cannot compete with foreign governments subsidizing competing exports. Similarly, many farmers view a safety net as essential to countervail the market power of agribusinesses that are growing larger and more concentrated.

Several observations are warranted. First, neither economic theory nor empirical evidence indicates that American farmers are systematically exploited by foreign governments or domestic agribusiness firms (Persaud and Tweeten). However, as the least concentrated sector in the food and fiber system, the U.S. farmer is the residual claimant of international decisions made by both the U.S. and foreign governments.

To be sure, imperfect competition characterizes many agribusinesses. If they do indeed exercise market power, fewer resources will be used in farming than if agribusiness industry were competitive. However, the oligopolistic (few firms)

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<sup>2</sup> The most comprehensive and efficient "bottom line" to stabilize could be total household income from farm *and* nonfarm resources.

market structure that characterizes much agribusiness is recognized for massive advertising to expand food and fiber sales. This characteristic, plus the prominence of cooperatives in agribusiness, points to a farming sector as large and paid as high commodity prices as would a more competitive market.

Multilateral and regional trade agreements can further reduce unfair competition from abroad. Considerable progress has been made in reducing trade barriers with major competitors such as Australia, Canada, and New Zealand. More open global trade also encourages American agribusinesses firms to price farm inputs and commodities more competitively.

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## Consequences of No Safety Net

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Taxpayers would be major beneficiaries of no safety net for farmers. Less cost to consumers of sweeteners, tobacco, and selected other commodities might be offset by slightly higher costs for livestock and poultry. Gains to taxpayers are estimated to be greater than losses to producers so that the nation as a whole would gain real income.

It is impossible to precisely estimate how many farms would exit in the absence of a safety net. Attrition, however, would likely be high on some types of farms, as indicated below:

- **Sugar, tobacco, and peanut farms.** These farms have been especially favored by safety net programs.
- **Southeast and Plains states farms.** Farmers in these states have especially benefited from price support and federal cost sharing of crop and revenue insurance programs.

MPCI ratios have averaged over 2.0 for cotton, tobacco, peanuts, sorghum, and wheat and much lower for corn and soybeans. Up to an estimated 25 million acres currently in crops would be in grass, trees, or other non-crop uses without safety net payouts (Skees). Many of those acres are in the Southeast and Plains states. Agribusinesses also

would experience a decline in economic activity in the Southeast and Plains states.

- **Mid-sized farms with sales of \$100,000 to \$250,000.** These farms would be especially hard hit because many are too large to allow much off-farm work for the operator and spouse, but too small to achieve economies of size essential to compete with other farms.
- **Landowners.** Farmland prices would fall in the absence of a farm safety net. Landowners would lose, but new entrants to farming would face lower entrance barriers and mortgage payments.
- **Livestock and poultry feeders.** Favorable commodity support loan rates and crop insurance assistance from government-induced production of crops. That additional production lowered crop prices and hence feed costs to feeders. Hence, feed costs would rise without safety net programs.

If there are net economic benefits from an end to the safety net, gainers could in principle compensate losers and still be better off. That compensation could come in a number of forms, although admittedly it is difficult to identify who gains or loses or by how much. Production flexibility contract transition payments under the 1996 Farm Bill were justified in part as compensation for the phase out of the safety net — an expectation that was not realized but could be more successful in a later farm bill. Another form of compensation is adjustment assistance, patterned along the lines of that to workers displaced by freer trade under the North American Free Trade Association (NAFTA). Assistance could include counseling, job training and information, and mobility assistance loans or payments.

Continuation of a farm policy safety net slows but does not stop farming adjustments. Adjustments will continue to occur and, indeed, are likely to be similar in the long run with or without a farm safety net. Science and markets are moving agriculture to fewer and larger farms, towards more vertical coordination in the form of production and marketing contracts, and to ever more sophisticated marketing, management, finance, and technology. Having or not



having a farm safety net is likely to have little influence on these forces and how they impact agriculture and rural communities, except in the short run.

Finally, an end to broad agriculture safety net does not imply an end to public involvement in agriculture. Exercising the public policy option of ending the large umbrella of safety net programs would release billions of dollars of public funds to target agricultural problems: mid-size family farm loss, instability, and environmental degradation. Options to address such problems cost-effectively may look very different from the current farm safety net, as noted in the text.

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# AMTA vs. Counter-Cyclical Payments

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## Introduction

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The *Federal Agriculture Improvement and Reform Act of 1996 (FAIR)* contained several important changes to U.S. farm policy. Perhaps the most important was the replacement of deficiency payments, which made up the difference between the market price and a target price, with fixed, annual payments for producers of grains and upland cotton. The fixed payments, referred to as Agricultural Market Transition Assistance (AMTA) payments, were to serve as a transition to a lower level of government support for U.S. farmers. Hence, the authorized level of AMTA payments declined from \$5.6 billion in 1996 to \$4.0 billion in 2002.

AMTA payments are based on historical yields and acres of wheat, feedgrains, upland cotton, and rice. They are received whether or not a crop is planted, do not depend on what crop is planted (except that fruit and vegetable acres cannot increase), and are made regardless of the level of farm income. In theory, they are decoupled from a farmer's current production decisions.

Many observers believe AMTA payments should either be replaced or supplemented with

counter-cyclical payments that are high when farm income is low, and low or zero when income is high. The Commission on 21st Century Production Agriculture has endorsed such payments. In this paper, we discuss the counter-cyclical payment issue.

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## Background

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Counter-cyclical payment schemes are not new, and they exist in current farm policy. The *Food Security Act of 1973* authorized counter-cyclical deficiency payments for wheat, feedgrains, upland cotton, and rice. They arrived whenever the U.S. average price was less than a policy-determined target price. Thus, deficiency payments were counter-cyclical with respect to price: the lower the price, the higher the payment.

FAIR eliminated target prices, but did not eliminate counter-cyclical payments based on price. Marketing loan payments and loan deficiency payments, hereafter referred to as LDPs, were authorized. They make up the difference between the market price (approximated by the posted county price or adjusted world price) and the loan rate for wheat, feedgrains, upland cotton, rice, and oilseeds. Loan rates are much lower than traditional target

prices, so LDPs are triggered by a much lower market price than were deficiency payments. Unlike deficiency payments, all production is eligible for LDPs. Thus, LDPs are not at all decoupled from production decisions.

Another farm policy, subsidized crop insurance, provides payments that are counter-cyclical with respect to yield or revenue, depending on the type of insurance bought by the farmer. Crop insurance payments increase as yield or revenue decreases.

The significant counter-cyclical payments provided by current U.S. farm policy are often not recognized. For crop year 1999, such payments totaled more than \$9 billion (\$8 billion of LDPs, plus \$1 billion in crop insurance indemnities, net of producer paid premiums.)

### **Key Parameters of Counter-Cyclical Revenue Programs**

Depending on the decision made with respect to key policy parameters, a new counter-cyclical revenue program could take numerous forms. This section discusses these key parameters as broad concepts. For a discussion of the details of specific counter-cyclical proposals, see the paper, "Counter Cyclical Whole Farm Safety Nets," authored by Richardson, Klose, and Smith.

Counter-cyclical payments can be triggered by a change in gross revenue or by a change in net revenue, which subtracts production expenses from gross revenue. If net revenue is used, an important question becomes what should be included in the measure of expenses. Should only variable production expenses be used? Should a charge for capital be included? Should a charge for land be included? Thus, the definition of revenue on which a counter-cyclical payment is based becomes a key policy parameter.

A second key policy parameter is whether the trigger is national revenue or a more local revenue, such as at the farm or county level. A national trigger will cover low price situations because low prices affect all production. In contrast, low yields typically affect only a small part of the total production area, and low yields in one region typically are offset by high yields in another region.

Furthermore, if a yield shortfall affects all or most of a major production region, such as occurred in the Corn Belt in 1988, it is likely that significant price increases will accompany the yield decline, thus lowering the size of any counter-cyclical payment. In summary, a national counter-cyclical revenue program likely will cover only low price situations.

As noted in the previous paragraph, low yields in most years affect only a small part of the total production area. Thus, as the geographical area on which a counter-cyclical payment is based moves to a more local area, the cost to the federal treasury of a counter-cyclical revenue program increases because payouts will be triggered by both low yields and low prices. For example, Hart and Babcock estimate that a county trigger will be 2 to 10 times more expensive than a national trigger, depending on the percent of gross revenue at which a counter-cyclical payment is triggered.

A third key policy parameter is whether the revenue trigger is specific to an individual crop or if it includes revenue from multiple crops. Just as low yields in one region generally are offset by high yields in another region, so, too, can low revenue from one crop be offset by high revenue from another crop, particularly at the national level. Thus, a multiple-crop revenue trigger will result in lower program costs.

A fourth key policy parameter is the method used to determine the level of revenue that triggers a payment. Currently, guarantees for revenue insurance are based on projected prices (futures prices) as revealed by the market. One alternative is to follow this precedent and base counter-cyclical revenue payments on futures markets prices. However, such a program will not provide a high level of coverage when futures prices are low. A second alternative is to base counter-cyclical revenue payments on a moving average of past revenue over a pre-specified period of time. Tying revenue triggers to a historical moving average permits a more gradual adjustment of programs to changes in market conditions. A third alternative is to set revenue triggers via the political arena and not tie adjustments to changes in market conditions.

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## Policy Issues and Options

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Given the interest in counter-cyclical payments, one policy option is to eliminate AMTA payments and use the money that is saved to increase marketing loan rates or to fund a new counter-cyclical revenue program. A second policy option is to replace the current marketing loan program with a new counter-cyclical revenue program while keeping the current AMTA program. A third policy option is to continue the status quo combination of AMTA payments, automatic LDP counter-cyclical payments, and ad hoc counter-cyclical assistance in years of low income. A fourth policy option is to increase the level of AMTA payments as a replacement for the current marketing loan program, or in place of a new counter-cyclical program.

The fourth option is not discussed much, but counter-cyclical payments, including LDPs, are tied to current production. Thus, they create incentives for farmers to expand or at least maintain farm output. This consequence suggests that questions of conformance with World Trade Organization agreements may need to be considered. This concern may push U.S. farm policy away from counter-cyclical payments.

The issue of counter-cyclical payments likely will be debated in terms of reducing the financial effects of low farm revenue. However, the amount and frequency of such payments will depend on the degree to which Congress and the general public wish to enhance farm income. This observation raises a policy issue as old as farm programs: should the primary objective of farm programs be to reduce risk or raise income?

AMTA payments increase average farm income, but do little to reduce income variability since they are fixed regardless of the farm sector's situation. Counter-cyclical payments reduce at least some income variability, but they also increase average farm income by raising farm income in low-income years. The higher the price or revenue level

at which a counter-cyclical payment is triggered, the more farm income is enhanced and the more costly the program will be for the federal government.

Movement toward a policy of counter-cyclical payments based on farm or county level revenue will raise questions of duplication with crop insurance. Because crop insurance requires producers to bear some of the cost of insurance, a no-cost counter-cyclical revenue program at the farm or county level likely will reduce the demand for crop insurance. A national counter-cyclical revenue program will leave room for current crop yield insurance programs, but it largely will duplicate LDP payments because both are triggered by low prices. Thus, movement toward a new national counter-cyclical revenue program will raise questions of duplication with the marketing loan program.

In addition to questions of overlap and duplication, the alternative policy options will result in different impacts by crop and region. For example, replacing AMTA and/or LDP payments with counter-cyclical revenue payments triggered by farm, county, or state revenue shortfalls will redistribute current farm income payments away from the primary crop production regions. This redistribution will be caused by two factors. First, the primary production regions typically have less yield variability than non-primary regions. Second, when yield shortfalls do hit the primary production regions, a corresponding increase in price is likely; thereby decreasing the size of counter-cyclical payments. Hence, farmers in primary U.S. crop production regions are likely to be wary of counter-cyclical revenue programs based at the farm, county, or state level. In short, discord among regions and commodity groups is likely in the forthcoming farm bill debate.

Last, counter-cyclical revenue payments provide insurance against systematic (i.e., sector-wide) risk caused by declines in price that are, in turn, caused by declines in domestic and/or foreign demand. Thus, counter-cyclical revenue payments, including LDPs, compete directly with futures and options markets. For example, why would a farmer purchase a price hedge on a crop if the government is providing a free hedge against prices below the loan rate?

In summary, if the agricultural policy process is serious about providing an effective and efficient

counter-cyclical program for 21<sup>st</sup> Century production agriculture, it needs to develop an integrated farm policy that coordinates price and income support programs with crop insurance, as well as futures and options markets.

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## **References and Suggested Readings**

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# The U.S. Commodity Loan Program

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## Introduction

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Commodity loan programs in the United States are one of the major domestic support programs, and have been in existence in various forms since the 1930s — primarily covering major field crops. Different versions of these programs, over time, have been designed to provide different benefits to producers, and have addressed different policy goals. The policy goals and program benefits have included price support, income support, price stability, and short-term liquidity. The future direction of commodity loan programs will depend, in part, on the combination of policy goals that are to be achieved by the programs.

### **Commodity Loan Programs — Price Supports and Marketing Loans**

Commodity loan programs have operated in two major ways. Commodity loan programs supported market prices over most of their history, starting in 1933. In the past 15 years, however, marketing loan provisions have been added to commodity loan programs for major field crops. Marketing loans

provide income support to farmers, but do not support market prices.

### **Loan Program Operation**

Commodity loan programs allow producers of designated crops to receive a loan from the government at a crop-specific loan rate per unit of production by pledging production as loan collateral. A farmer may obtain a loan for all or part of a new crop at any time following harvest through the following March or the following May, depending on the crop. However, most loan placements occur shortly after harvest, when prices tend to be seasonally low, providing short-term financing to farmers.

Before marketing loans were introduced (discussed later), to repay the loan, the farmer would return the loan principal plus accrued interest charges. Alternatively, the farmer could choose to settle the loan at the end of the loan period by keeping the loan proceeds and forfeiting ownership of the loan collateral (the crop) to the government. If market prices were below the loan rate, the farmer would benefit from settling the loan this way and keeping the higher loan rate.

Additionally, if market prices were above the loan rate but below the loan rate plus interest, keeping the

loan proceeds and forfeiting the crop would make economic sense because the alternative of repaying the loan plus interest would cost more than the market value of the crop. Price support to the sector was provided by the acquisition of crops by the government through loan program forfeitures combined with restrictions on CCC sales, essentially removed crops from the marketplace when prices were low.

The addition of marketing loan provisions changed the operation of commodity loan programs. Marketing loans were implemented for rice and upland cotton in 1986 under the provisions of the 1985 Farm Act. Starting in 1991, subsequent legislation made marketing loans available for soybeans and other oilseeds. Marketing loans for wheat and feed grains were implemented starting with 1993 crops, under the GATT trigger provisions of the Omnibus Budget Reconciliation Act of 1990. The 1996 Farm Act continued marketing loans for all of these crops.

With marketing loans, loan placements may occur as described earlier under nonrecourse loan provisions. However, as implemented, marketing loan provisions allow farmers to repay commodity loans at less than the original loan rate (plus interest) when market prices are lower. This feature decreases the loan program's potential effect on supporting prices by reducing governmental stock accumulation through forfeitures. Instead, farmers are provided economic incentives to retain ownership of crops and sell them (hence the term "marketing loan") rather than forfeit ownership of crops to the government to settle loans.

Producers can receive marketing loan benefits in two different ways: through the loan program and through direct loan deficiency payments. Under the loan program, farmers place their crop under loan, as described earlier, by pledging and storing some of their production as collateral for the loan, and receiving a per-unit loan rate for the crop. Rather than repaying the full loan, farmers are allowed to repay at a lower loan repayment rate when market prices are below the loan rate (plus interest).

Marketing loan repayment rates are based on local, posted county prices (PCPs) for wheat, feed grains, and soybeans, or the prevailing world market price for rice and upland cotton. When a farmer repays the loan at a lower posted county price or

prevailing world market price, the difference between the loan rate and the loan repayment rate (the marketing loan gain) represents a program benefit to producers. In addition, any accrued interest on the loan is waived.

Alternatively, farmers of crops covered by the loan programs (except extra-long staple cotton) may choose to receive marketing loan benefits through direct loan deficiency payments (LDPs) when market prices are lower than commodity loan rates. The LDP option allows the producer to receive the benefits of marketing loans without having to take out, and subsequently repay, a commodity loan. The LDP rate is the amount by which the loan rate exceeds the posted county price or prevailing world market price and, thus, is equivalent to the marketing loan gain that farmers could obtain for crops under loan. If an LDP is paid on a portion of the crop, that portion cannot subsequently go under loan.

### **Comparison of Marketing Loans vs. Price-Supporting Loan Programs**

The switch in the way that commodity loan programs have been operated, moving from price-supporting programs to marketing loans, results in important differences in effects on commodity markets. While both alternatives provide support to farmers' revenues, this is accomplished through significantly different policy mechanisms.

### **Price-supporting Loans**

With price-supporting loans, market prices are directly supported at the loan rates because the government accumulates stocks through loan forfeitures when market prices are below the loan rate, effectively removing supplies from the marketplace. Program costs reflect the full loan rate being paid to farmers on a portion of the crop. Costs associated with acquisition and storage of these stocks also add to the agricultural program budget.

Production is increased as farmers base planting decisions on program-supported prices (equal to the loan rate). Overall economic efficiency is reduced because of this misallocation of resources. Although there is an increase in production, prices are not free



to respond because excess production goes into stocks with the government's effective purchase of supplies at the loan rate. Thus, market demand faces prices that are held higher than they would otherwise be. This not only means that domestic market demands see higher prices, such as higher market prices for feed that increase production costs to livestock producers, but that U.S. exports to international markets are at higher prices, thereby reducing U.S. competitiveness in global trade and encouraging increases in foreign production.

In subsequent years, the government sells or releases stocks when prices are higher, keeping prices from rising further, but also extending market impacts over a longer time period. Although this imposes further distortions to the marketplace, effects are in the opposite direction to those that occur in the lower-price years when the government accumulates stocks. As a result, government stock accumulation in low price years and stock release in higher price years may contribute to some reduction in multi-year price variability. Also, while effects of price supporting loan programs may extend over a longer period of years, multi-year cumulative impacts on total supply may be largely offsetting.

### **Marketing Loans**

In contrast, program benefits under marketing loans are provided through an income transfer rather than through a price support. Per-unit revenues to producers are supported but market prices are not. Government budgetary costs are largely through direct payments to farmers and costs of net loan activity (including marketing loan gains), but there are not significant governmental stockholding costs. In contrast to price-supporting loans with costs reflecting the full loan rate paid on part of the crop, marketing loan costs reflect a portion of per-unit revenues (the gap between the loan rate and the market price) potentially paid on the full production of the crop.

As for price-supporting loans, production is increased as farmers base planting decisions on net returns that reflect program benefits. However, for marketing loans, net returns reflect part of the revenues coming from the marketplace and part from the government in the form of the marketing loan

benefit (either a marketing loan gain or a loan deficiency payment). Again, economic efficiency is lowered because of the resulting misallocation of land and other resources. With marketing loans, the government does not remove production from the marketplace through stock accumulation, so the increase in production results in prices in the marketplace being allowed to decline.

Impacts on equilibrium levels of quantities demanded largely reflect market adjustments to the higher production and lower prices. In domestic markets, lower market prices for feeds, for example, benefit livestock producers by reducing their production costs. Foreign demand is influenced by factors such as income, prices, and exchange rates. Thus, the reduction in prices due to marketing loans' impact on production pushes U.S. exports higher, reflecting increased competitiveness in global trade.

In contrast to price-supporting loans, effects of marketing loans occur mostly in years when marketing loan benefits exist. While there may be small dynamic carryover effects to subsequent years through marginally higher private-sector stockholding, there is no substantial release of government-held stocks as can occur with price-supporting loans. As a consequence, production impacts in low price years are not offset in later periods. Thus, while marketing loan distortions are more focussed in years of marketing loan benefits, multi-year impacts on supply are likely larger than for price-supporting loans. Market prices are more variable than with a price-supporting loan program, but per-unit revenues to producers are increased.

### **Looking Towards the Future: Operating Provisions Important**

Other provisions are also important for the operation of commodity loan programs, whether implemented as price-supporting loans or as marketing loans. For example, there is a wide range of potential procedures for setting loan rates. Rates could be pre-determined in agricultural legislation or they could be allowed to vary across years, based on formulas that use historical market prices, for example. If set by formulas, they could be subject to caps, as in the 1996 Farm Act. Additionally, the

Secretary of Agriculture could be given varying amounts of discretionary authority for rate setting.

Commodity loans could apply to all or part of a crop. For several decades, loans generally have been available on all production from land enrolled in programs. If loan programs cover less than full production, any of several qualifying factors could be used to determine eligibility, such as program yields or other historical measures of production or acreage.

Other issues relative to commodity loans also could be addressed in the forthcoming farm bill discussion. Are current relative loan rates among commodities, such as corn and soybeans, appropriate? Equally important to some producers, can loan-rate differences between counties, especially adjacent counties in different states, be made more equitable? To what extent do WTO obligations impose limits on loan rates and commodity loan programs?

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## **Policy Options and Consequences**

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A number of policy options are possible with respect to commodity loans. In general, the options are to: 1) retain marketing loans (within the structure of nonrecourse loans), 2) revert back to a system of strictly nonrecourse loans, or 3) eliminate all loan programs.

However, two other possibilities deserve brief mention. First, recourse loans (sometimes called advance recourse loans) could be authorized. Recourse loans require repayment of the full cash value of a loan plus interest. Such loans cannot be satisfied by forfeiting collateral (a stored commodity) to the government. In most situations, recourse loans would not be expected to have much of an impact on commodity prices or farm income, and government costs would be minimal. Farmers might have an interest in recourse loans if interest rates or other loan terms were more favorable than could be obtained in the private sector. This assumes, of course, that

neither marketing loans nor nonrecourse loans were available.

Another possibility is to reimplement a multi-year loan program, perhaps along the lines of the old Farmer Owned Reserve program. This option is discussed in depth in another paper in this series. At least some impacts of such a program, such as reducing price variability, would be expected to be similar to nonrecourse loans. An important difference, however, is that impacts under a multi-year loan program would be spread over a longer time period.

Consequences of the general loan program policy options are discussed for 1) farmers and ranchers, 2) agribusinesses, 3) consumers, 4) taxpayers, 5) the environment and 6) rural communities. The time frame for consideration of consequences is an "intermediate" period, perhaps one or two years into the future.

### **Consequences for Farmers and Ranchers**

Marketing loans support farm incomes, not commodity prices. As a result, marketing loans are associated with greater price variability than would be expected with nonrecourse loans. Moreover, to the extent that marketing loans encourage production even when prices are low, price variability under this option may be greater than if loan programs were eliminated.

Elimination of loan programs probably would result in a more efficient allocation of resources. Both nonrecourse loans and marketing loans encourage capital and other resources to be committed to production, even when supply-demand conditions are unfavorable. The higher the loan rate, the greater the tendency for inefficient allocation of resources to occur. Moreover, because some agricultural resources (land and equipment) have few alternative uses, resources tend to stay in agriculture for long periods of time, even if used inefficiently.

Resource distortions also occur because producers may be inclined to plant crops offering loans rather than other crops. Moreover, even among program crops, relative differences in loan rates can distort normal market forces. For example, in recent years, soybean loan rates appeared to have been high

enough relative to corn loan rates and market prices to encourage additional soybean production.

Compared to nonrecourse loans, marketing loans put a greater premium on producer marketing skills, especially when commodity prices are below loan rates. The fact that many producers opt to take loan deficiency payments (LDPs) rather than placing crops under loan and do so shortly after harvest adds to the marketing skills needed later in the season. (Early acceptance of an LDP ends government loan program involvement with that portion of a farmer's production and may be problematic if cash prices drop before commodities are marketed.) However, an advantage of both marketing loans and LDPs compared to nonrecourse loans is that producers are not required to keep a commodity in storage for 9-10 months during low-price periods to receive full benefits of the program. If loan programs were eliminated, producers might seek out additional opportunities in the private sector to reduce risk.

Both marketing loans and nonrecourse loans may impact the structure of the production sector. On one hand, the income or price safety net provided by loans could help keep smaller farms in business. Alternatively, loans could encourage larger farmers to expand. Marketing loans, in particular, have too short a history to draw any structural conclusions.

### **Consequences for Agribusinesses**

Input suppliers should be relatively indifferent as to whether nonrecourse loans or marketing loans are used. Either way, producers of eligible crops receive cash-flow protection, an important factor for those who sell inputs. On the other hand, input suppliers might worry if no loan programs were offered — the extent of this concern would vary depending on the availability of other public and private income stabilization programs.

Other things equal, agribusinesses that store and process commodities want to purchase these commodities at the lowest possible price. At first, this might seem to favor marketing loans or the elimination of loan programs over nonrecourse loans. However, either of the first two options also leaves commodities more vulnerable to upward price spikes. In the end, many processors value steady commodity

supplies at moderate prices. Because they operate value-added businesses, a steady-as-you-go approach often works best. In short, nonrecourse loans may be favored over either of the other alternatives.

### **Consequences for Consumers**

First buyers of crops supported by commodity loans may have different preferences with respect to the two types of loans. For example, foreign buyers may respond favorably to lower prices offered under marketing loans, especially if the price makes U.S. supplies more competitive with those offered elsewhere in the world. In the United States, livestock feeders typically want the lowest possible feed prices.

In contrast, a domestic flour miller (a first-buyer consumer and an agribusiness, as in the discussion above) may be mostly interested in obtaining a steady supply of a certain class of wheat. Purchases at the lowest possible price may be less important and, in fact, generally stable prices may be preferred.

Consumer preferences at the retail level with respect to marketing or nonrecourse loans could go either way. If commodities were expected to be plentiful much of the time, it would be logical for consumers to prefer marketing loans over nonrecourse loans. After all, marketing loans allow commodity prices to dip below loan rates in periods of ample supplies. In contrast, greater stability offered by nonrecourse loans may be preferable if commodity prices were otherwise expected to vary widely.

### **Consequences for Taxpayers**

One of the advantages traditionally identified for marketing loans is that they eliminate much of the government's potential carrying costs (interest, storage, risk of the commodity going out of condition) associated with nonrecourse loans. However, when nonrecourse loans are replaced by marketing loans, some loan program costs shift from consumers to taxpayers because market prices are not supported.

## **Consequences for the Environment**

Beginning with the 1985 Farm Act, marketing loans and nonrecourse loans generally have been available only to producers who engage in good conservation practices. Additionally, over a longer history ending in 1995, eligibility for loans often depended on taking a certain percentage of land out of production and devoting it to conserving uses. Typically, this would be the poorest land on a farm. Thus, both marketing loans and nonrecourse loans tend to be associated with enhanced conservation of natural resources. Elimination of loans could have a negative impact on the environment.

## **Consequences for Rural Communities**

Many rural communities depend heavily on farmers and related agribusinesses for their economic sustenance. To the extent that marketing and nonrecourse loans enhance farm incomes, rural communities benefit as well. Farm leaders typically base a significant part of their requests for government support on the desirability of maintaining rural communities.

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# **Concluding Comments**

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Nonrecourse and marketing loans have been perhaps the single most-used provision of agricultural commodity programs, dating back to farm legislation in the 1930s. Thus, the alternative of eliminating loan programs would be a significant departure from the commodity policy setting of the past century. The alternatives of nonrecourse loans alone or augmented with marketing loans have some similarities but also significant differences, with impacts over a wide spectrum of parties and for an extended period of time.

# Counter-Cyclical Whole Farm Safety Nets

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## Background

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Since the 1920s, the federal government has used an array of farm programs to provide a “safety net” for American agriculture. Farm programs have used price supports, disaster payments, income supports, direct payments, and supply management to provide a safety net for particular markets and producers. With the exception of land idling programs, the programs have provided incentives for production and the diversification of production throughout the continental United States.

While the FAIR Act of 1996 has been generously applauded for allowing producers planting flexibility, maintaining export competitiveness through marketing loan programs, and maintaining full production, the Act has been criticized for its lack of sufficient counter-cyclical safety net. Although subsidized crop insurance programs and marketing loan provisions are counter-cyclical in nature, the ad hoc passage of emergency relief in each of the last three years 1998-2000 and the pending assistance in 2001 suggests that these programs have not provided sufficient support to program crop agriculture. The counter-cyclical safety net issue, whole farm safety net proposal is one alternative being studied.

## Components of a Whole Farm Safety Net Program

A whole farm safety net program for agriculture must first define the income measure that is guaranteed. Should society guarantee net income, total market receipts, total revenue, production costs, price, or yield? Insuring price or yield has been commonly considered a safety net tool, however, neither necessarily provides a whole farm safety net. Guaranteeing net income or production costs may generate a desired outcome, but these risk variables are less practical due to the complications associated with managerial control of the variables.

Generally, proposals for a whole farm safety net focus on protecting either total market receipts or total revenue. Targets for total revenue, defined as total market receipts plus government payments (AMTA, LDP, and ad hoc emergency assistance payments), protect farmers against market and production risk as well as farm policy risk. Richardson, Smith, and Knutson, however, argue that farm policy risk (driven by government expenditures) in the historical data may need to be excluded because they may not be present in the future periods for which a safety net is designed to protect. If this is the case, then total market receipts are left as the variable on which to build the whole farm safety net.

An advantage of using total market receipts is that the payments, by definition, are counter-cyclical. Payments would be available when market receipts are low, and would not be made when receipts are normal or high. This counter-cyclical provision should address the public concern that farmers receive payments when their incomes are high and/or when “no adverse event has warranted the payment.” A disadvantage, however, is that the defined benefit of a whole farm safety net increases the risk associated with government costs relative to defined expenditure programs such as the current AMTA payments.

A whole farm safety net program would presumably cover all agricultural enterprises including livestock. Past programs have been commodity specific, and have excluded other commodities. What commodities to include will be a significant issue Congress will have to address prior to the establishment of a whole farm safety net program.

Another significant component of a whole farm safety net program is the method used to determine total market receipts for each enterprise included on the farm. If the program is administered at the farm level, using prices received by farmers introduces two potential problems. The incentive for efficient marketing is diminished and validating individual receipts may be problematic. Market receipts, therefore, could be calculated using a price derived at the national level — for example, a season average price.

The production used in calculating market receipts will also be subject to debate. Payment rates may be based on a national, regional, county, or individual production level. Either extreme of the range of yield options may be problematic. On the individual level, enforcement and tracking is an issue. Although such a program provides producers with the greatest risk protection, if yields are calculated on a national level, regions that are adversely impacted may be denied benefits. In other cases, payments may be made in areas that experienced higher than normal production (Hart and Babcock).

The last major component in designing a whole farm safety net program is the cut off for determining when producers are eligible for a payment. Should payments be made if total market receipts fall below 100, 90, or 80 percent of historical average receipts?

The trigger percentage will determine the cost of the program to the government and the amount of safety in the safety net program.

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## Alternatives and Consequences

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Five whole farm safety net programs are introduced in the following section, starting with the broadest definition of insured income.

### Counter-Cyclical Payment (CCP)

Two CCP options were discussed by the Commission on 21<sup>st</sup> Century Production Agriculture. The CCP options are designed to bring total gross revenue for the eight major crops up to a specified target level. The eight program crops are: corn, sorghum, barley, oats, wheat, upland cotton, rice and soybeans. Target revenue for the CCP is the sum of market receipts, loan deficiency payments (LDPs), contract payments (AMTAs), and market loss assistance payments (MLAs) for all eight commodities. Counter-cyclical payments (CCP) would be made if total actual revenue for the 8 crops falls below their 1995-1999 average. The total CCP equals the difference between the 1995-1999 average targeted revenue and the actual revenue. The total CCP is distributed among the 8 crops based on the current allocation formula for AMTA payments under the 1996 farm bill. A second option to the CCP program calls for using a 5 year moving average of total gross revenue rather than a fixed period to determine the target revenue and payments.

A sector level analysis by FAPRI revealed that CCPs average \$5.3 billion in 2003, but decline to \$550 million by 2009 when a fixed period is used to determine the cut-off for targeted revenue. A moving average for targeted revenue results in average CCPs of \$2.8 billion in 2003, and less than \$300 million by 2009.

The CCP programs trigger payments when total revenue over the eight crops falls below the

guaranteed average revenue. Thus, if an individual farmer suffers a loss due to localized market or weather adversities, he will not receive a payment unless total revenue for the eight crops nationally falls below the threshold. Conversely, if the national revenue for the crops falls below the trigger, payments are made to all farmers whether they suffered an individual loss or not. These factors appear to be significant for producers of crops whose prices are not highly correlated to national averages. Also, producers outside the major production areas of the country may find themselves unprotected in times of adversity, or receiving a windfall when revenues are high.

The CCP program is simple, easy to implement, and reduces the opportunity for moral hazard. The program would reduce risk around total revenue for crop agriculture in the U.S., but it will do little to protect an individual crop farmer's net cash income. The CCP program provides no safety net for enterprises outside the eight major program crops.

### **Modified Supplemental Income Payment (SIP)**

A modified supplemental income payment proposal has surfaced as a whole farm revenue assurance program. SIP would trigger payments based on total revenue for individual crops. Total national market receipts for each program crop is the target variable under the SIP program. The trigger for payments to a particular crop occurs when revenue falls below the specified percentage of average total market receipts over the 1995-1999 period for the particular crop.

Target receipts for wheat, for example, are treated differently from target receipts for cotton or for other crops. Therefore, payments could be made to one crop when receipts are low, even if receipts for other crops are high or the CCP may not have triggered a payment.

The total payment made for a short fall in receipts equals the difference in actual national receipts for the crop. The payment rate equals the total payment divided by harvested acres in the current year. Producers are then paid on a harvested acre basis. An equivalent per acre payment rate across the country could cause typically low yielding

regions to be over compensated relative to regions with higher average yields. Producers experiencing low yields in a particular year would be relatively under compensated or not compensated at all if producers in other areas did not suffer low yields. This type of result has caused some to call for a regionalized total receipts trigger, and for expressing the payment rate on a yield unit basis.

Analyses by FAPRI of the SIP program show that setting each trigger at 93 percent of the 1995-1999 average receipts would result in a \$3 billion per year SIP payment on average. The cost of the program would average \$6 billion per year if the triggers were set at 103 percent of the 1995-1999 average receipts (Adams and Richardson). For this level of expenditure, it was assumed the benefits were provided to only the eight major program crops.

### **Safety Net for Farm Households (SNFH)**

A recent USDA study analyzes three needs-based SNFHs to maintain an income standard for farmer households relative to historical values for:

- regional median household income,
- 185 percent of the poverty line, and
- average adjusted household expenditures (Gundersen, et. al.).

The SNFH would provide a payment if net income for the household fell below the targeted income level. In 1995, median U.S. household income was \$35,000. If a SNFH program had been in place in 1997, the total payments needed to achieve regional median household equity would have cost \$12.58 billion. Projecting this program over the 1999-2003 period, using the USDA Baseline, the government would spend an average of \$16.55 billion per year. These SNFH payments would be divided as follows:

- 33.4 percent to limited resource farms,
- 20.7 percent to residential lifestyle farms,
- 31.9 percent to low sales farms,
- 10.6 percent to high sales farms, and
- 3.2 percent to large farms.

If a SNFH program with a trigger equal to 185 percent of the poverty line was in place for the 1999-2003 period, average annual payments are projected at \$49.05 billion. About 32 percent of the payments would go to “low sales farms,” 11 percent would go to “high sales farms,” and 3.5 percent to “large family farms.”

The distribution of safety net payments to support farm household incomes under these SNFA programs stands in contrast to the actual distribution of farm program payments for AMTA and MLA in 1999:

- 1 percent to limited resource farms,
- 3 percent to retirement farms,
- 9 percent to residential lifestyle farms,
- 15 percent to farming low sales farms,
- 25 percent to farming high sales farms,
- 21 percent to large family farms,
- 22 percent to very large family farms, and
- 4 percent to agribusinesses.

### **Whole Farm Revenue Program (WFRP)**

Several alternative safety net options that insure receipts at the farm level have been introduced. One such option (SAFE) would guarantee net income based on a percent of net income as defined on IRS Form 1040, or its equivalent. Procedures would have to be implemented to deal with structural adjustments at the farm level as well as the difficulties associated with the use of cash accounting practices by farmers.

An alternative WFRP would protect a farm’s market receipts calculated as: the product of current years planted acres and an Olympic moving average of the most recent five years of certified yields and national season average prices. By using the current year’s planted acres, it allows full planting flexibility by not penalizing (or overstating) protected receipts for the historical crop mix. National season average prices would be used to calculate the historical value of production and to value the current year’s actual production, thus maintaining a farmer’s incentive to market the crop in a professional manner.

Payments would be made to individual farmers if the total value of production falls below a specified percent of their historical average value of

production. Payments could thus be triggered by low yields and/or low national prices. Various trigger levels of this WFRP have been analyzed, and 90 percent of a historical moving average appeared to provide reasonable protection of net farm income for feed grain, cotton, and wheat farms (Richardson, Smith, and Knutson). The concept is applicable to livestock farms, although higher cut-off percentages are required to provide comparable levels of income protection for dairy and hog farms.

Because the WFRP is implemented at the farm level, it avoids the problem of not paying for regional disasters and inequitable payment rates across regions due to yield differences. Basing insured receipts on national prices does not avoid the problem of regional price differentials due to grade and location.

### **Production Cost Coverage**

The National Association of State Departments of Agriculture (NASDA) and the Farm Credit System proposed a safety net option that would insure the cost of production for major commodities. The option has been proposed as an insurance product to be administered by the USDA-Risk Management Agency. To the extent that a PCC would indirectly support farm income, it is included here.

A major criticism with a PCC is that producers can, through management, affect their costs of production and, thus, moral hazard would make it very costly to insure. Establishing a national gross margin, and setting the triggers based on national average cost of production would insure that half of the producers (low cost producers) receive no benefit from the program, while the high cost producers receive benefits every year.

### **Other Programs**

The USDA Risk Management Agency manages several programs that provide safety net support to farm incomes. For example, CAT, CRC, IP, and MPCl are all established insurance programs that



provide income support. These program options are presented in a separate paper.

Also covered in another paper are the FARRM accounts. These accounts are counter-cyclical in that farmers make deposits when incomes are high and withdraw funds when incomes are low.

Target price/deficiency payment programs are considered to be a counter-cyclical program. Deficiency payments are zero when prices exceed the target price, and then grow as prices fall below the target. Target price programs are discussed more fully in a separate paper.

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## Summary

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While the FAIR Act is generally accepted, safety net concerns have arisen. This paper discussed several counter-cyclical derivations that have been suggested as means of providing production agriculture with a sufficient safety net. The litmus test for all the programs will likely be the ability to maintain a target level of farm income in adverse times, while protecting the popular elements of the FAIR Act and complying with WTO agreements.

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# Crop Insurance and Disaster Assistance

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## Background

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The 1996 Federal Agricultural Improvement and Reform (FAIR) Act implemented farm program contract payments that do not increase as agricultural prices fall, shifting farm policy toward a greater emphasis on risk management and, in particular, on crop insurance. This shift has resulted in the introduction of new types of insurance policies; especially those that provide both yield and price protection. Several new and innovative crop policies were initiated immediately after the 1996 Act, and new policies including whole-farm, livestock, and other types of insurance continue to be proposed for government subsidization and reinsurance.

In addition to the introduction of new products, the list of crops for which insurance is available has grown from approximately 50 in the early 1990s to more than 100 in 2000. Crops currently covered by federally-subsidized insurance include not only major field crops, but also many types of fruits, vegetables, nuts, certain specialty crop trees, nursery stock, and rangeland. In some areas, guarantee levels as high as 85 percent of normal yield or revenue are being offered for selected crops.

The importance of agricultural insurance was re-emphasized in the Agricultural Risk Protection Act of 2000 (ARPA or P.L.106-224). This legislation was estimated at the time of its passage to provide \$8.2 billion in assistance over fiscal years 2001-2005, largely in the form of additional premium subsidies for crop and revenue insurance. ARPA also shifts the focus of new product development research away from USDA's Risk Management Agency (RMA) to the private sector. RMA continues to oversee federally subsidized crop insurance programs, and the Federal Crop Insurance Corporation Board of Directors approves new products for subsidization and reinsurance.

In addition, the legislation removes the Noninsured Assistance Program (NAP) area trigger (which required that the area must realize a 35 percent loss before any individual losses could qualify for payments), requires NAP participants to sign up before planting time, and requires producer payment of a processing fee. Under both NAP and catastrophic crop insurance coverage (CAT), losses in excess of 50 percent of the producer's established yield are compensated at 55 percent of an established price. ARPA also increases federal subsidies on revenue-based products at the same percentages provided to yield-based products.

Although the types of federally subsidized insurance products have expanded in recent years, the traditional individual-yield based, Multiple Peril Crop Insurance (MPCI) continued to be the most popular product in 2000. APH (based on a 4-to-10-year “Actual Production History” yield series for the grower) pays an indemnity if a producer’s yield on a given farm unit falls below his or her production guarantee. APH offers catastrophic (CAT) yield coverage (50 percent), with premiums fully subsidized by the government, and optional higher (“buy-up”) levels with partially subsidized premiums. As with other federal crop insurance products, APH covers all natural causes of loss (drought has historically accounted for about two-thirds of indemnities), with policies delivered by private companies that are reinsured by the government.

Protecting against both yield and price risk, revenue insurance has attracted considerable interest from producers, particularly for corn and soybeans in the Midwest. Crop Revenue Coverage (CRC), developed by a private insurance company in 1996, is currently the most popular revenue insurance product, followed by the product Revenue Assurance (RA). Revenue insurance choices expanded with the introduction of Group Risk Income Protection (GRIP) and Adjusted Gross Revenue (AGR) insurance in 1999. GRIP adds a revenue component to the production-based GRP (Group Risk Plan) area-yield insurance and is offered on a commodity-by-commodity basis. AGR bases coverage on income reported on Schedule F of the grower’s federal income tax return, or on a current-year farm plan.

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## Issues

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Despite coverage expansion and new product introductions, dissatisfaction with crop insurance has been an issue since before the 1980s. Significant reform of the federal crop insurance program has occurred twice in the past decade alone. Issues continue to arise regarding the efficiency and effectiveness of crop insurance in providing a tool for mitigating farming risks and the relationship between

ad hoc disaster assistance, commodity programs, and crop insurance:

- **Does disaster assistance mitigate the effectiveness and efficiency of the crop insurance program, and should we avoid a dual system of crop insurance and disaster assistance?**

With low and declining prices in 1997 and 1998, Congress passed emergency assistance four times between 1998 and 2000, totaling about \$25 billion. This assistance has at times also included yield loss provisions. Although some believe that crop insurance—where producers pay a portion of the premium and companies have a key role in delivery and new product development—should be the primary risk protection focus, it has been very difficult politically to eliminate ad hoc emergency assistance. Indeed, reform of the crop insurance program focused on eliminating the need for ad hoc disaster assistance in both 1980 and 1994 legislation. In both time periods, this was largely a budget issue and not a risk management issue. Despite such legislation, ad hoc disaster assistance continues to appear. Observers argue that the continuation of ad hoc disaster assistance has hindered the widespread adoption of crop insurance.

- **Is insurance coverage adequate and available to producers who want it, and what should be done for livestock producers?**

A longstanding issue has been the availability of insurance coverage for new commodities as well as access to products in all locations. Although USDA has expanded insurance availability to many new specialty crops in recent years, some producers have voiced concern that insurance availability is often limited to major producing areas and that animal agriculture has been excluded from coverage. In addition, concern has been expressed as to the availability of new products in areas where premium rates are at high levels. Insurance agents may not be able to justify their investment of time or money into offering new products due to the impact of high rates

on producer participation, or in situations where agriculture is a small portion of the local economy.

Insuring livestock and additional specialty crops could be a step in the positive direction from an equity and risk mitigation standpoint. Indeed, the Agricultural Risk Protection Act of 2000 allows pilot programs for livestock (limited to \$10 million for the first two years), and proposals for pilots for livestock have been put forward, beginning in late 2000.

Whole-farm types of approaches, such as AGR, have generated considerable interest. RMA's pilot whole-farm product the Adjusted Gross Revenue program, or AGR is still in the trial stage.

- **Does subsidized insurance provide risk management, income support — or both — and what are the impacts of increasing subsidies?**

Subsidized insurance historically has been viewed as a risk management tool, but with increasing levels of subsidization — and occasional calls for using insurance as a replacement for contract payments and marketing loan benefits — its counter cyclical income support functions have become more visible. Insurance subsidies are calculated as a percent of the policy's total premium, and the dollar-value of the subsidy is the highest in the highest-risk areas (where premium rates are highest). In such situations, the subsidy can have a particularly significant effect in reducing producers' production costs and indirectly help support incomes.

Most economists argue that insurance is an inefficient way to support incomes, and that direct approaches to income support (such as contract payments) are more transparent and lead to fewer regional distortions. Indeed, one issue voiced by some producers in low-risk areas is that the premium rates they are charged are too high relative to their risk of loss, and that increasing subsidies leads to a greater dollar-value of transfer to higher risk areas. Recent research indicates that there may well be basis to such claims. According to a recent USDA report on insurance for corn and soybeans in Iowa, lower-risk producers may be overcharged for APH crop insurance and Crop Revenue Coverage policies relative to expected indemnity payments, while

higher-risk producers may be undercharged for those products (Makki and Somwaru). The nature of individual yield-based crop insurance makes it very difficult to accurately rate producers. This is caused by information asymmetries that could potentially be eliminated by using area-based insurance programs.

In addition, subsidized insurance can lead to distorted production incentives, particularly in areas where the realized value of the subsidy is the greatest. A recent simulation analysis examined the impact of subsidized insurance on plantings, using expected net indemnity as the subsidy measure (calculated as total indemnity minus farmer premium, and reflecting the new ARPA premium subsidy levels). The authors found that acreage for 8 major field crops would be expected to expand by about 900,000 acres, with wheat accounting for about one-third of the total (Vandever and Young).

- **Can revenue insurance be designed to provide better protection to producers?**

Most revenue insurance policies (including CRC, IP, and RA) are based on projected futures prices at planting time and, thus, provide an intra-seasonal guarantee. If futures prices are low, the revenue insurance guarantee is also low, and the policy offers limited protection against losses. Approaches that are not based on seasonal prices, however, and that are, for example, based on a target price or target revenue concept, carry several adverse consequences. By incorporating non-market signals, production incentives across crops could easily be distorted, costs to both producers and the government could be significantly higher, and such actions run contrary to the U.S. trade position in the WTO negotiations.

- **What is the most cost-effective way to help farmers when natural disasters occur?**

Mitigation of farming risks (including both yield and price risk) can be accomplished through a variety of policies. Benefits to the nation from the preservation of farm financial stability must be weighed against the costs to taxpayers. In the 1999 reinsurance year (starting July 1, 1999), for example, the crop insurance system cost taxpayers

approximately \$2.2 billion, with private insurance companies that deliver policies receiving about one-third of the total. In contrast, much uncertainty surrounds ad hoc emergency disaster assistance. For the 1998-2000 production years, emergency assistance averaged about \$2 billion annually for low-yield and low-quality payments, — primarily for crops.

The most cost-effective way to provide a natural disaster assistance program is not clear-cut. Emergency assistance delivered through the government is politically popular and straightforward. However, producers cannot rely on the existence, amount, or timing of emergency funds as part of their long-term risk management strategy. In contrast, the existence of crop insurance may increase bankers' willingness to lend to farmers, and may help farmers to make better long-term risk management decisions.

- **Should insurance be provided within a broader context of education and other risk mitigating tools?**

Farmers must deal with production, financial, legal, marketing, political, and personal/family risks. Insurance is just one tool for managing risk, and mitigating risk in one area may entail increasing other risks. For example, taking costly steps to reduce production or marketing risks may, in fact, increase financial risks. Each individual must weigh the purchase of insurance — as well as the use of other types of risk reduction strategies — in the context of his or her own unique set of risks. Education as a policy tool can help farmers to identify and weigh their unique risks against existing policies, as was recognized in the Agricultural Risk Protection Act and recent agricultural appropriations acts.

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## Options and Consequences

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Five major policy options and consequences might be considered in the 2002 farm bill debate. These are:

- **Maintain the current federally subsidized insurance program along with a mix of other policies**

This option would continue the current federally-subsidized multi-peril crop and revenue insurance programs, private hail insurance, and disaster-induced emergency assistance. A dual system may result in inefficiencies in resource use and creates difficulties for farmers, bankers, rural businesses, and others in planning because of the ad hoc nature of emergency programs. With changes in the Federal crop insurance program in recent years, farmers have access to a wider array of options to choose among for their risk management needs. Even so, some farmers, particularly those with livestock and certain specialty crops, have the potential to remain without insurance alternatives.

- **Eliminate crop insurance and focus on free disaster assistance**

Because of the complicated nature of federally subsidized insurance programs, the cost of a dual system, and other factors, some observers advocate the elimination of federally subsidized insurance and instead prefer reliance on free disaster assistance. Free disaster assistance could either be statutory, as were disaster programs in the 1970s, or enacted on an ad hoc basis. Neither approach is without pitfalls. Statutory disaster programs of the 1970s were criticized at the time as expensive, even though they were narrowly focused on program crops. Taxpayers generally bear the total cost of disaster programs, and the benefits from statutory programs would tend to accrue into land values and incomes, particularly in the riskiest areas.

Ad hoc programs create particular problems. They result in uncertainty for farmers and other rural businesses because the availability of assistance is not known until after the disaster and passage of legislation. For producers who experience a weather-related disaster that is not widespread, assistance under such an approach could easily be non-existent due to the lack of public support. Those benefiting to the greatest degree from an ad hoc approach would be producers in areas that have a considerably higher

degree of production risk, and more political clout, than for the United States as a whole.

- **Move to private insurance without federal subsidies or reinsurance**

Another option is the elimination of the public sector role as the subsidizer of insurance policies and reinsurer of company risk, leaving the development and pricing of insurance policies solely to private companies. For many decades, private companies have successfully written limited hail insurance policies. Hail losses are independent among growers, however, and the companies do not face the catastrophic losses, and the potentially large financial exposure in offering these policies that they would in situations of widespread droughts (as in 1988), floods (as in 1993), or other multi-peril events that require large payments.

Because of the potentially catastrophic nature of multi-peril insurance losses, a program solely in the hands of the private sector would likely look quite different than the existing crop insurance program. Private companies would not offer policies in high-risk areas (or for high-risk crops), focusing primarily on low-risk areas/crops where catastrophic losses would be minimized and potential profits maximized. Without subsidization and reinsurance by the Federal government, private companies would need to include the costs of delivery and company risk management in the premium rate charged to farmers. With the addition of these costs, and the payment of the entire premium (in the absence of any subsidy), the cost to producers, even in low-risk areas, would increase steeply.

- **Use vouchers as a subsidy tool rather than premium subsidies**

The current subsidization system for crop insurance results in the transfer of the greatest dollar value of subsidy to producers in the highest-risk areas. This is because the subsidy is calculated as a percentage of the total premium, and premium rates are the highest in the highest risk areas. If the current insurance program were used as a basis for a voucher-based system, the dollar value of the existing

subsidy would be made transparent. Participating farmers would receive a voucher containing an explicit dollar amount that could be used for the purchase of crop or revenue insurance. A producer would take a voucher to his or her insurance company of choice to apply against a policy's premium.

While such an approach is simple in concept, using the current dollar value of subsidy levels in constructing vouchers would, however, be politically quite difficult. In crop year 2000, the average subsidy per acre for Texas cotton was \$19.15 — compared with \$4.34 for Illinois corn. Although the out-of-pocket cost per acre of cotton is considerably greater than the per acre cost of corn, making such differences public would be untenable to many. In addition, implicit in most discussions of vouchers is the withdrawal of federal reinsurance, which would make the program considerably less attractive to private company participants. A completely different approach to calculating the value of vouchers might well be necessary. Such an approach might be the basis for using vouchers for the purchase of other risk management tools — such as payment of the premium for an options contract — as well as for insurance.

- **Emphasize whole-farm insurance**

A whole-farm approach to insurance, in which the guarantee would be based on the revenue from the producer's entire operation or a subset of designated commodities, would provide a more comprehensive approach to managing whole-farm risk than the current crop-by-crop approach. As mentioned, whole-farm insurance has been initiated as the AGR program which bases safety net coverage on the commodity revenues reported on a grower's Schedule F tax return. However, a pilot project of this program, being conducted in a few northeast and southern states, has met with limited acceptance by producers. Other types of whole-farm insurance could be designed that focus on farm risk management accounts (which emphasize self-insurance through building up cash reserves to be used in times of income shortfalls).

A whole-farm strategy could eliminate concerns about a revenue safety net for non-insured commodities (such as livestock and certain specialty crops). Such an approach would be less likely to distort markets because farmers' planting decisions would be less likely to be altered, and the costs of administration and program delivery could be greatly reduced, particularly if the program used IRS tax returns. Depending on the design, such an approach could be of lower cost — but it also may not provide the protection that current programs offer to producers.

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## Conclusions

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Because of the recurring nature of natural disasters, risk management policy — embodied in both crop insurance and emergency ad hoc legislation — has been continuously in the policy spotlight. As with other policies, the approaches enacted often depend on the farm financial situation, the extent of the federal budget surplus, and other factors. The upcoming farm bill debate will likely include, implicitly or explicitly, provisions that address risk management, particularly given the persistence of emergency ad hoc payments addressing not only price, but also yield, concerns.

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# Supply Management

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## Introduction

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The federal government has been involved in managing the supplies of agricultural commodities since the 1920s. Over time, there have been several different types of instruments (voluntary, ARP, set-asides, land retirement) and justifications (surplus control, price enhancement, and government budget exposure) for managing supply. When the Congress passed the FAIR Act of 1996, short-term supply management programs for the major program commodities were ended. Currently, the only remaining policy instruments that have a supply management leaning (among other objectives) are the conservation and wetlands reserve programs and marketing quotas in peanuts and tobacco.

For most of the 25 years prior to the 1996 Farm Bill, supply management tools have been used in conjunction with price and/or income (target prices and loan rates) support mechanisms in an effort to hold supplies in check at prices above market clearing. Compliance with supply management programs was often achieved by making it a requirement for participation in price/income supports. This paper provides a brief history of supply management programs and discusses contemporary policy alternatives and their consequences.

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## Background

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The farm policy goal of supply management programs is to adjust agricultural production to perceived market needs. More specifically, supply management programs have been used to address over supply of agricultural commodities and its resulting negative effect on market prices and farm incomes. By indirectly supporting prices, supply controls also attempt to manage the government's budget exposure associated with concurrent price/income supports. Attempts to more closely coordinate supply with demand have covered a myriad of programs ranging from voluntary acreage reduction programs to mandatory production controls.

To understand where supply management programs may be headed, it is instructive to consider the path that these programs have taken over the last 70 years. The following is a brief summary of the major agricultural legislation containing supply management tools.

The first instance of the federal government using a supply management tool in the United States was the Federal Farm Board in 1929. The board used a fund of \$500 million to control surpluses by acquiring excess supplies. By 1932, the board stated that its

efforts to control supplies had failed and recommended that legislation was needed to control agricultural production (Tweeten).

The Agricultural Adjustment Act of 1933 was the first major price support and acreage reduction program. Producers entered into voluntary agreements and were paid to reduce their acreage of “basic” commodities<sup>1</sup>. The Soil Conservation and Domestic Allotment Act of 1936 was the first agricultural legislation to combine conservation with production controls. Producers were paid to voluntarily shift acreage from soil-depleting crops to soil-conserving legumes and grasses.

Marketing quotas and acreage allotments were two of the major provisions of the Agricultural Adjustment Act of 1938 that have been carried forward in the 1949 permanent legislation. Acreage allotments restrict farmers to planting only a certain number of acres of the allotted crop, depending on their share of the national acreage allotment. Farmers responded to being restricted to planting on fewer allotted acres by farming the allotment acres more intensely, by applying more fertilizer, and, perhaps, by closer management (Knutson, et al.). This reaction reduced the effectiveness, which required a further reduction in the national acreage allotment.

The Agricultural Act of 1956 established the Soil Bank program, which was established to address the excess capacity issue. This act had two major provisions: 1) acreage reserve, which on an annual basis, paid farmers to reduce plantings of allotment crops (wheat, cotton, corn, tobacco, peanuts, and rice) below allotment levels; and 2) conservation reserve, which paid farmers to divert all or part of their cropland to soil-conserving uses under long-term contracts. The acreage reserve was discontinued after two years because of high costs. The long-term conservation reserve provisions, however, were more attractive as 30 million acres were in the soil bank by 1960. Rural communities located in high participation areas objected to the whole-farm retirement provisions of the program. Communities felt the strain as input purchases and product marketings were reduced.

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<sup>1</sup> Basic commodities were cotton, wheat, corn, rye, tobacco, hogs, and milk.

The Emergency Feed Grain Program of 1961 included a voluntary acreage reduction program (ARP) for corn and sorghum that was later extended to wheat and cotton in 1965. The Agricultural Act of 1970 substituted a short-term partial land retirement program referred to as “set-aside” for allotments, marketing quotas, and acreage restrictions on wheat, upland cotton, and feed grains. The set-aside program required farmers to set aside a specific percentage of their cropland in order to qualify for farm program benefits. As with other supply management/production control programs there was significant slippage with the set-aside program. Slippage occurs when there is a difference in the percentage of land removed from production and the percentage reduction in supply. It occurs because producers typically set-aside their poorest land while farming the remaining acres more intensely.

The Food and Agriculture Act of 1977 continued set-asides and established a national peanut allotment and quota program, as well as, established Farmer Owned Reserve (FOR) for grains. The FOR was established to stabilize prices through managing stocks as opposed to acreage. It functioned as an extended loan program (with a higher loan rate) covering a period of up to three years. Producers could not sell their commodities until the market price reached the “release price” and had to sell when the market price reached the “call price.” The effect of the FOR was to reduce producer marketings, which increased the size of stocks hanging over the market.

The next major supply management efforts were the Payment-in-Kind (PIK) Program of 1983, and the Dairy and Tobacco Adjustment Act of 1983. The PIK program provided for voluntary acreage reduction by adding payments in kind (commodity) to regular acreage reduction payments for grain, upland cotton, and rice (Tweeten). A record 82 million acres (more than one-third of all cropland) were removed from production. The reduction in supply would prove to be short lived. The Dairy and Tobacco Adjustment Act initiated a voluntary dairy diversion program similar to that for crops. Farmers could receive payments of \$10 per hundredweight of milk in return for cutting production 5 to 30 percent. The program did not succeed at reducing milk production.

The Food Security Act of 1985 attempted to reduce incentives provided by previous legislation to produce for the farm programs. The 50/92 rule provided deficiency payments on 92 percent of permitted acreage if at least 50 percent of the program crop was planted, with the remaining acreage in soil conserving use. This provision was changed to a 0/92 rule for 1988. In addition, the Conservation Reserve Program — as we know it today — was initiated to take up to 45 million acres of highly erodible land out of production. The Act also authorized a dairy herd buyout program aimed at reducing milk surpluses by removing cows from production. Again, there was significant slippage and dairy surpluses returned.

The Food, Agriculture, Conservation, and Trade Act (FACTA) of 1990 continued the acreage reduction program (ARP) and authorized paid land diversion programs (PLD) in the framework of new triple base provisions. Instead of receiving deficiency payments based on 100 percent of the crop acreage base (CAB) less any ARP or PLD, payments were based on 85 percent of the CAB less any reduced acreage (Pollack). The 15 percent difference is referred to as normal flex acreage (NFA). Producers also had the option of flexing an additional 10 percent of the farm's base.

The Federal Agriculture Improvement and Reform (FAIR) Act of 1996 eliminated ARPs, suspended authority for the FOR through 2002, eliminated 0/85/92 and 50/85/92 programs, authorized new enrollments in the conservation reserve program to maintain total acreage at up to 36.4 million acres, and maintained peanut and tobacco quota programs.

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## Summary of Previous Supply Management Efforts

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Over the past 70 years, several supply management tools have been utilized with varying degrees of success. Clearly, the voluntary short-term supply management efforts have been ineffective at

substantially reducing supplies. Examples of these types of programs would include voluntary ARPs, dairy diversion and buyout programs, and farmer-owned reserves. Mandatory programs such as set-aside and ARPs were also ineffective due to significant slippage. Longer-term programs such as the soil bank and conservation reserve programs were more effective at reducing supplies (along with environmental benefits). It is generally accepted that marketing quotas are the most effective at achieving the desired policy objective of controlling supplies.

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## Policy Alternatives and Consequences

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A number of policy options are possible with respect to supply management. In general, the options can be categorized as: 1) voluntary programs; 2) mandatory programs; and 3) no supply management programs. The potential impacts of the different categories of supply management vary across the various stakeholders.

### Farmers

The impact of voluntary programs on farmers could safely be assumed to be positive — otherwise farmers would not volunteer to participate in them. The impact of mandatory programs is not as clear. The ineffectiveness of non-paid set-asides and ARPs at reducing supplies would indicate a negative impact to the farmer. The farmer is generally forced to reduce acreage with little price compensation on his remaining productive capacity. Quota programs that effectively restrict supply would increase commodity prices and could increase total revenues. The extent of the revenue change would depend upon the response of price to the reduction in supply. A significant issue that will determine who benefits will be the method used to assign quota. In addition to the revenue effects, the benefits of the program get capitalized into the value of the asset (in this case, the

quota), thereby increasing the wealth of the quota holder.

The impact of no supply management programs compared to the provisions of the FAIR Act are minimal. It would eliminate the tobacco and peanut quota programs. Depending upon whether they would be compensated for the loss in the value suffered from eliminating the quota, they may be better off in the short-term with significantly lower price expectations in the longer term. It is assumed that the conservation reserve program would not be eliminated due to its significant and positive environmental benefits, and the potential supply and price impact of bringing this acreage back into production.

### **Agribusiness**

To the extent that any supply management program is effective, then the agribusiness sector would be adversely affected from reduced input sales and reduced handling of output. However, the impact of farming the remaining acreage more intensely may offset some of the adverse affects. In addition, there would likely be substantial regional disparities.

### **Consumers**

Supply management programs, when effective, adversely impact consumers by raising food prices. The farm value of most foods is relatively small compared to the retail value so there would be some question as to the magnitude of the impact on retail food prices. However, it could be assumed that any farm price increases would be passed along to consumers. To the extent that long-term conservation programs create a reserve of production capacity, consumers are provided an additional assurance of an ample food supply.

### **Taxpayers**

The impact of supply management on taxpayers is uncertain. Long-term acreage reduction is generally expensive, while short-term mandatory programs can be implemented at little or no cost. As a qualification for participation in concurrent price/income supports, supply management (ARPs) may

reduce participation and the cost of price supports. To the extent that short-term programs like ARPs are effective, these programs may reduce government budget exposure associated with price support programs. The no supply management alternative, compared to the provisions of the FAIR Act, would have little impact on taxpayers as the tobacco and peanut programs are generally no net cost programs.

### **Environment**

Voluntary and mandatory supply management programs tend to have two effects. First, generally the poorest land (often environmentally fragile) is taken out of production. This would be a positive outcome. Second, the remaining acres are farmed more intensely — which can have serious environmental consequences. It is unclear whether eliminating supply management programs would be positive or negative.

### **Rural Communities**

To the extent that any supply management program is effective, then the rural communities would be adversely affected from reduced input sales and reduced handling of output.

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## **Summary and Conclusions**

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Over the past 70 years, short-term supply management programs have met with little success at managing supplies. That lack of success, coupled with the popularity of the flexibility provisions provided for in the FAIR Act, suggest that short term supply management is not likely to be a significant part of the 2002 Farm Bill debate. Long term acreage reduction programs such as the CRP, however, are almost certainly to be a part of the next farm legislation. While these programs are expensive, they are perceived as having been very successful at achieving multiple objectives.

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# Stocks Management Policy

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## Introduction

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The purpose of this paper is to provide background for discussion of stocks management policy as part of the general deliberation for the next farm bill. The intent is to provide an objective discussion as to the range of issues and past research related to stocks management policy.

### Framework for Discussion

It is important to remember that much of the grains, oilseeds, and fiber production in the United States occurs on an annual cycle. Thus, the product must be stored during the year until another is harvested. As a society, we are vulnerable to a crop shortfall if the previous year's crop has been consumed and there is nothing to fall back on. Such vulnerability is also obvious when one recognizes that crop production is a biological process. It depends on numerous climatological factors — rainfall being the most obvious.

The basic concept of “stocks management” policy in agriculture is fairly simple: to manage stocks of food and fiber in such a way as to maintain supplies necessary for human and animal sustenance,

while avoiding undue depression on prices and minimizing the risk related to such management.

Achieving such a balancing act, given the vagaries of nature, the market, and global politics, is much more complex. Following some major market surprises in the early and mid 1970s, a body of literature was generated regarding stocking programs. A rather dated, but easily read, publication is by Sharples, Walker, and Slaughter (1975). Taylor and Talpaz (1979), Just et. al. (1977), and Zwart and Meilke (1979) are but a few examples. In large part, this research has been neglected since the mid-1980s. In light of the change in world trade patterns, technology, and numerous other factors, the research may need to be re-examined if public decision makers anticipate making a major shift in the status quo.

### The Components of Stocks Management Policy

The key components in stocks management strategy are the need for emergency food reserves or food security, and the need to economically sustain private agricultural production.

The first policy choice for stocks management is to determine whether or not there is a need for government involvement. Costs associated with holding these commodities are real. Grain must be properly dried, turned, and sealed in order to maintain

quality. The inventory also represents significant financial holdings. The storage facility itself represents a major construction investment. Thus, if society feels a need to hold reserves at levels above that suggested by the market, then taxpayers must be prepared to support such a decision.

For an individual member of society, the benefits associated with holding these stocks will generally be difficult to determine. The Sharples, Walker, and Slaughter paper suggests a government program to hold reserves that cuts wheat price variability roughly in half, but the cost associated with such action was then (1975) estimated at \$130-\$200 million per year.

There are several shock absorbers and time lags in the food chain between producers and consumers. This sometimes makes it difficult to understand all of the ways in which higher commodity prices affect what one sees in a grocery store. Nonetheless, even minimal changes in food prices amount to a large aggregate impact for society as a whole.

Several options exist within the range of private or public stock holding decisions. Each option will have a noticeable affect on the market, i.e. those that are real and direct, and those with indirect or potential market effects. This allows the consideration of the various options along the following matrix (Table 1).

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## Alternatives and Consequences

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While public policy often revolves around what government chooses to do (through legislation and regulation), it is also what government chooses not to do — such as with laissez-faire or hands off policy allowing the private sector to deal with the problem. Information and uncertainty are underlying factors in stocks management. Generally, most private options involve no tax subsidy and have some level of downside risk for shortages in tight markets. Public options, alternatively, have some level of tax support and tend to place this value above that suggested by the market on the value of stocks held for unexpected events.

### Private Direct Options

**On-farm storage** has historically been one of the largest private storage components, with producers

**Table 1. Private and Public Alternatives for Stocks Management Policy**

CHOICE	DIRECT & REAL IMPACTS	INDIRECT & POTENTIAL IMPACTS
Private	1. On farm storage 2. Cooperative storage (private actions through cooperative institutions) 3. Market determines without planning 4. Others?	1. Market rights to future production. 2. Others?
Public (government)	1. Farmer-owned-reserve 2. Nonrecourse loan (CCC loan) 3. Others?	1. Set-aside 2. Conservation Reserve Program 3. Maintaining surplus capacity 4. Acreage allotment 5. Others?



holding grains and oilseeds in order to fill on-farm feeding needs as well as for speculative purposes. Basically, it is up to the producer to incorporate on-farm storage into a risk management plan. The producer must construct permanent facilities or erect temporary units on the farm. The more sophisticated producers will use the futures market to balance the risk of holding stocks. While this has essentially been market driven storage, there has been some government involvement in the form of cost-share and interest subsidies to help with construction of on-farm storage facilities in the past<sup>1</sup>. Further, the government has for years offered a variety of loan programs that allow producers to maintain cash flow, without marketing the grain. This allows the grain to remain in storage somewhat longer than would otherwise be the case.

Likely impacts of this approach to stock holding include: the producer assumes the risk of investing in storage facilities; quality and quantity of stocks will be very decentralized; planning for availability of the stocks will be dependent upon the accuracy of voluntary or mandatory reporting procedures; negotiating large grain transfers may be difficult; and tight market conditions or price spikes would suggest a lack of surplus inventory.

**Cooperative storage**, like on-farm storage, tends to have little, if any, government involvement. It provides a way for producers to pool private decision-making and risk taking. Cooperatives either hold the crop at a co-op facility or contract with some other private facility until the timing improves from a marketing perspective. Likely impacts of such an approach include: spreading the risk for profit and loss; possible opportunity for hiring professional management; improved opportunity for participating in larger negotiated transactions; and, again, without some central or government incentive to hold some minimum level of stocks, tight markets could result in shortages for the less fortunate.

**Market storage** includes stocks held by any number of entrepreneurs who may be producers, brokers, or private storage and marketing facilities — essentially anyone who holds grain for speculative purposes. As with any private sector solution, the

downside risk for shortages in the short run may be high.

### **Private Indirect Options**

**Options to future rights** may be further developed beyond the systems already in place by the market. These would commit producers and cooperative stocks to some future contracts. Likely impacts include the possibility of providing a risk management tool to producers and brokers with the market determining the distribution of value. While transactions costs may be higher and profits reduced, the market may better distribute the release of stocks to reduce unexpected shortfalls.

### **Public Direct Options**

The public sector has devised a variety of programs over the past several decades. While a variety of political purposes can be ascribed to public policy decisions, the most general reason for government intervention in the U.S. agricultural sector is market failure. Right or wrong, improperly treating a symptom or accurately targeting a public problem, public solutions to stocks management have been intended to fix a market imperfection.

**The Farmer-owned-reserve (FOR)** was, for several years, the lynch pin in government efforts to maintain a buffer stock program. It was a voluntary long-term storage program with entry and release trigger prices to bring some stability to the market, and to share some of the producer risk. When prices fell to a designated entry level, producers could place the crop in the reserve, effectively taking the stock off the market and relieving downward price pressure. As prices began to increase and eventually hit a designated release level, producers would take the stocks out of the reserve and offer them to the market. The FOR was established in the 1977 Farm Bill as a three-year extension of the regular nine-month CCC loan for wheat and feed grains. Producers were provided a loan with the crop used as collateral, however, they were also provided storage payments to offset the cost of holding on to the grain. The FOR was suspended for seven years with the

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<sup>1</sup> The 1996 Act did provide for some assistance to producers to build on-farm storage.

passage of the Federal Agriculture Improvement and Reform Act of 1996.

### **Likely impacts for the FOR include:**

- The speculative value of holding stocks is reduced when the government sponsors the holding of stocks for extended periods of time. This dampens upward price movements, as the market understands the rules associated with bringing this grain back to the market.
- What also occurs with FOR, especially during times of high surplus stocks and lower market prices, is an increase in tax subsidized storage and interest fees. As Knutson et al note, if loan levels and release prices remain high, the incentive is for more production and reduced U.S. exports. This creates an artificial bubble that eventually must be dealt with — likely by a release that will depress prices.
- As Tweeten states, “Counter-cyclical buffer stock changes and improved crop and livestock forecasts can reduce this social cost.” It should be noted that Tweeten does state that such a benefit could justify a private solution. Nonetheless, his explanation does emphasize an outcome that a buffer stocks policy such as the FOR is a counter-cyclical solution, and such a program does reduce the uncertainty of stocks inventory and price ranges.

**The non-recourse loan (CCC loan)** program allows producers to voluntarily place commodities in the loan (plus interest and storage), giving flexibility to market production within 9-12 months, with that length of time allowed to repay the loan.

**The Marketing Loan Program** allows commodity stocks to move into the market when price levels are below non-recourse loan repayment levels. Both the non-recourse loan program and the marketing loan are addressed in other papers in this series.

### **Public Indirect Options**

There is any number of public programs whose primary goal is not stocks management, but a likely result is some potential for buffer stocks or at least

the capacity to grow additional stocks. For example, such programs as set-aside, the Conservation Reserve Program, and acreage allotments are discussed in other papers in the series.

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## **Summary and Conclusions**

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Food security, at its most basic level, is achieving supply equivalent to demand, assuring no shortages. Whether it is driven by the populace perceiving a basic right to food, or by government perceiving itself obliged to provide its citizens with some minimal level of food, the result is the same: production and/or harvested crop must be managed in such a way as to achieve the goal that food will be there when needed. Normally, food security is a national goal. As more economies mature and increase levels of discretionary income, a sense of regional or global food security is evolving.

Private solutions are paid for by the market rather than by the taxpayer — although public welfare programs may become more expensive for taxpayers if the market fails to provide for consumers with an inability to pay. However, they allow maximum freedom to various actors along the marketing chain, and may undervalue the need for buffer stocks for social needs and unexpected events. Public solutions funded by the taxpayer may provide windfall/monopoly profits to some actors in the marketing chain, but they are more likely to cover social needs and unexpected events, encourage surplus production and capacity, and tend to over-value surplus.

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# Farmer Savings Accounts

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## Introduction

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Various incentives can be used to encourage farmers to save for bad times. In Canada, for example, the government matches farmer deposits and provides interest rate bonuses. In Australia, a relatively new program allows farmers to defer taxes on savings deposits in good years so they can be withdrawn at lower tax rates in poor years. Although the concept has been debated in Congress since 1996, the United States has not yet implemented a specific farmer savings account program. However, such a proposal may emerge in the 2002 Farm Bill debate, or as part of a broader tax package developed by Congress and the Administration.

World trade agreements increasingly discourage trade distorting farm policy payments linked to commodity specific prices and production. Farmer savings account incentives represent one approach to potentially meet the emerging criteria.

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## Policy Alternatives and Consequences

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Six policy alternatives are outlined in this paper to provide some understanding of the role farmer savings incentives might play in future farm policy. A more detailed comparison of the first four options discussed is included in Table 1. The last two choices discussed include making no change in current policy, and creating a new choice from a combination of options.

### **Option 1: Canadian-styled Net Income Savings Accounts (NISA)**

Canada implemented a NISA program in 1991. Under the program, a farmer who makes a deposit into a NISA account receives a government matching deposit up to 3 percent of Eligible Net Sales (ENS) — defined as gross sales of qualifying commodities less purchases of seed, plants, and livestock. The Canadian government also pays a 3 percent interest rate bonus over local bank rates on all farmer deposits.

**Table 1. A Comparison of Policy Attributes for NISA, FARRM, IRMA , and FPPR Programs.**

<b>Policy Attributes</b>	<b>NISA</b>	<b>FARRM</b>	<b>IRMA</b>	<b>FPPR</b>
<b>Farmer Deposit Maximums/Minimums</b>	Maximum 20% ENS Eligible Net Sales/yr	Maximum of 20% "Eligible Net Farm Income"	Minimum of 2% Gross Farm Income (Schedule F)	None specified
<b>Maximum Account Balance</b>	150% up to 5 year average Eligible Net Sales	None	150% of 3 year average Gross Farm Income (Schedule F)	150% of 5 year avg. Gross Farm Income (Schedule F)
<b>Farmer Deposits Pretax/After Tax?</b>	After Tax Income	Pretax Income	Pretax Income	Not specified
<b>Government Deposit Subsidy</b>	Match \$ for \$ up to 3% ENS (\$7,500/yr Max.)	None	2% Gr. Income Subsidy & CAT coverage	Program Payments Deposited Pretax
<b>Interest Rate Bonus paid by Government</b>	Additional 3% on farmer deposits	None	None	None specified
<b>Farmer Deposit Taxable?</b>	Taxes paid before deposit	Tax Deferred until Withdrawal	Tax Deferred until Withdrawal	None specified
<b>Government Deposit Taxable?</b>	Tax Deferred until Withdrawal	Not applicable	Tax Deferred until Withdrawal	Tax Deferred until Withdrawal
<b>Interest Earnings Taxable?</b>	Tax Deferred until Withdrawal	Annually	Tax Deferred until Withdrawal	Tax Deferred until Withdrawal
<b>Withdrawal Triggers and Time Limits?</b>	Gross Margin less than 5 yr average; or Net Income below \$20,000 for individual or \$35,000 for family	Full Farmer Discretion; Rolling 5 year time limit on each year's deposits	Current year Gross Income less than 80% of 3 year average	Current year Gross Income less than 5 year average
<b>Advanced Withdrawals</b>	Yes	Not applicable	None described	None described
<b>Use of withdrawals for Farmer Deposits</b>	Yes	Yes, at Farmer Discretion	No limits described	None described
<b>Limits on Insurance Coverage</b>	None	None	Farmer may only buy insurance not subsidized	None
<b>Unused Match Carried Forward</b>	Carried forward up to 5 years	Not Applicable	None Described	Not specified
<b>Voluntary Close Out Options</b>	Yes, lump sum or 5 year installments	Yes, if less than 5 years	None described	None described
<b>Mandatory Close Out Criteria</b>	Failure to apply for 3 years; failure to apply after advance payment; fail to meet repayment deadline for overpayment	Failure to farm 2 years consecutive. 10% penalty if each year's deposits not withdrawn in 5 years	Leave farming for non-farm employment; retirement; or bankruptcy	Leave farming for non-farm employment; retirement; or bankruptcy
<b>Differential Tax Rate Bias for High Income Farmers</b>	Not on farmer deposits, but deferral benefit may be greater on government match and interest payments	Yes, greater incentive to save for higher tax rates	Yes, greater incentive to save for higher tax rates	Not specified
<b>Relative Budget Exposure Among Four Options</b>	High	Low	Medium	Depends on scope and interpretation
<b>Relative Farmer Participation Rates Among Four Options</b>	High	Low	Medium	Mandatory

NISA has two rules for triggering withdrawals. Withdrawals can be made under an “Income Stabilization” trigger when the farmer’s current year “Gross Margin” falls below the farmer’s average for up to five previous years. Gross margin equals net sales from all agricultural commodities, plus income from contract work and machine rental, minus eligible expenses. Gross margin is roughly analogous to Schedule F Gross Farm Income.

Alternatively, withdrawals can be made under a “Minimum Income” trigger when the farmer’s current net income from all sources falls below a threshold level plus a matchable deposit. The current minimum income trigger is C\$20,000 per individual or C\$35,000 per family.

Participation in NISA is voluntary. Farmers may voluntarily leave and rejoin under specific rules. Farmers are required to opt out if they quit farming or retire.

### **NISA Account Probable Consequences**

- **Nearly all farm enterprises are eligible.** Canadian incentives induce slightly more than half of Canada’s farmers to participate in NISA.
- **Income stabilization capability grows over time.** For those with NISA accounts, the 1999 average balance per farm was C\$16,000. Since NISA withdrawals are counter-cyclical in nature (can only be made in poor years), farmer payments in good years are less likely to cause public concern.
- **NISA payments are decoupled for planting flexibility.** Matching payments to farmers are based on self-help and whole farm gross income. Therefore, NISA payments are decoupled from commodity specific production, prices, and planting decisions.
- **Government spending can become more stable and predictable.** Because spending for matching deposits is spread out over several years, government spending on NISA is less variable from year to year compared to most “pay as you go” counter-cyclical programs.
- **Other income support programs are still needed.** Subsidized crop insurance and government funded NISA incentives are farm

program mainstays in Canada. Canada continues to maintain an ongoing supplemental disaster assistance program.

### **Option 2: Farm and Ranch Risk Management (FARRM) Accounts**

U.S. proposals for FARRM savings accounts originally surfaced during the 1996 Farm Bill debate, and again reappeared in 1998, 1999 and 2000. Under the FARRM concept, deferred taxes provide the incentive for farmer savings.

Farmers take a federal income tax deduction for FARRM account deposits. In the most recent proposal, farmers would be eligible to deposit up to 20 percent of “eligible net farm income,” which is taxable net farm income plus capital gains from the farm business, excluding land. Deposits would be held in interest-bearing accounts at approved financial institutions. Interest earnings are distributed to the farmer and are annually taxable in the year earned.

Withdrawals from FARRM accounts are made at the farmer’s discretion and are taxable in the year withdrawn. Unlike the NISA program, there are no price or income triggers. FARRM deposits could stay in an account for up to five years, with new amounts added on a first-in, first-out basis. FARRM deposits not withdrawn in 5 years would incur a 10 percent penalty.

### **FARRM Probable Consequences**

- **Maximum farmer flexibility, but no assurance savings used as safety net.** Farmers are free to make withdrawals whenever they choose. Taxpayers have no assurances that farmer withdrawals will actually be used as the farmer’s safety net during bad years.
- **Farmers in high tax brackets receive greater incentives.** Because FARRM uses tax deferral incentives, high tax bracket farmers receive greater benefits and incentives to save. The most recent proposal does not limit annual contributions or account balances.
- **Benefits go to relatively few farmers.** Deposits based on net income are more limiting than gross income. Over two-thirds of sole

proprietors either report a farm loss or have no federal income tax liability, and could neither participate nor benefit from FARRM accounts.

- **Agricultural cycles are often longer than five years.** While government tax deferral costs on FARRM accounts become more stable after the first five years during which primary account balances are established, livestock and weather cycles often last longer.

### **Option 3: Individual Risk Management Accounts (IRMA)**

The IRMA concept originated from an Alabama Farmers Federation study committee. IRMA accounts are voluntary and contain a combination of deferred tax and government matching deposit incentives. Similar to FARRM accounts, IRMA deposits are deductible from pretax income. Deposits and interest are taxable after withdrawal.

A farmer who wishes to participate deposits a minimum of 2 percent of Schedule F gross farm income each year into an IRMA account. The federal government matches the farmer's 2 percent deposit with another 2 percent deposit, using dollars that would have been used to subsidize the farmer's crop insurance. IRMA farmers receive CAT coverage, but additional crop insurance purchased must be non-subsidized.

Also similar to NISA, farmers can maintain maximum IRMA balances of no more than 150 percent of the farmer's three-year average Schedule F Gross Farm Income. The IRMA plan contains a specific withdrawal trigger that only allows farmers to make withdrawals if their current year Schedule F Gross Income Falls below 80 percent of the average for the previous three years. The withdrawal can only bring the income up to the 80 percent level.

### **IRMA Probable Consequences**

- **Based on the magnitude of the IRMA incentives to save,** farmer participation rates and safety net accumulation rates are likely to be greater than under FARRM accounts but less than under the NISA program. Similar to FARRM, IRMA provides greater savings

incentives in the form of tax deferral for farmers in higher tax brackets.

- **Minimum contribution requirements may cause cash flow problems.** The annual minimum matchable deposit requirements may cause cash flow problems for some farmers, particularly those previously not purchasing crop insurance.
- **IRMA may shift farm level risk.** Encouraging farmers to substitute IRMA for subsidized crop insurance could expose farmers to increased risk, particularly if the farmer's accumulated balances are not sufficient to cover a financial loss.
- **IRMA could impact government insurance costs.** Government costs for subsidized insurance may rise as low risk farmers exit crop insurance programs in favor of IRMA.

### **Option 4: Farm Program Payment Reserve (FPPR) Accounts**

AMTA payments (or other program payments) could be linked and diverted to farmer savings accounts to build safety net reserves for individual farmers. If AMTA payments are diverted to FPPR accounts in good years, they are available for use in bad times. If such FPPR accounts had been in effect with the passage of the 1996 Act, government payments in high-income years would have accumulated so that each farmer receiving AMTA payments would have had a safety net of reserve balances during the lower income years that followed.

For illustrative purposes, suppose a new FPPR proposal emerges during the 2002 debate over AMTA payments and specifies that 50 percent of future AMTA payments (and/or other designated farm program payments) be deposited by the Farm Service Agency into a FPPR account in the farmer's name. In effect, such a proposal would convert part of the fixed AMTA payments into a counter-cyclical payment program.

Similar to NISA, FPPR balances could be capped at 150 percent of the farmer's five-year average Schedule F gross farm income. Farm program payments would revert directly to the farmer when the FPPR account maximum is reached. Withdrawals could be triggered when current year



gross farm income (Schedule F) falls below the farmer's average for the previous five years. A farmer would be eligible to withdraw up to the difference between the current year's gross farm income and the five-year average.

#### **FPPR Account Probable Consequences.**

- **Potentially opens risk management to all farming activities reported on Schedule F.** If Congress designates livestock and specialty crops producers to receive government deposits, they, too, would benefit from FPPR accounts in low-income years. However, if deposits are restricted only to AMTA payment recipients, the benefits would be restricted only to farmers producing program crops under AMTA.
- **No new funding is required if FPPR deposits come from existing outlays.** Government costs for FPPR accounts would be relatively stable if a portion of existing outlays for updated AMTA payments are used for FPPR deposits.
- **Farm program benefits are less likely to inflate land prices in good years.** The part of the farm program payment diverted to a FPPR is no longer available to bid up land prices during good years. Instead, this portion of a farmer's program payment goes to building individual farm safety net balances that are then available in poor income years.
- **Taxpayers are assured that FPPR accounts provide safety net in bad years.** Unlike FARRM accounts, FPPR accounts have withdrawal triggers to assure taxpayers that deposits are withdrawn by farmers in low-income years. Unlike voluntary savings programs, FPPR accounts assure taxpayers that all farmers receiving designated farm program payments will have some reserves. As farmer FPPR participation increases, safety net reserves grow to reach effective levels and dependence on ad hoc disaster programs declines.

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## **Additional Policy Options**

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Two additional public policy options are worth mentioning: a combination of options and continuing the status quo policy. If Congress and the Administration adopt enhanced incentives for farmers to save for bad times, the final policy adopted may very well represent a compromise or hybrid of some of the options previously discussed and any new proposals that develop.

Such a compromise would largely depend upon the answer to a key policy question regarding the goals of farmer savings accounts. Should they be designed to make AMTA payments more counter-cyclical, as a supplemental risk management tool, as a substitute for subsidized crop insurance, or as a mechanism for building safety net balances to reduce the need for future ad hoc disaster programs?

Alternatively, the Congress and the Administration may choose to continue the status quo policy of not providing enhanced incentives for farmers to save beyond those already provided. Some interests may argue that additional incentives for farmers to save are not needed because, in their view, farmers already have several private sector tools and several public sector programs available to help them manage risks and weather the impacts from disasters. Thus, a decision of no change often represents the easiest choice for the policy arena to make and implement.

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## **Implications and Tradeoffs for Farm Bill Stakeholders**

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Savings incentives can help farmers to manage risks and create a self-help safety net for each farmer, to the degree that the farmer's net savings increase, assets accumulate and the farmer's

investment portfolio becomes more diversified. Added savings also represent a form of self-insurance that builds assets in contrast to adding insurance premium expense. However, the level of risk exposure depends on the farmer's previous accumulation of account balances on reserve.

Taxpayers are interested in the concepts because farmers may come to rely more on their own safety nets, and reduce reliance on ad hoc government disaster programs or subsidized crop insurance. Having greater deposits in rural financial institutions potentially results in two benefits for rural communities. Farm family consumption expenditures likely become more stable in periods of highly variable economic conditions. Second, as rural deposits increase, rural financial institutions potentially facilitate a greater level of rural lending.

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# Targeting Farm Program Benefits

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## Background

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The distribution of benefits from farm programs remains a major public concern. Historically, commodity programs have suggested a food security and stability objective, and targeted benefits to production. The changes in distribution of government payments resulting from implementation of the two most recent farm bills, the 1990 farm bill and the 1996 farm bill, are discussed in the following section.

Direct government payments to farmers more than doubled in the last 10 years going from \$8.2 billion in 1991 to \$20.6 billion in 1999. Almost 1 million, or 42 percent, of farms received government payments in 1999, for an average payment of about \$9,000 (Table 1). However, government payments were not allocated based on the percentage of farms in each size group. Large and medium size farms captured the largest share of government payments.

The distribution of government payments as a source of income displayed a similar pattern over this period. Government payments as a percentage of gross farm income almost doubled for small farms, more than tripled for medium size farms, and increased 2.75 times for large farms between 1991

and 1999. While the average nominal payment for large farms was considerably higher than for small farms, payments to large farms were a smaller proportion of their gross farm income — about 2 percent for large farms compared with 14 percent for small farms. Small farms had lower participation rates, which averaged 51 percent compared to 78 percent for medium size farms and 54 percent for large farms.

Changes in distribution of government payments received by different size farms have been accompanied by changes in the contribution of these farms to overall gross farm income. Large farms significantly increased their contribution to gross farm income while medium size and small farms decreased their proportion of sales in 1999. The regional distribution of loan deficiency payments was determined by location and production of program commodities (such as wheat, corn, grain sorghum, barley, oats, rice, and cotton). Because corn, wheat, and soybeans represented a major share of loan deficiency payments, areas dominating the production of these crops were the largest recipients of payments. Thus, the 1996 farm bill once again targeted food security and stability through production, with the bulk of payments going to major production areas mostly in the Midwest and those producing traditional program crops.

**Table 1. Distribution of Government Payments and Gross Farm Income by Farm Size, 1991 and 1999.\***

Value of Output (\$1,000)	Government Payments				Percentage Distribution Among Farm Sizes			
	Per Farm		As A Percentage of Gross Farm Income		Government Payments		Gross Farm Income	
	1991	1999	1991	1999	1991	1999	1991	1999
	----- Dollars-----		-----Percent-----					
Less than 20	618	1,155	6	12.9	9.4	7.2	6.7	4.9
20 to 49	3,272	4,502	7.5	12.5	11.8	7.9	6.8	5.5
50 to 99	6,922	13,688	7.2	15.8	21	13.4	12.6	7.4
100 to 249	11,447	26,436	5.6	13.6	30.2	25.2	23	16.2
250 to 499	16,982	54,362	4.1	13.2	14.5	22.3	15.3	14.8
500 to 999	24,736	73,166	2.6	9.3	8.6	14.4	12.5	13.5
1,000 or more	30,633	63,430	0.8	2.2	4.6	9.6	23.2	37.7
Total US	3,881	9,386	4.3	8.7	100	100	100	100

\*Farms are defined as small if the value of output is less than \$100,000, medium if the value of output is between \$100,000 and \$999,999, and large if the value of output is over \$1,000,000.

Source: USDA, Economic Research Service

## Principles of Effective Targeting

Some previous revisions in programs to target payments on a basis other than production have not been effective. It seems that the failure of government programs to effectively target groups was caused mainly by a misalignment of policy objectives and the instruments required to implement them. Problems also arise from the competing goals among government programs such as between general tax policy and agricultural programs. One of the principles of effective targeting is that policy goals are consistent and matched with specific policy instruments required for their attainment. Specific examples of matching policy objectives and policy instruments are given in Table 2.

Another principle is that slippage may reduce the effectiveness of government programs. Large farms may break into smaller farms (at least on paper) to be eligible for payments designated for small or medium farms. Another form of slippage occurs when program benefits are bid into land values. In this case, landowners rather than renters, new landowners, or farm laborers capture most of the benefits from farm programs. Also, higher bid prices for business assets allow slippage of credit subsidies to non-targeted groups. Thus, due to slippage, the ultimate beneficiaries of farm programs could be different from the intended beneficiaries.

**Table 2. Objectives and Instruments for Targeting Farm Policy.**

Objective or Problem	Current Instruments	Public Instruments for Cost Effective Targeting
1 Maintain family farms	Commodity programs, production flexibility contracts, credit programs; disaster payments, risk management programs	Financial assistance targeted to farms vulnerable to failure
2 Stabilize farm income	Commodity programs, crop insurance, risk management education, disaster payments	Counter-cyclical direct payments, Storage/marketing loans, Crop insurance, risk management
3 Alleviate poverty	Commodity programs, production flexibility contracts, welfare, schooling and training	Income maintenance (workfare) programs, schooling and training
4 Maintain rural communities	Commodity programs, rural development programs, schooling and training	Schooling and training, job development
5 Protect environment (soil conservation, and water protection)	Conservation Reserve Program; Environmental Quality Incentive Program (EQIP), Natural Resource and Conservation Service (NRCS);	Environmental Quality Incentive Program (EQIP), Environmental Protection Agency (EPA), NRCS
6 Food safety (protection of food from chemical contamination)	Environmental Protection Agency (EPA); Food and Drug Administration (FDA)	EPA, FDA
7 Food security (assured, adequate food supply)	Commodity programs, research and education; trade liberalization	Wheat buffer stocks, research and extension, trade liberalization
8 Low food prices, and international competitiveness	Commodity programs, including Export Enhancement Program (EEP), Market Promotion Program (MPP), research and education, trade liberalization	Research and education, trade liberalization

## Matching Policy Objectives and Policy Instruments

Table 2 gives an example of policy matching by listing 8 policy objectives, along with potential policy instruments to achieve them. Farm commodity programs currently attempt to serve several of these objectives, but each objective could be served more cost-effectively by modifying commodity programs to better target potential beneficiaries. The following section discusses the impacts of matching some of these objectives and instruments on certain affected parties.

### Maintenance of Family Farms

Maintaining family farms has been one of the objectives of farm policy. One of the drawbacks of the current policies is that payments are based on production rather than some other criteria. However, this goal might be achieved more effectively by targeting specific family farms that are vulnerable to failure. The problem with this approach is how to identify eligible farms. The issues of identifying different types of farms are discussed in the Underserved Farmers and Small Farmers paper.

Once the targeted groups have been clearly defined, the form in which assistance will take place should be determined. Various alternatives may include subsidized loan programs and tax policies. The Agricultural Credit Policy paper discusses loan

programs in more detail. However, it is important to ensure that these loan programs have additional oversight features to reduce slippage effects. Tax policies may include tax benefits for farms at some level of total family income, farms with low off-farm income, and/or farms of certain size.

The primary beneficiaries of these policy alternatives would be financially vulnerable family farms. They would receive government assistance that may be necessary for them to stay in business during periods of low income. Because this policy alternative is not associated with any particular commodity, it should not affect product prices. However, it should help stabilize the income of small farms that depend on farming as a major source of family income.

### **Stabilization of Farm Income**

Stabilizing farm income has been another priority of farm policy. Historically, farm income has been supported through the system of price and income support payments that have been a part of the commodity programs. It appears that the government will continue to provide a “safety net” in the form of an income support (loan deficiency payments) however, there is much discussion as to where it should be set. It is important to ensure that while providing an effective safety measure for producers’ incomes, loan deficiency payments do not disrupt markets. There are some suggestions that loan deficiency payments should be decoupled from production and paid out in a form of counter-cyclical direct payments that would provide some financial support to farmers in the periods of low incomes. The Counter-Cyclical Whole Farm Safety Net paper provides more insight on this issue.

If the direction is taken to move away from government subsidies to more market oriented income stabilization mechanisms, crop insurance and hedging with futures and options will become more important. The paper on Crop Insurance and Disaster Assistance provides additional discussion on the policy alternatives associated with their use. It appears that the role of the government in this case would be to help markets provide these instruments, and to ensure that farmers receive adequate

educational and financial assistance in using them. Implementation of these risk management instruments is expected to benefit some agribusinesses as, in effect; it will transfer one of the functions formerly performed by the government to agribusiness. Firms providing crop insurance and assistance in using futures and options are expected to benefit most from this policy implementation. Taxpayers could also benefit, as targeting farm payments might significantly reduce government spending on farm programs.

### **Alleviation of Poverty**

Alleviating poverty has been another major issue of farm policy. It appears that an income-maintenance “workfare” program, along with human resource development programs, might be a better alternative use of public funds than commodity and welfare programs. The direction that is proposed here is similar to the latest developments in the welfare programs in the sense that it is oriented toward developing the human capital of poor people, rather than simply providing them with a minimal income level. Providing jobs for poor people and ensuring proper training may be an effective way to alleviate poverty. Additional measures of alleviating poverty are discussed in the Agricultural Credit Policy paper.

These programs would primarily benefit poor and beginning farmers. Higher levels of human capital expected to result from this program would likely increase their chances of finding better jobs, and would increase their marketability in the job market. This change in policy may also benefit taxpayers because it could reduce the cost of farm and welfare programs.

### **Maintenance of Rural Communities**

The implementation of the first three objectives is expected to affect objective four: maintain rural communities. If family farms remain in place, farmers enjoy stable income, poverty is mitigated, and rural communities would likely benefit. Additionally, rural equity funds for agriculture and rural business development may be established to provide off-farm income opportunities, additional markets for

agricultural products, and new businesses in rural communities. Also, additional schooling, training, and job development may further enhance maintenance of rural communities. The principal beneficiaries of this program are members of rural communities — farmers and agribusinesses. Taxpayers could also benefit if government spending on farm programs declines.

### **Protection of the Environment**

Protecting the environment has also been an objective of agricultural policy for many years. The traditional conservation programs have been criticized, however, for their high costs, their inflexibility, and their “top-down” nature — as well as for not being targeted to achieve environmental outcomes (Batie). It appears that programs targeted to specific environmental problems, such as the Environmental Quality Incentives Program (EQIP), could better serve the goal of protecting environment. The EQIP program was introduced in the 1996 Farm Bill, and was primarily based on cost sharing for better management practices. In other words, EQIP is a green payments program designed to pay farmers to “produce” environmentally friendly outcomes (Batie).

Under a program like this, payments should be specifically targeted to certain problem areas in environmental and water protection, and soil conservation that would not be addressed by farmers otherwise. The challenge is identifying problem areas and taking into account that local conservation interests are in accord with broader conservation goals. Also, it may be difficult to determine which problem areas would not be addressed without adequate government assistance.

Similar matching can be provided for other policy alternatives, as outlined in Table 2. Specific issues of targeting food safety, food security, and international trade issues are discussed in the respective sections of this publication and, therefore, are omitted from this paper. In general, the suggested policies are primarily aimed at creating public instruments to aid market coordination of the proposed policy objectives.

The success of targeting farm programs lies in providing proper matching of farm policy objectives

and the instruments suggested for their implementation.

It is important that farm policy is consistent so that instruments designed for one objective do not contradict other policy objectives. It is also vital to assure that the objectives of farm policy and the instruments for their implementation are clearly defined to successfully implement these policies. Targeting implies a clear definition of perspective beneficiaries. These beneficiaries may change as policy priorities change. The ultimate goal of targeting farm programs is to provide a more efficient use of federal funds, which would translate into savings of tax dollars.

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## **References and Suggested Readings**

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# Supplemental Income Payments: An Annual Farm Bill

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## Introduction

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During each of the past three years, low commodity prices and various weather problems have prompted Congress to pass legislation affording farmers supplemental income payments. At this writing, the House Agriculture Committee has voted to appropriate an additional \$5.5 billion in supplemental payments for FY 2001. While the passage of annual farm legislation is not completely unprecedented, the levels and nature of the supplemental payments in 1998-2001 are truly a new occurrence.

Congress, of course, annually passes an Agricultural Appropriations Bill. In these bills and in recent so called "budget reconciliation" bills dealing with the budget deficit, Congress has on numerous occasions reduced farm program benefits, or denied or reduced funding to specific program features that were authorized in omnibus farm legislation. Congress has periodically enacted one-shot payments for natural disasters such as drought (1988, 1989) and flood (1993).

However, it has been rare for Congress to enact annual supplemental program payments for low prices. In part because of the supplemental

payments, the level of spending and the dependence of the agricultural sector on the government over this four-year period are also unprecedented. In the year 2000, direct payments to farmers were estimated at \$32.3 billion, compared to the previous record of \$25.8 billion during the depths of the "Farm Crisis" in 1986. Government payments have averaged about 25 percent of net farm income during the past 20 years. In 1999, such payments were about one-half of net farm income, and in 2000, about 70 percent. Emergency assistance originating from special legislation accounted for \$8.9 billion of the direct payments last year. As indicated by the House Agriculture Committee action cited above, supplementals appear to be a foregone conclusion in 2001.

### Issues Raised by Supplemental Payments

#### Who Gets the Money?

With government subsidies accounting for such a large proportion of net income, questions arise as to the equitable distribution among farmers who are recipients. There are some that feel that the extra payments should be targeted to small and mid-sized farmers. Payment limitations, which have never been truly effective, are now even more questionable. The

1996 Farm Bill and its flexibility provisions shifted some program benefits from farmers to landlords. Basing the supplemental payment on the AMTA has shifted support further toward landowners.

Further, it should be noted that the AMTA payments are based on historic payments under the previous commodity programs. Essentially, those who get the payments today are those who were receiving commodity payments in 1995. Thus, those receiving the supplemental payments are not those who are producing the crops today.

### **What Commodities?**

A theory behind multi-year farm bills dealing only with the so-called “major crops” (wheat, feedgrains, cotton, rice, and oilseeds) has been that with so much of U.S. acreage accounted for by these crops, it was unnecessary to deal with scores of minor crops or livestock (except for dairy). These commodities would automatically adjust in price. For example, if a government program boosted the price of feedgrains and oilseeds, their acreage would tend to increase at the expense of minor commodities, causing them to increase in price as well. Soybean growers now demand an AMTA so they can share in the AMTA-based supplementals. Supplementals have been used in hogs, dairy, sugar — even apples. California fruit and vegetable growers have been lobbying Congress for \$1.5 billion annually to offset low prices for specialty crops.

### **Impact on Supply**

Relatively strong global grain production has resulted in market prices that signal a contraction in supply. Supplemental payments, along with higher marketing loan payments, give farmers the opposite signal. There is disagreement among economists about the extent to which supplies are increased as a result of these payments. The U.S. will likely argue in the WTO that supplementals distributed as additional AMTA payments are “green box” e.g., they do not distort the market. However, there is little doubt that they keep excess resources in the

agricultural sector and, therefore, increase output. With farmers dependent on the payments to repay loans and stay in business, it has become a situation for Congress of “damned if you do and damned if you don’t.”

### **Impact on Land Values**

Agricultural land prices in major growing areas continue to rise as the value of government payments is capitalized into land values. This, too, is a perverse signal that is just the opposite of what normal economic forces would dictate.

### **Payment Uncertainty**

Another rationale for the passage of multi-year farm legislation is that agriculture, a highly capital intensive industry with few alternative uses for facilities and equipment, benefits from farmers having the knowledge of what the government programs will be over the next several years. *Ad hoc* annual payments do not provide this prior insight. Will the payment be offered again next year? If so, how big will it be? The availability of funds for supplemental payments has, of course, been created by the shift from a budget deficit to a large surplus, but will the surplus last?

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## **Alternatives and Consequences**

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### **Status Quo**

Although nobody — Congress, the previous or current administration, farmers, taxpayers, or economists — seems to really like the current policy of annual supplemental payments, there has been little momentum for doing something different. Barring a major crop failure somewhere in the world, high taxpayer costs, misleading economic signals, low market prices, and stagnant net farm income is likely with the status quo in 2001 and 2002. The House is

attempting to rewrite at least the income support provisions of the farm bill in 2001 (a non-election year). However, there has not appeared to be much support for a 2001 rewrite in the Senate, although the impact of the change to Democratic leadership has yet to be tested. Of course, the specter of reversion to permanent legislation in 2002 means Congress must act by December 31, 2002, unless it extends the 1996 Act.

## Countercyclical Payments

The outcry for “countercyclical payments” is almost universal, and is as ironic as well. The entire basis for farm programs for over 60 years was for the government to make direct payments or restrict supply to influence farm prices to rise when they were low, and, likewise, to allow acreage to increase or release stocks to the market when prices were high. This focus of farm policy was largely ignored in the 1996 Farm Act.

So, a return to countercyclicality is a strong likelihood with upcoming farm legislation. Indeed, the “one-shot” annual payments are themselves Countercyclical — as are marketing loan benefits and subsidized crop insurance. Congress has obviously been convinced that agricultural prices and incomes would have been at extraordinary low levels compared to historic norms to enact the supplemental payment levels that it did.

The Commission on 21<sup>st</sup> Century Production Agriculture recommends the use of supplement countercyclical SIS payments, triggered by gross revenues from program crops falling below some specified historic norm. Most special interest testimony recently before the House Agricultural Committee called for a form of counter-cyclical program provisions although there was no consensus on how to implement it.

## A Quid Pro Quo

Most government programs require subsidy recipients to do something in return for payments. With the supplemental payments, one must simply be already receiving AMTA payments and monitoring his or her land in a conserving state, or be in another

category singled out for assistance, such as a dairy farmer.

Therefore, one way to change supplementals would be to focus them more into green payments, or some kind of production or inventory adjustment incentive.

As pointed out in a recent *Choices* article by Zulauf et al:

“Provision of supplemental assistance suggests that society is not ready to cut support to the U.S. farm sector, at least not in times of budget surpluses and low farm prices. Farmers depend on farm programs to maintain both their income and their wealth. This dependency makes it easier for non-farm policy actors to negotiate with the farm sector for changes in other parts of the Farm Bill. A similar dependency during the financial crisis of the 1980s helped produce a 1985 Farm Bill with notable environmental provisions including conservation compliance, the Conservation Reserve Program, Sodbuster, and Swampbuster.”

## No Supplementals

Finally, Congress could simply bite the bullet and not pass supplemental payments in 2001 and beyond. Farmers who have been receiving the payments and their lenders would be drastically affected. Regions in which the supplementals account for the largest proportion of net farm income would bear the brunt of the adjustment process. Many economists believe that in two to three years with no supplemental payments, production of major crops would shrink and prices would rebound to profitable levels. However, others believe that the adjustment would take much longer and that not only farmers but the agribusiness infrastructure — as well as the communities dependent on production agriculture — would undergo substantial financial damage.

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# Conclusions

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Secretary of Agriculture Ann Veneman recently made some intriguing, and for a Cabinet member, extremely provocative remarks about the annual *ad*

*hoc* assistance provided by the Congress since 1998: “They do not provide farmers and ranchers or their lenders needed assurance about the role of the federal government in the future.” Further, Veneman stated that such assistance “can also turn into a political bidding war which attempts to relieve the patient’s symptoms without addressing the disease.”

Should the objectives of farm policy be welfare to farm families? If so, the track record has not been so good as pointed out in a number of recent USDA and *Choices* articles. However, if one cuts through the rhetoric and focuses on the evidence, it is clear that at least since the Morrill Act of 1862, the U.S. government and its people have suggested a food security and stability objective. If this is the measure by which governmental programs — including supplemental payments — are to be evaluated, then it would be hard to criticize the results.

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# Commodity Titles Overview

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There are number of commodities: peanuts, sugar, tobacco, milk, and wool and mohair, which have unique government programs and are covered in separate titles of the Farm Bill. Several common issues underlie the papers that follow.

First, in recent farm bills there have been strong efforts to eliminate or drastically change these programs. The wool and mohair program was actually scheduled for phaseout by 1996, but a series of ad hoc temporary programs have been passed to support the industry. The dairy price support program was to be terminated in 1999, but was extended for 2000 and 2001.

Second, unlike “program crop” policy, producer benefits of these five commodities have come largely from consumers rather than taxpayers through provisions such as supply control, import quotas and tariffs, and price discrimination.



# Sugar Policy

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## Introduction

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The FAIR Act of 1996 continued support of U.S. sugar by means of a loan rate in addition to the use of import restrictions. The loan rate is differentiated with respect to the type of sugar produced: the loan rate for sugar cane is 18¢/lb of raw cane sugar while the loan rate for sugar beets is 22.9¢/lb of refined beet sugar.

Loans may be recourse or nonrecourse, depending on the tariff-rate quota (TRQ) level determined by the Secretary of Agriculture (or USDA). If the TRQ is less than 1.5 million short tons, loans become recourse loans. In this case, the loans must be repaid regardless of the price of sugar. However, if the TRQ for a specific year is greater than 1.5 million short tons, the loans are nonrecourse. In this case, as the price of sugar falls below the loan rate, sugar used as loan collateral may be forfeited as payment in full for any debt under the loan program.

The penalty for loan forfeiture under a nonrecourse loan is 1¢/lb. The nonrecourse loan establishes an effective price floor of 17.0¢/lb for raw cane sugar and 21.0¢/lb for refined beet sugar.

Additional provisions of the 1996 FAIR Act serve to alter the environment of the U.S. sugar industry. Among these, provisions establishing marketing

controls on sugar and crystalline fructose have been suspended. This serves to allow for the determination of sugar or crystalline fructose production based on market forces and competitiveness-related factors rather than marketing quotas.

In addition to the removal of domestic marketing controls, the current farm legislation increased the marketing assessment from 0.20¢/lb to 0.25¢/lb. While this increase may mitigate a portion of the effect resulting from removal of domestic marketing controls, it also serves to increase government revenue. Increased marketing assessments partially offset the costs of potentially large government expenditures resulting from a nonrecourse loan program.

### Current Situation

Until quite recently, the U.S. sugar program has operated at no budget cost to the federal government. However, nonrecourse loan forfeitures, combined with downward pressure on domestic prices through market access through NAFTA and the WTO, raise the potential for large future outlays to support domestic sugar at current support levels.

A TRQ of greater than 1.5 million short tons has been in place for both the 2000 and 2001 marketing years. This has resulted in conditions necessary to implement commodity loans as nonrecourse.

A Payment-in-Kind (PIK) program was implemented in August 2000. This came about as the result of 1) government owned stocks, and 2) desire by government to avoid future forfeitures of sugar under the nonrecourse loan program. Implementation of PIK takes the sugar program one step closer to the possibility of direct government support, which could be implemented through means such as deficiency payments or other decoupled support.

Sugar policy affects producers, processors, rural communities, exporters, consumers, and taxpayers.

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## Issues

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Impacts of the current sugar policy include: 1) a high but stable domestic sugar price; 2) reduced U.S. sugar consumption; 3) increased corn sweetener consumption; and 4) a lower but more volatile world sugar price than would exist under greater market orientation. More resources are employed in the production and processing of sugar and corn sweetener industries than under the scenario of greater market access. Additional issues include the following:

- At what level, if any, should the sugar industry be supported, and how should such support be implemented?
- Should the market price be decoupled from domestic support, allowing the domestic market to clear?
- Should direct payments be initiated? If direct payments are implemented, how should they be paid to integrated producer-processors given the deficiency payment limitations for other crops?
- Is there a role for government involvement in stockholding or other types of governmental market intervention?
- Should government compensation be provided to communities and agribusiness firms that are adversely impacted by the modification of sugar policies?

- What policy options will eliminate the tendency toward over-production on the part of domestic and foreign producers?
- How should U.S. sugar policy evolve given the increased market access provided through the North American Free Trade Agreement and the World Trade Organization?
- If trade restrictions against Cuba are eased, should Cuba be granted a sugar quota? If so, how much?

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## Policy Alternatives and Consequences

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The domestic price of sugar continues to face downward pressure as long as it is supported above the world market price. This becomes especially critical due to increased market access resulting from NAFTA, the possibility for further increases through the WTO, and the potential resumption of trade with Cuba. Given this new environment, supporting the sugar sector at current levels while operating the sugar program at no budget cost to the federal government becomes an impossibility.

This dilemma highlights the importance of developing and adopting new and creative policy alternatives to address the concerns of various interest groups, and is especially true as the U.S. enters an era in which its ability to provide domestic support through trade restrictions becomes increasingly limited. The following scenarios and policy tools are not intended to be mutually exclusive. Rather, policy-makers may consider various combinations of the following in developing an efficient domestic sugar program that is fiscally prudent yet provides adequate support to sugar producers.



## **Status Quo**

One obvious option for the domestic sugar program involves retention of the status quo. Several factors have combined to make this alternative appear to be politically infeasible. Increased market access provided through various trade agreements has shifted the burden of U.S. price supports from domestic consumers and foreign producers to the U.S. government. As the tariff-rate-quota expands, downward pressure on the domestic price will cause increased forfeiture under the nonrecourse loan program. In turn, this will increase the burden on U.S. taxpayers — an option that may not be feasible in the long run.

## **Marketing Loans**

Marketing loans are another tool that can be used to support the price received by domestic producers. Ideally, this policy instrument can result in price guarantees to producers while consumers pay the price dictated by the market. With this type of program, the government bears the cost of supporting producer incomes.

In addition to the producer and consumer welfare gains suggested above, this option has another advantage. Current policy instruments support the domestic sugar price at levels above the world price. This inflated domestic price gives foreign producers added incentive to export sugar into the U.S. market. From the perspective of foreign producers, decoupling the U.S. market price from the support level would decrease the relative profitability in the U.S. market. In turn, this would diminish the incentive for foreign sugar imports.

A question, however, must be raised concerning the long-term viability of this type of policy. Marketing loans influence production decisions. As such, they are classified as trade distorting policies. Assuming that these types of policies will eventually be phased out under the WTO agreement, marketing loans may be viewed as a transitional instrument to be used in the short to intermediate-term.

## **Fixed Direct Payment**

An alternative to marketing loans, fixed direct payments, provide compensation based on historical production levels. Given that these payments are not linked to current production levels, they are consistent with the WTO “Green Box” criteria and, as such, are WTO-legal.

Similar to marketing loans, this policy instrument decouples producer support from the domestic market price. As a result, artificial incentives for foreign sugar to be imported into the U.S. market are removed. At the same time, U.S. production decisions will be based on the market as opposed to price support levels.

One of the difficulties in implementing this type of policy instrument is determining the fixed payment level. Knowing the support level the instrument is designed to achieve will help determine the payment level. However, the desired level of support is an elusive target, given fluctuations in market prices and the production effects of adopting fixed payments.

## **Fixed Direct Payment and Decreased Marketing Loan Rate**

A combination of the fixed direct payment and marketing loan rate options may alleviate many of the uncertainties mentioned above. Scenarios of this nature would serve to partially decouple government support from production decisions. At the same time, the lowered loan-rate would continue to act as a safety net for producers. For example, Orden (2000) suggested a “25/50” proposal. Under this scenario, loan rates would be reduced by 25 percent. Fixed payments would be provided in the amount of 50 percent of the change in the loan rate, based on some historical production. Various deviations from this scenario can be developed with differing levels of government expenditure and support levels.

## **Payment-in-Kind (PIK) Program**

In June 2000, the U.S. government entered the sugar market for the first time in 14 years, purchasing 132,000 tons of refined sugar. In August 2000, the U.S. government initiated a sugar payment-in-kind

(PIK) program in which sugarbeet producers were given the option of diverting acreage from sugar production in exchange for sugar. These actions served to support the domestic price by 1) taking sugar off the market, and 2) diverting acreage from sugar production, thereby decreasing supply. By doing so, the likelihood of nonrecourse loan forfeiture would be reduced, saving the government approximately six million dollars (Haley and Suarez, 2000).

Given current use of nonrecourse loans as a policy tool, the PIK program serves a useful role of supporting domestic prices and averting widespread loan forfeitures. It can be a useful tool in this sense. However, due to their relatively large transaction cost, PIK programs may not be as cost effective as other forms of producer support. Other programs, such as direct payments, do not involve the transfer of ownership. As a result, producer support per dollar of government expenditure will tend to be lower under a PIK program than that provided with direct payments.

### **Sugar “Buy-Out” Program**

Current sugar support levels have, to an extent, become institutionalized from the perspective of sugar producers as well as ancillary industries and communities. An example of this can be seen in the valuation of sugar-producing land. Artificially supported prices tend to be capitalized into the value of the land. If government support were to be eliminated, producers could suffer a decrease in the value of their land. This would be especially detrimental to those producers entering the industry following the implementation of government support. If land values decline, repercussions would also be felt in the agricultural lending industry.

One option to effectively deal with this situation involves the implementation of a sugar “buy-out” program. Producers could be compensated with a lump-sum equal to the net present value of some stream of future support. In turn, sugar support levels would be reduced or eliminated. The resulting market-oriented environment would cause production and consumption decisions to be influenced by the market. At the same time, the artificial incentive for

foreign producers to enter the U.S. market would be eliminated.

### **Elimination of Domestic Support and Import Restrictions (Free Trade)**

An additional policy option is the complete elimination of domestic support and import restrictions. Adoption of this scenario has clear advantages and disadvantages. On the positive side, U.S. consumers will benefit through lower sugar prices as dictated by the market. In addition, taxpayers will not bear the cost of supporting the sugar industry. On the other hand, groups such as sugar producers, ancillary industries, and rural communities would be adversely impacted by the immediate and complete elimination of domestic support and import restrictions.

While the merits of such an action continue to be debated, an important issue concerns the transition plan to be implemented if such a plan were adopted. As mentioned earlier, an immediate elimination of sugar support would be quite traumatic to producers, some agribusinesses, and sugar dependent rural communities. If such a plan were to be seriously considered, it could include means to compensate stakeholders adversely impacted by the policy-change. For example, transition payments in the form of community development assistance would allow rural communities to attract and develop industries to replace jobs and revenue lost as a result of the sugar support removal.

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# Peanut Policy

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## Background

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The 1996 Farm Bill amended previous legislation to continue the peanut program of supply control and price supports through the 2002 crop. The program is a result of several modifications by previous farm bills designed to meet changing supply/demand conditions and to minimize government cost. Three regional grower associations established in 1937, which act as marketing agents for the Commodity Credit Corporation, administer the loan provisions. Handling, processing, and quality control is coordinated by the Peanut Administrative Committee under USDA Marketing Agreement 146 (1965).

Before the 1996 Farm Bill, peanuts were protected from imports by Section 22 of the Agricultural Adjustment Act of 1933. Changes in U.S. trade policy eliminated Section 22 protection for peanuts. NAFTA (North American Free Trade Agreement) was approved in 1993 and GATT (General Agreement on Trade and Tariffs, now the WTO) was approved in 1994. These agreements eliminated Section 22 and established declining tariff schedules and minimum import access levels to the domestic market.

NAFTA is a free trade agreement with Mexico. The tariff rate for peanuts becomes zero in 2008. At the current quota support price of \$610 per ton, the tariff schedule will become ineffective in keeping Mexican peanuts out of the U.S. by 2005. Declining tariffs and minimum access make it increasingly difficult and costly to control domestic supply.

The major provisions of the current peanut program are:

- Supply is controlled through poundage quotas set annually by the Secretary of Agriculture at a level to meet U.S. edible and related uses.
- The 1996 Farm Bill provided temporary seed quota to all producers that is allocated each year based upon the amount of acres planted.
- The 1996 Farm Bill eliminated “undermarketings.” Nonproduced quota (undermarketing) is no longer allowed to be carried forward to future years. If a farmer is unable to produce their quota due to weather and other uncontrollable factors, the producer is allowed to fall transfer the nonproduced quota. A producer can do a disaster transfer of segregation 2s and 3s peanuts up to 25 percent of the farm’s quota at 75 percent of the quota support price.

- Peanut production above the farm's poundage quota is referred to as "additional." These peanuts are produced and sold primarily in the export and crush markets. Some additional may also enter the U.S. edible market through the "buyback" provision or CCC. Farms without peanut quota may also grow additional.
- Price support is provided through a two-tiered price system. Quota peanuts are supported at a fixed rate of \$610 per ton (down from \$678 in 1995) for the life of the 1996 Farm Bill. The support price for additional is set by the Secretary to ensure that the CCC incurs no losses in the additional pool. The 2001 support price is \$132/ton for additional.
- Quota may be sold or leased within the same county. Under the 1996 Farm Bill, a limited amount of quota may be sold or leased across county lines within the state. Spring sale and lease is allowed in-state and capped at 40 percent of the county base quota level as of January 1, 1996. Fall transfer is unlimited within the state.
- Quota will be reduced if not produced or "considered produced" in two of the three previous years.
- The 1990 Budget Act initiated a marketing assessment beginning with the 1991 crop. Currently, the producer share is 0.65 percent, while the first handler share is .55 percent.
- Peanuts are a "no-net cost" program to the government under the 1996 Farm Bill. Producers face increased assessments in the years following program losses. Regulations on minimum resale prices and cross-compliance between the regional associations minimizes government cost exposure.

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## Current Situation and Forces of Change

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### Quality

Peanuts, when sold by the producer, are in-shell and referred to as "farmers stock." Peanuts, upon inspection, are segregated into three categories reflecting quality. In-shell peanuts are inspected visually for *A. flavus* mold, which indicates aflatoxin contamination. Peanuts with no mold and less than 2 percent damage are placed in Segregation 1 and may be marketed for quota (domestic edible) or edible export use. Peanuts with no mold but greater than 2 percent damage are placed in Segregation 2. Peanuts with visual *A. flavus* are placed in Segregation 3 and crushed for oil and meal. In an average year, a small percentage of the crop (3-5 percent or less) will be graded Segregation 2 and 3. Drought years can see the percentage increase significantly.

### CCC Loan Activities and Cost

Most peanuts are contracted or sold by the producer directly to a handler. There is no quota contract deadline, but additional must be contracted by September 15 or placed in CCC loan. Quota may be contracted, priced, and sold at delivery or placed in CCC loan.

### Imports of Peanut Paste and Confectionaries

Imports of peanut butter/paste have been increasing. These imports have mostly originated from Canada (about 75 percent during the 2000 calendar year), Mexico (13 percent), and Argentina (9 percent). Peanut butter imports from Mexico increased by 300 percent in 2000.

Mexican peanut butter can enter the U.S. without any tariffs or quotas. Peanut candy, cookies, and confectionary items are not included in the NAFTA or GATT/WTO agreements. Thus, an estimated 175,000 tons of farmer stock equivalent peanuts are

entering the domestic market each year unrecognized by the trade agreements. Peanut processing/manufacturing is slowly moving offshore to take advantage of these exceptions. Once the infrastructure is in place, it becomes difficult to recapture manufacturing capacity.

## FTAA

GATT/WTO and NAFTA agreements can be likened to an approaching tidal wave. A potentially larger tidal wave is looming offshore in terms of another trade agreement. FTAA (Free Trade Area of Americas) proposes to cover the entire Western Hemisphere from Canada to the tip of Chile. The agreement has a target date of 2005 for completion, and it moves toward more free trade. Major export competitors, Argentina and Nicaragua, would be included under the agreement with potentially similar minimum access and tariff schedules as Mexico has under NAFTA. FTAA could encourage Brazil (the largest peanut producer in Latin America before it's switch to soybeans), to become a major player again.

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## Issues

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The peanut program has survived several farm bills and has been modified over the years to improve supply/demand balance, become more market-oriented, and reduce government cost exposure. However, the industry is at crossroad that will determine the future of peanut production in the U.S. Major issues facing the program would include:

- **Stagnant quota demand.** USDA has estimated quota needs at 1.18 million tons for the last three crop years — 1999, 2000, and 2001. Domestic use has steadily increased over this time period, but quota has not subsequently increased.
- **Divided industry.** Recent history has seen producer groups at odds with other segments of the industry — largely shellers and manufacturers. Regional grower groups differ on the direction of the peanut program. Given the political environment against supply control
- **Buybacks.** Excessive use of buybacks led to an oversupply of quota in 1999, creating heavy losses in the CCC loan pool. Buybacks are helpful in making up shortfalls in quota. If overused, however, they can create losses by displacing quota. Shellers and producers must regulate themselves to avoid overuse.
- **No-net cost.** The no net cost provision requires producers to pay for any CCC losses incurred by the program. Approximately a third of the \$71 million CCC loss from 1999 remains to be paid. Marketing assessments through 2002 will go to paying off the debt. The possibility of another CCC loss exists as domestic buyers may cut back purchases in anticipation of lower prices under a new farm bill.
- **Trade Agreements.** Trade policy and the peanut program are currently at odds. The reduction of trade barriers has made it increasingly difficult to control supply. Imports undermine quota levels when the price support is higher than the world market.
- **Aflatoxin testing.** Visual inspection for *A. flavus* still leads to cost for the industry. Peanuts graded Segregation 1 visually may, after chemical testing, contain above the allowed level of aflatoxin and have to be crushed. Conversely, Segregation 3 peanuts may contain acceptable levels of aflatoxin.
- **Yields and technology.** Yield increases have not been significant since the 1970s. Adoption of newer varieties and approval of new chemicals could result in higher yields in the near future and reduce cost per ton. Loss of chemicals due to environmental or food safety regulations could impact the three peanut-producing regions differently.
- **Green weight purchase of peanuts.** Shellers want to use new technologies in the purchase and

programs, a united front is necessary to maintain a viable program.

handling of farmer stock peanuts, which means a change in the current grading and marketing system. This would also allow shellers to reduce the cost of handling peanuts. Producers do not want to change.

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## Policy Alternatives and Consequences

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A consensus agreement among producers and industry concerning the peanut program is hard to find. Peanut production regions and industry segments differ on what they want and on what the program should be.

To keep the current system as it is, quota price support will likely have to be lowered. Many are opposed to lowering the price support — especially given the price environment for the overall agricultural economy. Several modifications and alternatives are being explored to enhance the program in light of the current political and economic environment.

### Modifying the Existing Program

- **Eliminate the no-net cost provision.** No-net cost was implemented in the 1996 Farm Bill to limit government cost and losses. Given a budget surplus heading into the crafting of a new farm bill, producers could look for relief from current and potential CCC losses.
- **Provide quality incentives and disincentives.** To encourage production of high quality, aflatoxin free peanuts, adjustments could be made in the support price structure. Producers could receive a higher price for peanuts meeting specified quality standards, or receive a discount for poorer quality.
- **Adjust the marketing system for additional peanuts.** For those who want to produce additional peanuts, several modifications may improve the conditions for marketing them.

Allowing the CCC to sell additional peanuts for edible export at world prices instead of the minimum resale price would increase market orientation.

Another modification would allow additional peanuts to be purchased for government food programs. This would reduce quota demand but reduce government cost for food programs.

- **Price support and reimplementing a price escalator.** Producers support raising the quota support price to reflect higher costs of production, and returning to a price escalator capped at two to three percent annually. To be more competitive with imports, however, the price support would have to be lowered from \$610 per ton. The higher the support price, the greater the windfall gains by importers under minimum access and declining tariffs.
- **Step-2 type payment.** To make quota peanuts more competitive, a cotton Step-2 type provision could be adopted. Buyers and processors would be allowed to purchase domestic peanuts at a price competitive with imports. Producers would receive a higher price similar to the current price support. The government would cover the difference between the support price and buyer price. The difference could be paid directly to the buyers, as is similarly done with cotton, or payments could go directly to producers by moving peanuts through the area associations.

### Potential Alternatives

- **Federal marketing order.** Peanuts could be converted to a federal marketing order program similar to milk or fruits and vegetables. Producers would receive income support based upon certain quality standards.
- **Buyout.** To transition from a quota allocation program, the government could buy out the quota to compensate quota holders for the amounts accumulated through production and investment over the years. Peanut production could expand, move, or concentrate in areas with a competitive advantage. Elimination of quota without



compensation would cause financial distress for many producers.

- **Marketing loan for all peanuts.** A non-recourse-marketing loan could be established for peanuts — similar to other program crops such as cotton, corn, and wheat. The marketing loan price would provide downside price protection. Peanuts could be placed into the loan to give producers more flexibility in marketing their peanuts. An alternative to putting peanuts in the loan would be to sell the peanuts and request a loan deficiency payment on those peanuts if prices are below the loan rate.
- **AMTA payments for peanuts.** Included with a marketing loan would be the establishment of decoupled fixed payments for peanuts. The marketing loan rate would be significantly below the current domestic support price of \$610 per ton. Thus, the decoupled payment would allow for peanut producers to adjust to a new program over time. These payments would be similar to the AMTA payments established under the 1996 Farm Bill. AMTAs are considered a non-trade-distorting subsidy fitting in the "green box" category of the WTO trade agreement.
- **"Green payments" for keeping rotations.** Peanuts are often grown in rotation with other non-legume crops such as cotton and corn. For optimal yields and quality, rotations of three to five years between peanut crops are recommended. To preserve the quality of U.S. grown peanuts and to encourage long-run environmental stewardship, green (conservation) payments could be made available to peanut producers for maintaining or incorporating rotation practices with peanuts.
- **Counter-cyclical payment.** Marketing loans provide a safety net but are limited to what was produced. Two or three years of loan rate prices are not economically sustainable. Counter-cyclical payments could be established to provide additional support only in years of historically depressed prices and yields. Payments would

trigger when an index falls below the target level. Income or value of production has been suggested as an index. The target could be created on a national level or regional level.

## No Program

Peanut income contributes to a significant portion of total farm income in many locations. In some rural communities, agriculture and peanuts specifically constitute the major economic base and infrastructure.

In the absence of a price support and quota program, farm prices for peanuts would decrease. Quota would have no value. It is difficult to estimate the price level under the absence of a program. Some geographical shifts would occur as production adjusts to its highest comparative advantage. Lower prices resulting in reduced income and land values, as well as locational shifts, would cause financial distress among farmers and economic difficulty in many southern rural areas.

The processing end of the peanut industry is an oligopoly. The effects of lower farmer prices would not likely be passed on to the retail level. If full savings were passed on, the amount would be small.

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## Conclusion

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Peanuts are an economically important crop in many southern rural areas. The major factors presently impacting the industry include GATT/WTO and NAFTA market access and tariff rates, imports of peanut butter, and uncertain U.S. consumer demand. These and other forces will likely need to be considered in any program modification. The present program seems to be headed on a collision course with imports. Changes likely have to be made in domestic or trade policy for the U.S. peanut industry to remain viable. Changing trade policy seems to be a remote chance at best. Modifications or changes in the peanut program will likely come with an increased cost to the government.

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# Dairy Policy

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## Introduction

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The major components of federal dairy policy — the price support program, federal milk marketing orders, and import quotas — have been in place for more than 50 years. These programs have tried to address the market effects which result from a commodity that is highly perishable; bulky (expensive to transport long distances); produced 365 days a year with a limited ability to alter short-run production decisions; and has many more sellers than buyers. These properties have given the industry a history of volatile milk prices and policies that have been addressed with varying degrees of success. This paper will consider the major issues and options for dairy policy in the 2002 Farm Bill.

The last Farm Bill, the 1996 Federal Agriculture Improvement and Reform (FAIR) Act, attempted to move agriculture toward greater market orientation by phasing down the price support level over 4 years from an initial \$10.35 per hundredweight down to \$9.90, and terminating the support program the end of 1999. When the support program was terminated, it would be replaced with a recourse loan program on dairy products for dairy manufacturers. The FAIR Act also directed the Secretary of Agriculture to consolidate the number of federal milk marketing

orders to no less than 10, and no more than 14. The Act also authorized the Secretary to establish a Northeast Dairy Compact until the time that federal order reform was implemented. However, agricultural appropriation bills delayed implementation of federal order reform until January 1, 2000, extended the support price at \$9.90 for both 2000 and 2001, and extended the Northeast Dairy Compact until September 30, 2001. Progress toward a greater degree of market orientation was not as complete as what was envisioned by the authors of the FAIR Act.

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## Major Issues Facing the 2002 Farm Bill

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**Price uncertainty and volatility.** A support price at the current level of \$9.90 offers a relatively low safety net. This level is well below the full cost of production for most dairy producers, and is below the cash cost of many. Market orientation of dairy policy has meant that market forces, rather than the support program, determine farm level milk prices most of the time. Relatively small changes in the quantity of national milk marketings has yielded major changes in dairy product and farm level milk prices. Dairy producers, dairy manufacturers, and marketers

now face price risks of a magnitude reminiscent of the days before dairy policy.

**Loss of dairy farms.** Although demand for dairy products continues to increase from one to two percent annually, genetic gains and improvements in management are yielding increases of two to three percent in milk per cow. This implies fewer total cows needed in the national herd. These efficiency gains are often associated with technologies that require a larger farm size to justify the cost of adoption. Dairy farm numbers continue to decline at an annual rate of four to five percent. The largest segment of decline is among dairy operations with fewer than 200 milk cows. Thus, one issue for federal dairy policy is whether benefits should be targeted toward the smaller “family” dairy farms.

**Butter/powder tilt.** If milk prices continue to be supported via CCC dairy purchases, a sub-issue is the proper relationship (tilt) between the support price for butter versus nonfat dry milk. The 1990 Farm Bill instructed the Secretary of Agriculture to tilt the support price from butter to nonfat dry milk to lessen the burdensome purchases of surplus butter, and to reduce the cost of the dairy price support program. Since the mid-1990s, the price of butter has been above support, but CCC purchases of nonfat dry milk occur throughout the year and are increasing. In fact, the Secretary adjusted the tilt on June 1, 2001, but Congress may choose to provide greater directive to the Secretary to further decrease the powder price, or it could reverse the Secretary’s action.

**Class I mover.** Federal milk marketing order reform implemented January 1, 2000 uses the higher of an advanced Class III or advanced Class IV skim milk price as the mover of Class I (Fluid use). With depressed cheese prices in 2000, the advanced Class III skim milk price was also depressed and well below the Class IV skim milk price. Class I has been moved by Class IV prices for more than the first year of federal order reform. When this happens, dairy producers in relatively high Class I markets do not experience the deterioration in milk prices to the same degree as producers do in the predominantly Class III use markets. This has slowed the milk supply/demand adjustment needed to bring up milk prices from the low levels experienced during 2000 and early 2001. Thus, an issue is whether the Class I

mover should be changed. The change in the butter/powder tilt reduces the mover issue.

**Class III price formula.** A related issue to the price support program and federal orders is the Class III price formula. The price of butter is used in the formula to determine protein prices. For every \$0.10 per pound increase in the butter price, the Class III price decreases \$0.04 per hundredweight through the protein price formula. When cheese prices are near or below the support price, but butter prices are above support and increasing, the Class III is depressed further below the support price on milk. As a result, the support price for Class III milk may not be achieved because of the peculiarity of the Class III formula.

**Imports of ultra-filtered milk and milk proteins.** Imports of ultra-filtered milk proteins have significantly increased. Producers are concerned that these milk protein concentrates, or MPCs, have displaced domestically sourced milk solids, and have kept downward pressure on farm level prices. Producer groups have called for import restrictions on these products, but such an action is contrary to the market orientation of the last farm bill and the WTO. Changing the tilt to lower nonfat dry milk powder prices will help to make domestically sourced milk proteins more competitive with foreign sourced MPCs.

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## Policy Alternatives

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**Elimination of the dairy price support program.** The 1996 Farm Bill called for the elimination of the dairy price support program after 1999. Elimination remains an alternative for the current Farm Bill. 2000 was a year of low class III milk prices, with more than half of the months well below the support goal of \$9.90. During 2000 and into 2001 more than \$700 million was spent supporting milk prices. An abrupt elimination of the support price could substantially lower dairy product prices, farm level prices, and dairy farm income during low price cycles.

Dairy product and farm level milk prices would also experience increased volatility. The smaller, less efficient, and highly leveraged dairy producers would

be the most vulnerable. The adjustment towards fewer and larger dairy farms would accelerate. Efficiency of milk production would improve as dairy producers strive for profitability under lower milk prices. Milk production would continue to shift to the lower cost regions, and the pace of adjustment may be hastened.

Dairy processors and marketers in regions of declining milk production would experience increased operating costs due to greater procurement costs and unused plant capacity. In contrast, dairy processors and marketers experiencing growing milk production from fewer and larger herds would experience lower procurement costs and greater operating plant efficiencies. Consumers would benefit from lower retail prices of milk and dairy products. Taxpayers would benefit from no dairy support program costs.

**Continuation of current dairy purchase support program without supply control.** The 1996 Farm Bill called for termination of the current dairy price support at the end of 1999. However, Congress extended the program through 2001 at \$9.90 per hundredweight. A continuation of the support program at this level offers dairy producers a relatively low safety net. As a result, the basic economic forces leading to volatile milk prices and fewer but larger dairy farms would continue.

If the safety net support level was set considerably higher than \$9.90 per hundredweight, the support price rather than market forces would tend to be the effective price. Volatility and uncertainty of dairy product and farm level milk prices would be substantially reduced. The trend towards fewer smaller dairy farms would slow, as higher and more stable milk prices would delay their eventual exiting. Expansion of already larger dairy operations would likely accelerate as more stable and higher milk prices reduce the financial risk of expansion. The net result would be a potential for serious milk surpluses purchased by the Commodity Credit Corporation at high taxpayer cost. Consumers would experience higher but more stable retail prices.

**Continuation of the support program with voluntary supply control.** A voluntary supply control program could reduce potential milk surpluses under a support program. However, the higher the support level on milk, the less effective a voluntary

supply program will be in preventing a surplus milk situation. The more efficient and larger dairy operations may still view financial returns very acceptable from market milk prices. Regional differences in participation in a voluntary program are also likely. Regions where variable costs are a relatively larger share of total production costs (areas that purchase a larger share of feed inputs and hired labor) may participate to a greater extent than areas with relatively higher fixed costs (more of the traditional dairy areas).

A variety of voluntary programs could be implemented including: 1) direct payments for reduced milk marketings from a historical base, 2) a whole herd buyout program where bids are accepted to slaughter or export dairy cattle, and to keep the dairy facilities idle for a period of time, 3) a heifer slaughter program, 4) assessments on each hundredweight of milk marketed, but refundable to producers who do not increase production, and 5) a two-tier pricing system where a higher price is received for a portion of milk marketings and a lower price for excess marketings. The extent of the effectiveness of any of these programs in maintaining higher and more stable milk prices depends upon how attractive the carrot is to encourage dairy farmers to participate, or how severe the stick. Past experience suggests that voluntary programs are effective only in the short run, and that they cause substantial market distortion.

**Higher support price with mandatory supply management.** A greater safety net to dairy farmers can be established with mandatory supply management. Dairy producers would be restricted to marketing the quantity of milk that would clear the market at the established support level. Each dairy producer would be assigned a historical milk production base (quota). The percentage of base milk that could be marketed would be determined from market needs. Farm level milk prices and farm income would not only be higher but also more stable. The quota could either be assigned to the farm or transferable. Either way, the higher milk prices would likely be capitalized into the value of the farm assets or into the value of the quota itself. This capitalization would be a barrier to new entries or to the expansion of existing facilities.

Higher milk prices but restrictions on increased milk marketings could slow adoption of technologies that increase production efficiency. The traditional dairy regions with smaller and more obsolete dairy farms would have little incentive for new investments to modernize the industry and reduce production costs. The regions that have more recently experienced new dairy investments and dairy expansion would retain an absolute advantage in more efficient milk production facilities. If quotas are freely transferable, the structural change, over time, toward fewer but larger dairy operations would continue, as well as regional shifts in milk production.

Without greater import protection, the higher dairy product prices would attract more imports — further limiting growth of the domestic dairy industry. Consumers would experience higher but stable milk and dairy product prices. Taxpayer costs could be eliminated.

#### **Target prices and deficiency payments.**

Target prices and deficiency payments similar to those previously used with feed grains could be applied to dairy. A target price for milk would be established. How high the target price would be depends on whether it was accompanied by a supply management program. However, unlike a milk price supported via CCC purchases of dairy products, dairy product prices would be allowed to seek market-clearing levels. If, at these levels, the farm level milk price were below the target price, dairy producers would receive the difference as a direct deficiency payment. As a means of controlling taxpayer costs and to influence farm structure, deficiency payments could be restricted to a maximum value, or quantity of milk marketed per individual producer. This type of program is often advocated as a means of targeting benefits towards the smaller family farms, but would distort the structure of the industry in favor of higher cost producers.

Dairy product and farm level market prices would continue to be volatile. However, the combination of market prices and any deficiency payment would keep dairy farm income more stable. Without supply management, market level prices could actually average lower, over time, because individual farm limits on deficiency payments would slow the exiting of smaller farms, while the larger more efficient

farms would continue to grow. As a result, more milk would be marketed than would otherwise be the case. Even with an associated supply management program, the incentive to hold back on milk production may not be sufficient.

Agribusinesses will be impacted similar to what was discussed in the previous alternatives, but at the rate that farm structural changes and regional shifts in milk production occur. At times, consumers will experience lower milk and dairy product prices than under the present support program. Taxpayer costs could be significantly higher if the target price is set relatively high, and if not kept in check via supply controls or effective payment limits. By letting dairy product prices seek market levels, dairy exports could increase slightly, and dairy imports may decline.

**Whole farm revenue or margin safety net.** A whole farm revenue program would protect dairy farm revenue as some percentage the farms historical average. Another approach would be to protect a profit margin by some index measure of the relationship between milk prices and feed prices. Either type of protection would slow the trend toward fewer, larger, and more efficient dairy operations. Markets would still determine dairy product and farm level milk prices. Consumer prices would likely experience lower prices as reduced risk stimulates production. Taxpayer costs could be substantial. To offset taxpayer costs, dairy producers who wish to participate in the program could be required to pay some type of insurance premium to cover a portion of the program cost.

**Authorization of dairy compacts.** Dairy compacts allow two or more joining states to establish a price level for Class I milk. All milk buyers selling Class I products must pay at least this Class I milk price. The higher of the minimum federal milk marketing order Class I price or the Class I price established by the compact prevails. Compacts partially de-couple Class I prices from changing milk supply and demand conditions. Dairy producers selling milk to buyers associated with the Class I compact area benefit from higher and more stable milk prices. In the short run, smaller and less efficient dairy producers may remain in business longer than would otherwise be the case. However, in time, the trend towards fewer and larger dairy

farms will prevail in the compact area. Consumers in the compact area pay more for Class I milk products.

Since milk prices to dairy producers in the compact area are higher, milk production in the compact area will also be higher absent any mandatory or voluntary production controls. Any milk production in excess of Class I needs is channeled into the production of manufactured dairy products. The price of manufactured dairy products is reduced. Dairy producers located in primarily manufacturing use areas and/or non-compact areas experience lower milk prices. Compacts place a greater burden of needed supply/demand adjustments on dairy producers selling milk to buyers in non-compact areas. This enhances the problem of regionalism. Regional concerns over nonparticipation in compacts could be reduced by pooling some portion of the compact revenue enhancement nationally.

While consumers pay a higher price for Class I milk products in the compact area, prices for manufactured dairy products may be lower for all consumers. Since the higher Class I prices are passed on to consumers, there are no direct costs of compacts to taxpayers. However, the additional milk supply and lower manufactured dairy product prices could indirectly increase taxpayer costs of CCC purchases of surplus milk or deficiency payments. Compacts may include a supply management program to reduce surplus milk supplies generated from higher producer prices.

#### **Federal milk marketing order provisions.**

Amendments to federal milk marketing order provisions are usually handled through a federal order hearing process. However, since 1985, Congress has directly intervened by legislating changes in federal order provisions. Since the federal dairy price support program impacts dairy product prices and these prices are used in federal order pricing formulas, the 2002 Farm Bill may well include federal order pricing provisions.

If the dairy price supports continue with a CCC purchase program, the CCC purchase price for butter and nonfat dry milk has major implications on the mover of Class I and Class II prices. Changing the tilt towards butter and away from nonfat dry milk prices will drop the market price of nonfat dry milk powder. This will lower the Class IV skim milk price

and move it closer to the advanced Class III skim milk price. With a lower Class IV skim milk value, dairy farmers in the predominately Class I use markets would likely experience lower milk prices and incomes as a result. In periods of milk surpluses and when cheese prices and Class III prices are depressed, the lower advanced Class IV mover and resulting lower Class I and Class II prices would result in a more timely supply/demand adjustment. The Class I markets would be less de-coupled from the manufacturing cheese market. However, lower nonfat dry milk prices could channel more milk into higher value cheese production, thereby lowering cheese prices and Class III prices as well. To the extent that this occurs, all dairy producers could experience some reduction in milk prices over the long term. Consumers may experience lower prices for both beverages and manufactured dairy products. Taxpayer costs would be reduced to the extent that CCC purchases of surplus dairy products are reduced.

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## **Summary**

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Milk retains its unique properties in that it is highly perishable, bulky, produced 365 days a year with a limited ability to alter short-run production decisions, and has many more sellers than buyers. These attributes gave rise to early market failures and subsequent government intervention. However, dairy farm characteristics of the past were far more homogeneous than they are today. This makes a consensus for a “one size fits all” dairy policy difficult to achieve. Large versus small farms, manufacturing versus fluid regions, growth versus declining regions, producer versus processor — all of these tensions set the stage for a lively debate of the dairy provisions of the 2002 Farm Bill.





# Wool and Mohair Policy

David P. Anderson, Texas A&M University

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## Introduction

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Government support for wool and mohair goes back to the incentive program in the Wool Act of 1954. In 1993, Congress passed a three-year phase out of the Wool Act incentive payments with the last payments occurring in 1996. Since that program phase out, a series of ad hoc programs have been passed to support the industry due to a series of setbacks caused, in large part, by events beyond industry control. This paper discusses background and policy options for the industry.

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## Background

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Sheep inventory peaked in the U.S. in 1942 at 49 million head in response to war time wool demands. Since that time, sheep numbers have declined as product demands have changed. The industry has been pressured by predator losses, labor problems, the declining per capita demand for red meat, and the increase in man-made fibers competing with wool. The loss of the Wool Act payments

sharply reduced producer receipts leading to a continuing round of flock liquidation. As wool production is a joint product with lamb, there are crosscutting impacts between meat and fiber policy actions.

During the 1990s, sheep numbers have declined from 6.5 million stock ewes to 4.1 million stock ewes as of January 1, 2001. This decline has been exacerbated by several factors, including:

- Increased imports of lamb from Australia and New Zealand.
- World economic problems that have impacted wool purchases.
- Loss of domestic milling infrastructure.
- Severe drought in Texas and the Southwest.
- Large wool stockpiles in Australia and New Zealand due to earlier policy actions.

As domestic lamb production declined after the beginning of the wool and mohair incentive phase out in 1993, lamb imports increasingly filled the void. Imports were aided by movements in exchange rates that made foreign lamb more attractive. To combat

the rising tide of imports, the industry filed an ITC section 201 claim against Australia and New Zealand. The resulting ruling in favor of the U.S. imposed a tariff of 40 percent on imports in excess of 70 million pounds. The tariff was imposed in July 1998 with a three-year duration. In spite of the tariff, lamb imports increased in 2000 as the U.S. dollar strengthened appreciably versus the Australian currency.

On the wool side, a number of domestic mills have had financial difficulty in the last two years — as has the rest of the domestic textile milling industry. Wool imports increased sharply as domestic supplies declined. U.S. exports of very fine wools have faced difficulty due to the strong dollar. The survival of the domestic milling industry is critical to the U.S. sheep industry.

On top of policy-induced changes, the late 1990s saw a severe drought in Texas and the Southwest. Texas is the largest sheep and Angora goat producing state, with 17 percent of the breeding ewe flock and 84 percent of the nation's angora goats. The drought has been compared to the drought of the 1950s in terms of its severity. It remains to be seen if the drought continues further into 2001. The severity of the drought forced further liquidation of stock sheep and goat inventory.

Angora goat producers liquidated 80 percent of the goat herd in the 1990s in response to declining revenue as a result of policy, drought, and foreign macroeconomic events. Loss of the Wool Act sharply reduced producer revenues. The drought forced further liquidation. Mohair can be generally categorized as kid hair, the finest and most valuable young adult hair, which is slightly coarser, and adult hair, the coarsest and least valuable. Kid hair generally goes into fine apparel, and adult hair goes into apparel and carpets. In the mid 1990s, about 85 percent of U.S. mohair exports went to the United Kingdom and India. From there it was processed and shipped to other countries — including the Former Soviet Union. The collapse of the FSU economies, economic problems in India, and the strong dollar ended that substantial export market for mohair. Simultaneously, fashions changed cutting into the demand for mohair.

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## **Alternatives and Consequences**

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### **Status Quo**

The status quo for wool and mohair is no policy or program. Recent research by Anderson, Richardson, and Smith (2001) indicates that the result of no program would be continued decline of the industry in terms of the stock ewe flock to about 3 million head by the end of the decade. Lamb and wool imports would continue to increase, assuming that a domestic milling industry remains. Rural communities in areas with a sheep industry would experience further decline.

Mohair production and Angora goat numbers are projected to stabilize at around 300,000 head. Although fine kid hair would likely continue to move in fine apparel channels, adult hair movement would rely on the improvement of other countries' economies.

### **Ad Hoc Programs**

Although one could argue that this has been the status quo over the last five years the nature of these programs has differed from year to year. Wool and mohair were offered a recourse loan program in the two years following the Wool Act phase out. An annual recourse loan program for mohair was offered beginning in 1998 with a loan rate of \$2.00 per pound. This loan rate was offered at no interest for one year and was exercised primarily for adult hair. In 2000, wool and mohair producers received \$0.20 and \$0.40 per pound in direct payments for wool and mohair, respectively. For 2001, the direct payment on wool was increased to \$0.40 per pound.

One problem with the direct payment type of program is that it makes no differentiation of payment based on wool or mohair quality. A wide variety of wool qualities are produced in the U.S. from very fine to coarse wool from more meat-focused breeds. Better wool preparation is also not accounted for.

Another problem is that this type of program provides less counter-cyclical support. The last three years have seen very low wool prices. A direct fixed payment delivers the same amount of support in years with low prices as in years with high prices. The ad hoc nature of the support does not lend itself to strategically positioning the ranch for long-term survival.

### **Marketing Loan Program**

A marketing loan program has been discussed for the wool and mohair industries. The program would be patterned the same as the cotton program. A loan rate would be established and when the adjusted world price fell below the loan rate, a loan deficiency payment would be made to participating producers. Anderson, Richardson, and Smith analyzed just such a program. Loan rates for wool were evaluated at \$1.00 and \$1.20 per pound for grade, based on the weighted annual average price for wool. The loan rates were developed by keeping the same level of support relative to variable costs for cotton.

A loan rate/marketing loan program for wool of \$1.20 per pound resulted in stabilizing stock ewe numbers at about 3.75 million head by 2005, or about 160,000 head above baseline levels. Loan deficiency payments were made in about 75 percent of the years in simulation with government costs averaging about \$10 million per year. A potential schedule of loan rate premiums and discounts around these base loan rates was also developed that ranged from \$0.40 to \$1.70 per pound, grease, based on fiber micron and whether or not the wool was skirted and classed.

A loan rate/marketing loan for mohair of \$4.20 and \$5.26 per pound was also analyzed. The result was an increase in angora goat numbers to about 500,000 head from baseline projections of 350,000 head. This inventory is well below the almost two million head in the early 1990s. Government costs averaged between \$2 and \$3 million per year when payments were made. However, payments were only made about 50 percent of the time.

A complicating factor in any type of program for wool is that lamb meat generates most of a producer's receipts — even those of a producer with a fine wool flock. Supporting the industry through a

wool program is more difficult given that wool generates a small fraction of total receipts. A second factor is that lambs that go to feedlots for finishing are often not shorn. In the past, those lambs received an unshorn lamb payment for the amount of wool that would have been shorn but was not. That part of the program generated support for the feedlot operator in addition to the lamb producer. The unshorn lamb payment was difficult to administer and would be difficult again in a program of this type.

Mohair generates most of the receipts for Angora goat producers. Therefore, a program of this type would not face the same problems as it does for the sheep/wool producer. One advantage of this type of program is that payments would most likely be made on adult mohair, and not on fine kid hair.

### **Maintain Import Tariffs**

In 1998, the ITC ruled in favor of the U.S. sheep industry against Australia and New Zealand by finding that those countries had indeed damaged the domestic industry. The remedy was a tariff of 40 percent on imported lamb from those countries, which accounts for 99.9 percent of U.S. lamb imports. The tariff is to last through July 2001. In the meantime, the domestic industry was to develop strategic plans to improve their competitiveness. The administration also committed \$100 million to the industry for direct payments to producers and seed money for market ventures.

Two factors stymied the role of the tariff in giving the industry the time to adjust. One was the Texas drought. The drought forced more flock liquidation on the industry at a time when it was trying to stabilize the inventory. Not only did it force liquidation, but it also prevented restocking when prices did improve. The industry was told that it would have to improve efficiency over the three-year tariff period.

However, improvements in breeding stock were precluded due to drought. The other factor was the strength of the U.S. dollar relative to the currencies of Australia and New Zealand. In 2000, with the tariff in place, imports increased about 12 percent, year over year, potentially due to the Australian dollar declining by 10 percent relative to the U.S. dollar.

One policy option is to maintain the tariff imposed by the ITC. The tariff is on meat and not on wool, but the result is to support the industry and allow more time to adjust and improve efficiency. Maintaining the tariff would provide support to recover from the drought and exchange rates, as those factors are beyond the control of the industry.

### **Predator Control**

Predators take a large toll on the sheep and goat industries each year. Funding for wildlife damage control is a federal, state, county, and private industry (individual producer) partnership. Each year, federal funding for predator control and methods of control come under heated attack in Congress from animal rights groups. Yet, these issues have wider implications beyond the sheep and goat industries as wildlife populations expand into increasingly urban environments. The positive impact on the industry would likely be smaller than that of the previously mentioned programs. However, improved predator control would reduce industry losses and costs.

### **Sheep Improvement Center**

The National Sheep Industry Improvement Center was established by Congress in the 1996 Farm Bill as a revolving fund to aid the sheep and goat industries. The fund is to encourage innovation and efficiency in the industries by providing credit to eligible groups. Loans, at 5.5 percent interest, can be made to enhance production methods and services, improve marketing efficiency and product quality, promote coordination and cooperation in the industry, and to create opportunities for adding value to sheep and goat producers

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## **Summary**

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The wool and mohair industries have faced difficult times over the last decade. Many of the difficulties are due to world events, such as exchange rates, drought, and foreign market economic collapse. Without support, these industries face difficulties in maintaining industry infrastructure and viability.

# Tobacco Policy

A. Blake Brown, North Carolina State University  
William M. Snell, University of Kentucky

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## Introduction

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The federal tobacco program was established under the Agricultural Adjustment Act (AAA) of 1938 as a means to raise and stabilize tobacco prices and income. Under the program, tobacco farmers agreed to restrict supply via marketing/acreage allotments (or quotas) in exchange for minimum price guarantees. If tobacco companies do not bid above predetermined price support levels, grower cooperatives purchase the surplus tobacco using Commodity Credit Corporation (CCC) funds. National marketing quotas are set each year for flue-cured and burley tobaccos based upon the domestic purchase intentions, leaf exports, and CCC loan stock levels. The marketing quotas for U.S. tobacco were initially divided among tobacco growers based on production history.

Over the years, available quota has been dispersed among heirs of tobacco farmers, non-producers who purchased farms with tobacco quota, and, of course, active tobacco farmers who inherited or purchased quota. The quota can be rented or sold under certain restrictions. Only individuals owning or renting quota can legally sell tobacco.

Since U.S. flue-cured and burley tobaccos have traditionally been differentiated from other tobaccos in the world market because of their higher quality, limiting the U.S. flue-cured and burley production results in higher prices than would occur in an unregulated market. A goal of the program is to restrict supplies at a level that causes market prices to be above preset price support levels. Price supports provide target prices to achieve in the setting of the national quotas and a safety net should the supply restrictions fail in achieving the target prices.

Price support levels are determined by a weighted average of changes in production costs and lagged market prices. The inclusion of production costs and the fact that downward movement in market prices is limited by the price support structure means that price supports are not very responsive when demand decreases. Consequently, the price stability brought about by the structure of the program often results in considerable production (i.e., quota) instability.

From the 1930s to 1980, the program underwent relatively few modifications and was very successful in fulfilling the goals of the 1938 Act (providing price and income stability to a large number of small family farms without large government expenditures). However, since the early 1980s, political and economic pressures have induced several program

changes, and have threatened the program's overall existence.

In 1982, the price support program was mandated to operate at no net cost to the federal government or taxpayers. Costs that arise when tobacco put under loan (tobacco taken in by the grower cooperatives) is later sold at a price lower than the loan principal plus interest are paid by an assessment on growers and buyers.<sup>1</sup>

In 1985, price supports were lowered and changes were made to make the quota level more responsive to current market conditions. In response to an escalating volume of imports, a domestic content law was passed in 1993, which required domestic tobacco companies to use at least 75 percent U.S. tobacco in domestically produced cigarettes. However, the law was found to be inconsistent with GATT and was later revised to a much less restrictive system using tariff rate quotas. Other tobacco program legislation over the past two decades has affected the sale and transfer of quota, and has prohibited federal expenditures on tobacco export promotion and research.

While the existence of the federal tobacco program remains uncertain, its continuation in recent years may arguably be attributable to the support of various health groups in maintaining relatively high tobacco prices and controlling production. Tobacco quota owners and growers vote every three years on whether they favor the continuation of the production control/price support program. Historically, over 90 percent of the quota owners and growers have expressed their support for the program in these referendums, which require a two-thirds vote for program continuation. However, increasing international competition, constraints on the transfer of quota, and significant changes in the marketing system towards direct contracting have caused some program participants to question the overall effectiveness of the current program. Consequently, farm leadership is currently evaluating various options to revise the program.

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<sup>1</sup> While the program operates at no cost to taxpayers, there are some relatively low administrative costs associated with the program. In addition, as part of disaster relief legislation for agriculture, tobacco farmers received federal funds for 1999 and 2000 and a portion of existing outstanding CCC loans were forgiven on the poor quality 1999 crop.

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## Policy Issues and Options

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The historical success of the U.S. tobacco program in garnering higher prices for U.S. tobacco than would have been obtained with unregulated tobacco production is critically dependent on the market power of U.S. tobacco in the world market. However, the U.S. market power has eroded over the years as a result of reductions in demand for U.S. tobacco resulting from: 1) declines in U.S. consumer demand due to health concerns surrounding smoking, higher cigarette excise taxes, and higher cigarette prices in response to the tobacco settlement and litigation costs, 2) shifting of U.S. cigarette exports to overseas manufacturing facilities, 3) substitution for both quality and quantity of tobacco in cigarettes as a result of technological changes in cigarette production such as filters and flavorings, and 4) substitution away from U.S. tobacco as a result of the development of cheaper tobaccos of improved quality in foreign countries.

As market power erodes, the national marketing quotas must be set at lower levels in order to maintain price. Decreasing market power makes maintenance of a tobacco program increasingly dependent on political intervention. As market power has eroded over the last 20 years, numerous options have been discussed. Since the tobacco program is permanent legislation, it is not subject to reauthorization in various farm bills. However, the farm bill does provide a vehicle to potentially alter the existing program. Several policy options for the current program situation are presented below.

- **Maintain the current tobacco program without changes in support prices.**  
Unmanufactured exports would likely continue their downward trend, with imports remaining at relatively high levels. Eventually, the quota could decline to a level that reflected mostly domestic purchases. Domestic purchases may recover from their current very low levels as manufacturers lower inventories to desired levels. For flue-cured tobacco, this could eventually imply

a quota of between 400 and 500 million pounds and 350 to 400 million pounds for burley. Interruptions in foreign supplies, such as those caused by weather, unexpected change in exchange rates, or political unrest, could slow or interrupt the trend to lower quota levels. Furthermore, fine-tuning the quota formula components and distribution of price supports could minimize the long-term downward trends in quota. Quota return per pound (rental rates) will increase — resulting in total quota returns falling less than in the case of a price reduction. Grower earnings on management and fixed assets continue to decline.

- **Modest reductions in price supports while keeping the current tobacco program.** If historical relationships between price and quantity sold are still valid, quotas would be expected to rebound over three to five years after the price support reduction as exports increase and imports fall. U.S. flue-cured quota would likely be more responsive than burley quotas. Return per pound (rental rates) and total returns to quota would decline. Grower earnings on management and fixed assets would increase as the quota increased. Some degree of market power is still required for this option to have the desired effect of increasing quotas. Without significant price adjustments, market power would continue to erode with the likely results being additional program modification after a number of years.
- **Lower price support to close to the free market price of tobacco, with significant modification of the tobacco program.** Lowering price supports to below the price that U.S. tobacco would sell for with unregulated production would likely cause exports to rebound and domestic cigarette manufacturers to increase use of U.S. tobacco — even if U.S. tobacco has little remaining power in the world tobacco market. Price would decline to the free market price for tobacco, perhaps in the range of \$1.10 to \$1.30 per pound for U.S. flue-cured tobacco, and \$1.25 to \$1.50 per pound for U.S. burley. U.S. tobacco production and sales, especially

flue-cured, would increase significantly, with little effect on total tobacco consumption. Maintaining price supports at some level below the expected market price would provide a safety net for farmers when world tobacco prices fall unexpectedly. This would be an important feature of this option, since world tobacco prices can be very volatile. Marketing loan payments equaling support price minus market price could be made to tobacco farmers during periods when the market price drops below support prices. Tobacco would be allowed to clear the market at world prices. No cooperative would be needed to purchase tobacco not bringing the support price.

This option is similar to the loan deficiency payment feature of government programs for cotton, soybeans, and grains, and it is also similar to the European Union's program for tobacco farmers. Some level of production controls might be desirable under such an option. If the support price is set too high or production costs fall due to rapid technological change, then production and, consequently, farmer payments could become large. Production controls would prevent production from expanding more than is desirable by policy makers concerned about program costs, and by health advocates concerned about expanding U.S. tobacco production.

Under such a program, the economic return to quota would be eliminated and the right to produce tobacco would only be held by active tobacco growers. Total grower earnings on management and fixed assets would increase as production increased. Depending on how much price declined and how production rights were allocated under this option, considerable structural change could occur at the farm level — including significant consolidation of farms and changes in location of production and rural economies.

- **Segment tobacco sales into export and domestic markets with different prices.** Theoretically, returns to quota owners could be maximized by enforcing a quota on domestic sales of tobacco to force a higher price in the less price sensitive market for U.S. consumption, and allowing greater sales and a lower price in the

more price sensitive export market. The U.S. peanut program has operated in such a manner for over 20 years. The problems associated with such an option are that strict import controls on tobacco must be enforced to prevent lower priced export tobacco or products made from export tobacco from reentering the United States. Strict import controls are difficult to enforce and may be impossible to implement under the current rules of the World Trade Organization.

- **Elimination of the tobacco program.**

Eliminating the tobacco program would result in substantial structural change in tobacco farming and in many rural economies. Tobacco prices would fall toward the world price, making U.S. tobacco more competitive. While tobacco production would increase, many smaller tobacco farmers, particularly those in geographical regions with the highest production costs, would exit tobacco farming. The end result would be fewer but larger tobacco farms producing more tobacco at lower and more volatile prices. Because of the growth in tobacco sales, cash farm sales from tobacco (more likely for flue-cured than burley) might grow, despite lower prices and lower net returns per acre. Kentucky, Tennessee, and Virginia would likely produce less tobacco, while North Carolina, South Carolina, and Georgia would likely produce more tobacco.

Compensation for changes in the tobacco program. There are many arguments for and against compensation to stake holders in the tobacco program if program changes are made. If the current program is maintained, grower earnings on management and fixed assets suffer. If price is reduced or the program is eliminated, then the value of quota is reduced or eliminated. Cigarette manufacturers and their customers are the beneficiaries of price reductions. If the value of quota disappears, some farm groups and legislators argue that since the tobacco is permanent legislation, quota owners should be compensated for all potential future lost income from quota where quota is assumed to generate income into perpetuity. Others argue that compensation should only be for a set time

horizon of lost quota income, or that market values of quota should be used. Finally, some groups may argue that market prices paid for quota reflect the risk of program elimination and, consequently, no compensation for quota is warranted. Besides the level of potential compensation, many other policy questions arise under this option, including: where will the funds originate, how will the funds be distributed among the individual program participants, what will the time frame be, and will the program be modified or eliminated?

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# Food Policy Overview

Helen H. Jensen, Iowa State University

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Traditionally, the key policy issues for the agricultural and food sector have focused on prices and quantities. However, increased information about food and its contribution to health, news and publicity over food safety, and major changes in social reforms that affect food programs have led to greater awareness about the importance of food policies for traditional agricultural interests. The government faces important decisions about the extent to which the farm bill should ensure consumers an abundant, safe and nutritious supply of food at reasonable prices. New production and distribution technologies, increases in international trade for food, and increased consumer demand for food quality and diversity are challenges for the development of effective food policies and programs.



# Food and Nutrition Assistance Policy

Helen H. Jensen, Iowa State University

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## Background

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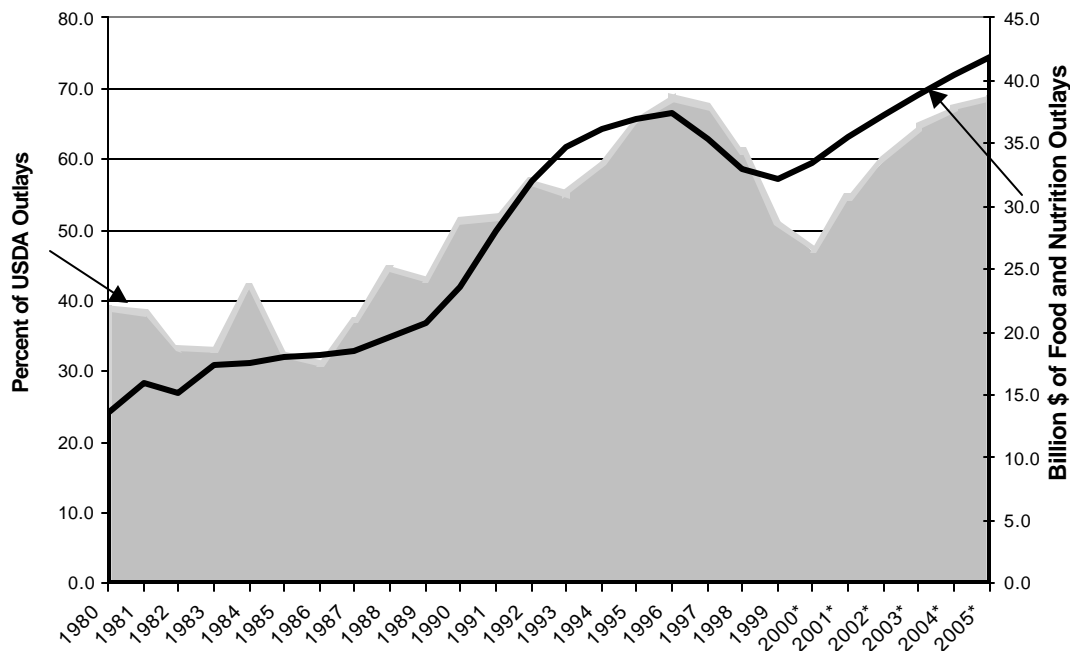
U.S. food and nutrition assistance policies are guided by the principle that Americans should not be hungry or malnourished because they cannot afford a nutritious diet. Food assistance programs help to provide food and meet nutritional requirements for individuals and households that are vulnerable due to low income or other circumstances. Originally initiated in the early 1930s, with the primary objective to dispose of surplus agricultural commodities, today the programs emphasize food access, nutrition, diet quality, and health for low-income families and their children. The United States Department of Agriculture (USDA) spends over \$30 billion a year on food and nutrition assistance programs — an amount that is over one-half of the USDA budget and that is projected to grow to over 60 percent in the next five years (see Figure 1).

Historically, U.S. food assistance programs featured the purchase and distribution of surplus agricultural commodities to low-income households and to school lunch programs. The introduction of a food stamp program in 1961 allowed low-income households to purchase food in stores with food stamp coupons. Over time, the design of food

programs changed from assistance being distributed directly as food, to more fungible assistance designed to help low-income households meet the costs of obtaining food, enrich the diet and provide access to health care. In addition, several new programs were introduced to target food assistance directly to vulnerable groups and, this year, the school lunch program became an international program.

The passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) dramatically changed social assistance programs in the United States. Under PRWORA, Aid to Families with Dependent Children (AFDC) was replaced with the Temporary Assistance for Needy Families (TANF) program — a program with stricter eligibility and time limits for assistance, and program control shifted from the federal to state government. This shift left the Food Stamp Program as one of the only remaining entitlement programs available to almost all low-income households. As such, it has achieved a prominent role in the social safety net.

Title IV of the 1996 Farm Bill dealt with nutrition assistance. Included were the Food Stamp Program, several food distribution programs (including the Emergency Food Assistance Program, Commodity Supplemental Food Program, the Soup Kitchen, and Food Bank Program), as well as special nutrition



**Figure 1. Food and Nutrition Share of USDA Outlays, 1980-2005**

\*Projected.  
Source: OMB Budget Tables.

assistance programs in Puerto Rico and Samoa, and new authorization for Community Food Projects.

The Food Stamp Program is the cornerstone of USDA's domestic food and nutrition assistance programs. Food stamps help low-income families and individuals buy food by providing funds available for food purchases. In 1999, over 18 million persons (per month) participated in the Food Stamp Program — nearly 7 percent of the U.S. population, down from a high of 27.5 million in 1994. Currently, Food Stamp Program spending accounts for about 54 percent of food assistance programs. A majority of households that receive food stamps have children (58.3 percent), and a significant share of households have elderly (aged 60 and over) members (18.2 percent). Food stamps target some of the poorest households in the United States. Nearly 90 percent of food stamp recipients had gross monthly income below 100 percent of poverty. The 2000 poverty threshold set for a family of four is \$17,050.

Because access to food stamps is determined primarily by income, food stamp benefits are available to the working poor, a group increasing in numbers under welfare reform. Over one-quarter of food stamp recipients are in households with earnings, and

this share has increased since 1994. At the same time, there has been a marked drop in food stamps received by households that also receive TANF, down from 38.4 percent in 1994 to 31.4 percent in 1999. Both of these trends show that many low-income individuals got jobs and left welfare programs.

The Special Supplemental Food Program for Women, Infants and Children (WIC) is a federally funded program designed to protect low-income women, infants, and children against poor nutrition and poor health by providing supplemental food, nutrition education, and health care referrals. Established in 1974, the program grew to almost \$4 billion by 1999 and had 7.3 million participants. In 1998, nearly 70 percent of recipients had income below the federal poverty level, and over one-fourth also received food stamps. The number of people served by WIC is limited by funding levels established by Congress — it is not an entitlement. The competition between WIC and other discretionary USDA programs, such as farm programs, creates some tension and controversy.

The National School Lunch Program (NSLP) and the School Breakfast Program (SBP) provide free or reduced-priced meals to low-income children at

participating public and private schools. On average, nearly 27 million children participate in the lunch program per day, and over 7 million participate in the breakfast program. Ten percent of the total cost of \$7.4 billion was used to purchase surplus commodities.

Food Distribution Programs allow the purchase of surplus commodities and other commodities on the open market for distribution through several food programs. In addition to cash reimbursements, schools offering the School Lunch and Breakfast Programs can receive commodity foods, called “entitlement” foods, at a cost of 15 cents for each meal served. Schools can also get available “bonus” commodities from surplus agricultural stocks. Other commodities are distributed to food banks, soup kitchens, and other low-income food programs. The Community Food Project, first authorized in 1996, is designed to allow communities to better meet food needs of low-income people.

As awareness of the importance of dietary choices for health increases, more attention has focused on the complementary role of nutrition education in food and nutrition assistance programs. Nutrition education is a standard part of the program benefits provided by WIC. However, the role of nutrition education in other programs has grown in recent years as well. Although nutrition education is not a standard benefit of the Food Stamp program, states may choose to include nutrition education for food stamp participants as part of their administrative operations.

The Extended Food and Nutrition Program (EFNEP) is an educational intervention program designed to help limited-income adults with young children acquire knowledge, attitudes, and nutritional behaviors that lead to improvement in family diets.

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## **Issues Related to Food and Nutrition Assistance Policy**

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Food and assistance programs provide a safety net to households in need, targeted food assistance to

low-income people and nutritional education. Current related issues are as follows.

### **Will the Food Stamp Program function as an effective safety net for low-income people if there is an economic downturn or recession?**

The 1996 welfare reform act (PRWORA) shifted responsibility for cash assistance to states through block grants. The new regulation left the Food Stamps Program as the largest non-categorical federal welfare program. Today, there is a great deal of uncertainty about how a slowdown in economic activity will affect participation and program expenditures.

### **Are the existing food and nutrition assistance programs in alignment with TANF?**

More low-income households are working under new regulations in welfare programs that encourage work and job training. Many of these families, although eligible, may not apply for food assistance programs because of a cumbersome application process, inconvenient location or office hours, requirements for recertification, or other restrictions difficult to meet while working at a low-wage job with inflexible hours. The pressing need for support may more effectively be met through direct cash assistance or more frequent issuance of benefits. If so, would the nutritional objectives of the Food Stamp Program be met?

### **Rising costs of food programs**

The costs of food and nutrition programs (outlays) are projected to rise sharply in the next five years, due to both rising costs of benefits and increased participation from a projected economic slowdown. The Food Stamp Program has moved to provide benefits through EBT and to reduce trafficking in the program. It may become more difficult to achieve additional administrative cost savings, but possibilities include greater streamlining of administrative procedures or changing recertification requirements.

## **Can federal programs effectively complement community and local efforts to meet local food needs?**

In 1999, over 10 percent of U.S. households experienced some degree of food insecurity during the year. Many of these households, in addition to the homeless, seek food assistance from local food pantries and food banks. Often such programs can provide immediate food assistance to those in need, and are able to draw on local food resources and support community food suppliers. Other food assistance programs are also expanding linkages with local food producers. Examples include the WIC Farmers' Market Program, the new Senior Farmers' Market Nutrition Pilot Program, and the school meals program. The renewed interest in community food supplies presents a need to develop comprehensive responses to local food, farm, and nutrition issues.

### **Effectiveness of nutrition education. Are food programs effective as instruments of dietary guidance?**

There is evidence of nutrition education benefits. Recent studies have found that individuals with better information about nutrition do a better job of following federal dietary recommendations, and that the more a mother knows about health and nutrition, the better the overall quality of her child's diet is. Nutrition information is available to the general public through federally developed dietary guidance materials such as the USDA Food Guide Pyramid, federally mandated nutrition labeling of foods, and numerous private sources. However, it may be beneficial to supplement these general efforts with nutrition education targeted to food assistance program recipients. In the case of means-tested programs such as the Food Stamp Program, recipients have reduced levels of income and, typically, of education, which may limit their ability to make use of general nutrition education. Targeted nutrition education may help overcome this difficulty. Other programs may target audiences at a time when the benefits of healthy diets may be especially high. The WIC program, for example, targets pregnant women, infants, and young children. During these life stages,

not only are nutritional needs especially high but the consequences of poor diets are especially deleterious. The school meals programs, through their ubiquity in American schools, offer a unique opportunity to disseminate nutrition education to children and adolescents.

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## **Policy Alternatives and Consequences**

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### **Food Programs as a Safety Net**

With changes in welfare and social assistance policies, the Food Stamp Program has become the primary safety net available to low-income households. The federal government bears increasing exposure to the risk of increased federal food stamp expenditures, since the federal government has provided block grants to states for the full cost of TANF assistance. At the same time, states bear only half of the administrative costs of Food Stamp Program benefits, and this situation may lead states to shift any increase in costs of welfare to the federal government through increased food stamp expenditures.

### **Status Quo**

Historically, the Food Stamp Program has been a *food* program, designed to provide low-income households with adequate nutrients and a balanced diet. Studies indicate that the program does increase spending on food and holds popular support because of its ties to food benefits. Under the status quo, the Food Stamp Program would continue to provide for basic food needs of poor households and would support low-income households whose members may also have employment in low-income jobs.

### **Increased Program Flexibility**

Added flexibility to the Food Stamp Program would allow states to align eligibility, work

requirements, and certification procedures more closely with TANF, and provide a more effective safety net to low-income households, including the working poor. Improved program alignment could help streamline application procedures and other administrative aspects, as well as improve the Food Stamp program's ability to meet the needs of households facing differing state regulations. Increased flexibility might allow better tailoring of rules to the needs of low-income working households.

## **Outreach**

Currently, the Food Stamp Program (for most participants) allows benefits to be treated like cash — households are not constrained to use funds for food. Eligibility for the program is determined primarily through income and asset screening. Reductions in participation rates since 1994 suggest that some eligible households may believe they no longer qualify. Increased efforts to target eligible low-income households will increase program administrative and benefit costs. However, better targeting may assure truly needy households of improved access to the program. Studies have shown that participants spend \$.20 to \$.30 out of every dollar's worth of food stamps on food. Although increased program participation ultimately costs taxpayers more, it also increases demand for food and, therefore, benefits agricultural producers, while improving dietary and health benefits of needy households.

## **School Lunch and Breakfast Programs**

The School Lunch and Breakfast Programs are important sources of food for some low-income children; however, some program benefits are available to children from households with relatively high income.

## **Targeting**

The federal government subsidizes the School Lunch and Breakfast Programs and school snacks, both in direct reimbursement costs as well as commodity distribution. Requiring children from households that are not low income (income greater

than 130 percent of poverty) to pay the full price would reduce program costs and potentially allow for expanded benefits for low-income children. However, the share of children receiving reduced-price meals is relatively small, as is the subsidy for those paying full price relative to the cost of the full meal. In addition, administrative costs may increase, especially for schools with a majority of students from low-income households.

## **Privatization**

USDA reimburses schools for lunches and breakfasts served under the Lunch and Breakfast programs. Schools that choose to participate receive cash subsidies and donated commodities from USDA for each meal served, and agree to serve meals that meet federal nutritional requirements. They operate on a non-profit basis. If more school meals were privatized, the school board could contract out for meal service. The government could provide direct cash benefits to low-income students, perhaps as vouchers for meals. This option may better meet student preferences for certain foods and drinks, and save taxpayer money. However the nutritional quality of meals may be weakened, especially if there were no nutrition education.

## **Food Distribution Programs**

While farm policy has shifted away from farm price stabilization through purchase of surplus commodities, the objective of food assistance programs has shifted from supporting agricultural prices to improving nutrition and alleviating hunger. However, the federal government can be a relatively large buyer of food when prices are low and, even today, can use this role in the market to bolster prices, as they did with the purchase of pork in 1999-2000, or cranberries in 2000.

## **Status Quo**

Surplus commodities are used in school programs as well as for distribution to soup kitchens, food pantries, and local food banks. These users obtain

food free or at subsidized price (a price that may cover transportation and handling costs). However, the types of foods and availability may vary in ways unrelated to demand. Many of the commodities available for surplus distribution have been criticized as being relatively high in fat, or not typically consumed by some ethnic groups. USDA has placed special emphasis on improving the quality of commodities, especially those donated to the school lunch program — including a great increase in the amount and variety of fresh produce available to schools.

### **Gleaning**

Increased concerns about hunger, resource conservation, and the environmental and economic costs associated with food waste have led to efforts to reduce food loss. Reduced food loss may be achieved at various levels of the food chain, from farm to final food service user or consumer. Food recovery may provide additional food for food banks and local food pantries, in addition to reducing disposal costs for food-related waste. Although likely to be relatively small for some sectors, opportunities exist for directing some recovered but wholesome food to final consumption. An example is potential waste from grocery retailers or restaurants that can be used by soup kitchens.

### **Market Options**

The government could abandon the purchase and distribution of surplus commodities and transfer funds directly to schools and other users of surplus commodities. This direct transfer would allow users to purchase foods directly in the market. In following such an approach, the schools and other buyers would match food needs more directly to purchases. They individually could choose whether to support local suppliers or producers with their purchases. Farmers would lose the possible buyer of “last resort,” or the government would face the problem of disposal of purchased surplus commodities.

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# Consumer Choice Policy

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## Background

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Consumer choice policy is likely to take a more prominent role in the agricultural and food sector in the future as products become more differentiated based on a variety of quality attributes. For example, a consumer might be looking for a frozen pizza that, along with being safe to eat, is high in protein, contains grain that was not produced with the use of genetically modified organisms (GMOs), uses meat products from animals produced under specific conditions, and has environmentally friendly packaging. Another consumer might be looking for a pizza that tastes good and is inexpensive. Figure 1 suggests a range of quality attributes consumers may care about.

Food product quality and variety are affected by company decisions and government regulations. Farmers, food processors, retailers, and food service companies make choices such as seed variety or animal breed, processing technology, and packaging that affect final product quality and presentation. At the same time, government regulates many quality attributes, product labeling, and advertising to facilitate marketing, assure particular quality levels,

provide consumer protection, and/or inform consumers.

Here we focus on policies that affect consumer choice for all food quality attributes except safety. In the United States, these policies are administered by many federal agencies. For example, the U.S. Department of Agriculture administers product standards and grades (e.g., grades for fresh fruits and vegetables), certification standards (e.g., for organic products), and labeling requirements (e.g., nutritional content for meat and meat-based products). The U.S. Food and Drug Administration also administers product standards (e.g., standards of identity, standards for package fill) and labeling requirements (e.g., for nutritional content, use of product names). The Federal Trade Commission oversees the truthfulness of advertising and the fairness of selling practices.

There are several rationales for consumer choice policies. First, they may facilitate marketing. For example, when quality grades are standardized, making transactions is easier. Second, these policies may assure that minimum quality standards are met — providing protection to consumers from fraudulent products. Third, they may protect consumers by assuring the truthfulness of information provided in advertising or labeling. Fourth, they may facilitate

**Figure 1. Quality Attributes of Food Products**

**1. Food Safety Attributes**

- Foodborne Pathogens
- Heavy Metals and Toxins
- Pesticide or Drug Residues
- Soil and Water Contaminants
- Food Additives, Preservatives
- Physical Hazards
- Spoilage and Botulism
- Irradiation and Fumigation
- Other

**2. Nutrition Attributes**

- Calories
- Fat and Cholesterol Content
- Sodium and Minerals
- Carbohydrates and Fiber Content
- Protein
- Vitamins
- Other

**3. Sensory/Organoleptic Attributes**

- Taste and Tenderness
- Color
- Appearance/Blemishes
- Freshness
- Softness
- Smell/Aroma
- Other

**4. Value/Function Attributes**

- Compositional Integrity
- Size
- Style
- Preparation/Convenience
- Package Materials
- Keepability
- Other

**5. Process Attributes**

- Animal Welfare
- Authenticity of Process/Place of Origin
- Traceability
- Biotechnology/Biochemistry
- Organic/Environmental Impact
- Worker Safety
- Other

consumer choice by requiring that particular types of information be provided allowing consumers to find products that better meet their needs.

Consumer choice policies have two fundamental characteristics. First, they address situations where consumer information is thought to be absent or inadequate. For example, nutrition labeling was mandated in the United States because it was believed that voluntary labeling was delivering inadequate information to consumers. Second, while these policies are often focused on consumer choice, they tend to have marked effects on the entire supply chain. As an example, organic certification and labeling standards affect production, processing, and distribution practices as they attempt to deliver uniform product quality and information at the consumer end of the supply chain.

The central challenge in choosing these policies is striking a balance between reliance on markets and government regulation. Unregulated markets may be able to respond to changing consumer demand and other market conditions more rapidly, ultimately delivering more choice in products and quality levels to consumers at a lower cost. However, markets may fail to supply adequate information, resulting in consumers who are confused, misled, or who simply cannot locate or buy the products they want. Historically, policies have been instituted on a case-by-case basis in response to perceived needs for corrections as to how markets operate.

Consumer choice policies should be considered in relation to alternative types of policies. For example, a country might choose between banning the use of a particular technology (e.g., irradiation, GMOs, or confinement animal production) and the alternative of certifying and then labeling the presence or absence of the technology on final product packages. Use of consumer choice policies is gaining more attention as the process characteristics (how and where a product was produced) of food products and identity preservation become more important in domestic and international markets.

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## Issues

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The design of consumer choice policy faces several central issues:

- When are policies and regulations needed? Should control of quality assurance and information provision be private or public? The information available to consumers when they make purchase decisions is never perfect nor do they always want to take the time to understand and use the information that is available. Companies have strong incentives to provide quality choices and information if consumers are willing to pay for them. They may also have incentives to provide low quality products and inadequate information. To what extent can government improve the functioning of markets for food products through consumer choice policies?

*Example: Should government regulate the content of functional foods and how they are presented to consumers?*

- When policies are adopted, should they be mandatory or voluntary? Mandatory approaches have the advantage of standardizing the entire market. However, they may impose unnecessary costs on some market segments. They may also prove unwieldy or restrict technological innovation in a fast changing market. Hybrid approaches are also possible with programs being voluntary; but if a company participates, they must meet standards set by regulations.

*Example: Should labeling of the presence or absence of GMOs be mandatory or voluntary?*

- How should consumer choice policies be coordinated among themselves and in relation to alternative policies? Policies may effectively reinforce each other, be duplicative, or actually

work at cross-purposes. Policy choices should be cost effective and fit with overall policy goals.

*Example: Should standards be the same or different for communicating the nutritional content of food products through labeling on the package, advertising on television, and web sites on the Internet? How should these information policies be coordinated with other public health measures, such as education programs, intended to reduce the incidence of obesity?*

- What are the benefits and costs, and their incidence, of consumer choice policies? Overall, are the benefits of a policy greater than its costs? These policies have effects up and down the supply chain. For example, certification frequently requires actions at the production, processing, and distribution levels. How evenly or unevenly are the impacts distributed across companies, levels in the supply chain, and consumers?

*Example: How will a national standard affect the market for organic food products?*

- Which consumer choice issues (e.g., which attributes) should receive priority for action given limited agency resources for this type of regulation? Should government focus on consumer choice issues where public health may be affected, where there is the greatest potential for consumer fraud, on “hot” issues where significant segments of consumers demand action, or where companies request a government program to facilitate marketing of their products? There are limits on how much information policy can be used given the time consumers are willing to devote to food shopping. What are the priorities given that attention itself is a limited resource?

*Example: Should standards be set for the labeling of meat products regarding production practices that may affect animal welfare?*

- If policies focus on certification and labeling, how should information be delivered in different consumer settings? Packaged products are relatively easy to label, but prepared foods delivered in food service settings are not.

*Example: Should restaurant and fast food deliver nutritional labeling comparable to that found on packaged foods?*

- How do consumer choice policies affect acceptance of food products? The existence of a government program may reassure consumers and boost product acceptance. For product attributes that are or may be perceived to be negative, labeling may facilitate consumers choosing not to use the product.

*Example: Does labeling of GMOs help or hinder their acceptance among consumers?*

- How will consumer choice policies affect international trade in food products? Will these policies improve the marketability of U.S. products in foreign markets and the ability of exporters to sell into the U.S. market? Trade agreements such as the WTO set standards for judging when such policies constitute unjustifiable nontariff trade barriers.

*Example: Will compliance with U.S. organic standards affect entry of products into the European market?*

nutrition labeling by the Food and Drug Administration and the U.S. Department of Agriculture. Many programs serve multiple goals. For example, the recently issued national standard for organic products is intended to provide consumer information as well as facilitate the marketing of organic products throughout the supply chain. Given the breadth of programs being considered, our discussion focuses on policy alternatives in broad terms.

- Maintain the status quo by continuing an ad hoc approach to consumer choice policy. Under this alternative, new consumer choice policies and revisions to existing policies would be undertaken by separate agencies based on Congressional mandates or their assessment of needs. This approach allows a decentralized approach and development of multiple policy approaches. However, it is not clear that the highest priority issues will be addressed and that programs chosen will be those with the most favorable ratios of benefits to costs.

- Devise a coordinated approach to consumer choice policy. Under this alternative, existing and proposed programs would be evaluated across agencies and scrutinized based on their probable benefits and costs. Priority would be given to those policies likely to have the greatest positive impact on consumer welfare. Attention could also be focused on the distribution of benefits and costs across producers, processors, retailers, and other participants in the food supply chain. Pursuing this approach would require significant management resources, and could stifle innovation among agencies.

- Minimize use of consumer choice policy, relying on market forces to determine the product variety, quality, and information offered to consumers. Where government institutes programs, make them voluntary on the part of companies. This policy would offer the greatest flexibility to companies in responding to changes in market conditions and consumer demand. This approach assumes that the benefits of flexibility

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## Policy Alternatives and Consequences

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Consumer choice policy, as defined here, is a broad category ranging from case-by-case oversight of advertising claims by the Federal Trade Commission to broad mandatory programs such as

and fast adjustment outweigh the costs of potential consumer confusion or deception.

- Pursue a mixed strategy where mandatory information policies, such as labeling, are used in circumstances where important public health, consumer pocketbook, or other policy goals are at stake. Use no (or voluntary) programs where issues are less important and/or the benefits and costs are less certain. This approach could be effective in addressing significant information problems, but it may be difficult to identify which issues deserve action.
- Resist demands for market facilitation services by government, relying on market forces for market development. Depend on independent third parties to establish programs for standards, certification, and labeling. Under this approach, programs are put to a market test.
- Establish government programs to facilitate markets in selected cases where benefits are clear or the possibility of fraud is highest. Government may be able to play a useful role where a neutral and trusted party is needed to mediate market development.

In terms of consequences, consumer choice policies are complex because of their possible effects throughout the supply chain. The example of GMO labeling is instructive. Intended to inform consumers about GMO use, depending on its design, it can require product segregation in part or all of the supply chain. Farmers, processors, and distributors are likely to incur extra costs but may also attain price premiums or efficiencies that offset costs. Consumers who care about GMO status get desired information but those who do not pay for activities and labeling that they do not care about. Measuring the benefits and costs, and their incidence, of these policies is difficult.

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## Conclusions

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In general, consumer choice policies require expenditures of resources, as do other policies. They may enhance or restrict the ability of food producers, processors, retailers, and food service operators to differentiate their products in the domestic market and to sell in international markets. Costs and profits are likely to be affected. Government has to make expenditures to implement the policies. If well designed, choice policies may protect consumers from substandard products and fraudulent claims, and facilitate their choice of products that best meet their needs.

Where regulatory action is demanded or desired to alter market outcomes, consumer choice policies may be viewed as a straightforward means of taking action. These policies are attractive in that they rely on market forces; they “simply” change the information environment in order to facilitate choice. Caution is required, however, because consumer choice policies are multi-layered. For example, a product-labeling program at retail requires standards (e.g., what is an organic product), certification (e.g., who will certify that standards are being met), and enforcement (e.g., who will certify the certifiers). For these policies to affect market outcomes and consumer welfare also requires that consumers, or others in the supply chain, pay attention to and act on the information they provide.

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# Food Safety Policy

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## Background

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Food safety encompasses many kinds of potential hazards in food. Examples include foodborne pathogens such as *salmonella*, naturally occurring mycotoxins, such as aflatoxin, or pesticide residues. These hazards can pose acute risks (consumers become ill immediately) or chronic risks (consumers' risk of chronic illness is enhanced). Some hazards are easily controlled or detected while others occur naturally and may be difficult for producers to see or eliminate.

Most food safety hazards pose only small risks due to the quality of U.S. food production and the strong standards in place. However, food safety issues are receiving more attention now for several reasons. First, science is now better able to trace many foodborne illnesses and their outcomes to specific pathogens found in food. Second, as consumers live longer and become more affluent, they demand higher levels of quality and safety in their food. Third, changes in production practices and new sources of food, such as imports, introduce new kinds of risks into the food system. Finally, as more foods are purchased away from home or purchased

in prepared form, consumers exercise less control over food safety.

Public policy sets standards for food safety. Such standards reflect policy decisions about acceptable risks and costs of risk avoidance. For many food safety hazards, consumers cannot detect the hazard at the time of purchase, and producers may also be unable to measure or guarantee a particular level of safety. Therefore, consumers cannot always make their demand for safer food known through purchase decisions, and producers cannot always supply what consumers demand. Public policies attempt to address this market failure by setting standards that ensure some level of acceptable safety for all consumers.

Food safety previously has not been addressed directly in the Farm Bill, but it is a public policy issue that affects farm and food industry profitability, product reputation, and competitiveness in international trade. Food safety is directly related to several areas of USDA authority, such as meat inspection. Issues related to food safety may arise in the Farm Bill or in other legislation that will affect the farm and food industry.

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## Current Situation and Forces of Change

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Due to federal and state government investments in surveillance during the past decade, reporting of foodborne outbreaks is more thorough than in the past. Furthermore, it is now possible for scientists to trace specific foodborne pathogens to their food production origin through genetic fingerprinting. Some foodborne pathogens have only recently been identified, and have evolved to pose new threats. An example is *Salmonella enteritidis*, which appeared in the 1980s. In contrast to older strains of *Salmonella*, this new strain can penetrate the eggshell when a layer hen is infected and, thus, it poses a new potential threat to consumers of raw or undercooked eggs. Another example of a relatively new threat is BSE or “mad cow disease,” which has been linked to a form of brain disease in humans. Yet, another example is the identification of antibiotic resistance in foodborne pathogens in animals, which may then result in resistant infections in humans. There is controversy over whether such resistance is the result of sub-therapeutic use of antibiotics in feeds. All of these trends in scientific and public awareness increase the attention to food safety and the potential for this issue to impact the farm sector.

### Regulatory Environment

There are 12 different government agencies with authority over different aspects of food safety in the United States. Food safety is primarily the responsibility of the Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), and the Environmental Protection Agency (EPA). Legislation has been introduced to unify responsibility into a single agency, in order to use public resources more efficiently to address the most important risks.

With increased scientific and public awareness, there have been changes in the way that public agencies approach certain food hazards. The National Academy of Sciences has advocated a risk

assessment approach to the design of food safety regulation. This means looking at how hazards enter food during production, and where it is easiest to control them. A related idea is that the benefits of a regulation should exceed its costs. The risk assessment framework should help to identify whether and how regulation can provide the greatest benefits (higher safety) for the lowest costs. The USDA and the FDA have used this approach in the design of their most recent regulations. Legislation passed in 1994 reorganized USDA agencies and created a new Office of Risk Assessment and Cost Benefit Analysis (ORACBA). ORACBA is charged with reviewing all food safety and environmental regulations from the USDA to ensure that they are based on sound assessment of risks and analysis of costs and benefits.

A related trend in food safety regulation is the mandated use of the Hazard Analysis Critical Control Point (HACCP) systems of safety management. In 1996, the USDA mandated the use of HACCP in meat and poultry plants, in order to reduce microbial pathogens in meat and poultry. In 1995, the FDA mandated HACCP for seafood plants, and the FDA has proposed HACCP regulations for fruit juice to be effective in 2001. The mandated use of HACCP reflects a growing recognition that it is important to prevent and control hazards before they reach the consumer. HACCP requires identification of critical control points and the development of procedures for monitoring controls and addressing any failures in control.

In conjunction with the 1996 Pathogen Reduction regulation, the USDA required pathogen testing in meat and poultry. Meat and poultry plants are required to test for *salmonella* and for *E. coli* bacteria, and plants with higher than industry average levels must reduce the incidence of these bacteria over time. In conjunction with these new tests, the USDA has implemented recall actions more frequently during the past five years, whenever bacterial contamination has been found.

Another important development in food safety policy was the passage of the Food Quality Protection Act in 1996. This legislation set a consistent standard for risks from pesticide residues in food. The standard requires reasonable certainty that no harm



will result to infants and children from aggregate exposure to all residues. The FQPA requires reassessment of pesticide tolerances for all currently registered pesticides, and the EPA has given priority to organophosphates because of their importance in children's dietary exposure. Organophosphates affect an enzyme that controls the nervous system. These chemicals have been used for many years by farmers for many different crops, and are applied to nearly half the acreage of crops identified as important in children's diets.

All of these changes in food safety regulation influence farm production. If pesticide tolerances are revoked as a result of the FQPA, then farmers would be forced to find other pest control alternatives that would likely reduce yields or increase costs. New regulations requiring control of pathogens may also lead processors to place greater emphasis on hazard control in contracts with farm producers. Tracing food safety problems to their source helps both industry and regulators to find the best control methods, but it can place additional responsibilities on farm producers. Increased attention to management of food safety and quality at all points in the supply chain is often seen as one cause of increased vertical integration (i.e. processor control) in certain kinds of food production.

## **International Environment**

Another important trend is the growth in imports, particularly of minimally processed fruits and vegetables. Between 1980 and 1997, the share of imports in fresh fruit supply increased from 24 to 34 percent; and from 5 to 10 percent for fresh vegetables. These imports have been associated with foodborne illness outbreaks of pathogens not usually found in the U.S., such as the *cyclospora* outbreak associated with imported raspberries in 1996 and 1997. The FDA developed guidelines for Good Agricultural Practices (GAP) in horticulture in order to address microbial risks from fresh produce. These GAPs are now sometimes used by importers to certify production practices in other countries.

In addressing risks from imports, the U.S. must adhere to the principles in the Sanitary and Phytosanitary (SPS) Agreement of 1995 under the

World Trade Organization. This agreement provides a framework for setting standards to protect human, animal, and plant health. The principles in this agreement are designed to allow countries to set their own standards, but WTO member countries must ensure that standards are science-based and that they are applied equally to domestic and imported foods. This is to allow fair competition between domestic producers and exporting countries.

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## **Issues**

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### **Responsibilities for Risks and the Role of Markets**

One approach to food safety is that responsibility is shared by all of those involved in food production and consumption. Yet, even acceptance of shared responsibility does not preclude controversy over who will bear specific risks or the costs of risk avoidance. Changes in regulation and in food production, processing, and consumption may alter who bears food safety risks and costs.

What should be the roles of producers, processors, distributors, consumers, and government agencies in assuring food safety? What kinds of information do consumers need to make informed choices about the safety of foods that they buy? To what degree can we rely on the food industry to respond to consumer concerns about food safety? What kinds of new information or research does the food industry need to respond to increased food safety regulation, increased consumer concern, and growing competition from international trade?

### **Risk Standards and Policy Goals**

The use of cost/benefit analysis and risk assessment to set standards is still an imperfect science, at best. Scientific certainty about risks and costs will never be possible. Furthermore, consumers do not view kinds of risks in the same way. Risks that are manmade, unfamiliar, undetectable, and

involuntary are viewed with greater fear than risks that are natural, familiar, detectable, and voluntary.

What levels of safety are desired, and what risk standards should be applied to foods? Should standards be based primarily on expert risk assessments, consumer risk perceptions, or a combination of the two? Should risk standards be consistent across foodborne risk sources (e.g. risks from pesticide residues and foodborne pathogens)? How should risks to consumers be compared with costs to industry of reducing risks? Should standards be flexible to adapt to new technologies and new scientific information?

### **Distribution of Risks and Costs**

Some risks have greater consequences for important groups of consumers, but not for everyone. Pesticide residues may pose greater risks to children than to adults. Some foodborne pathogens lead to more serious infections in the old and the young. It is also the case that some farms or firms will have greater costs of compliance with food safety standards. For example, small meat processing firms have higher costs of adopting HACCP and, for this, reason were given a later deadline to comply with the HACCP regulation.

Should standards be set to protect the most vulnerable consumers, or should they be set to protect the “average” consumer? Should standards be enforced for all firms equally, or should special consideration be given to small businesses and farms?

### **Organization of Federal Regulatory Activity**

How should the federal regulatory system be organized to achieve desired risk management goals for industry and consumers? If agencies remain separate, then is greater coordination of regulation desirable? What types of regulatory or other federal programs will provide assurance to consumers with the least burden to industry? Should regulatory oversight continue to be divided between federal and state agencies for different points in food production and processing?

### **International Trade Relationships**

Should standards be altered to account for new potential risks from international trade? Should there be flexibility in some standards to help industry respond to differing demands for safety in the European Union and Japan? Should the U.S. agree to changes in the SPS agreement to allow for greater recognition of consumer perceptions and concerns in setting standards?

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## **Policy Alternatives and Consequences**

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In the past, the farm bill has not been a legislative vehicle for the federal government’s food safety assurance programs. However, the many recent developments in food safety regulation may mean that food safety will play a larger role than in the past. Food safety, along with other consumer issues, and environmental concerns may play a larger role in shaping farm policy. Policy alternatives include the following:

### **Maintain the Status Quo by Leaving Food Safety Assurance Largely Outside the Farm Bill Framework**

This approach would maintain the separation between farm income programs and food safety assurance programs. Such a separation could make both types of issues more manageable. Complex issues surrounding risk management and regulatory authority for food safety can then be debated separately for other pieces of legislation. However, it may not contribute to achieving greater consistency among farm income, food safety, consumer, and environmental goals.

### **Incorporate Food Safety Into Farm Programs**

This approach would treat food safety at the farm level as analogous to conservation efforts. Farmers currently receive payments to cover the costs of certain conservation activities. Similar payments could be designed for the costs of improving food safety, such as documented procedures to reduce microbial pathogens. The advantage of this approach is to make farm income policy consistent with consumer protection goals. The disadvantage is that it would only address production at the farm level, which is only one point in the food chain and is not necessarily the source of many food safety hazards. Furthermore, production practices that improve safety are not well-defined for many hazards and compliance would be difficult to monitor.

### **Increase or redirect research and education funding for food safety**

The farm bill has traditionally authorized significant funding of scientific research relevant to food and agriculture. The USDA has increased funds earmarked for food safety research and for public education programs since 1997. Research programs seek new ways to detect and control foodborne hazards. Examples of new technologies include new rapid detection methods for microbial pathogens or improved processing techniques such as steam pasteurization of beef carcasses. Public education programs seek to educate producers and consumers about how to reduce or avoid food safety hazards. Use of federal dollars for research and education is one way to address food safety without imposing direct costs on industry. Research discoveries and better public awareness may improve food safety without direct government intervention. A potential disadvantage of this approach is that research and education may be ineffective, or not directed towards the public's or the industry's priorities.

### **Place More Reliance on Consumers and Industry for Food Safety Assurance**

This approach would place more responsibility for food safety on consumers and industry, and would mean reduced government involvement in setting standards. This might be achieved through following a stricter rule for comparing benefits and costs of intervention. In other words, new regulation would be justified only by a very large gap between benefits and costs. Even with reduced regulation, a government role in providing information might still be retained, which would assist market forces to assure food safety. The government could mandate that the food industry provide certain kinds of food safety information to consumers, in order to help them make the most informed choices about food purchases and preparation. Two examples are the required labels on unpasteurized fruit juices and the safe handling labels on meat and poultry products.

### **Consolidate Federal Authority in a New Agency**

This approach would unify responsibility for food safety under one agency. The advantage would be that this would allow the government to focus resources on the most important risks, to avoid duplication of effort, and to provide more consistent regulation across different kinds of hazards. This might help industry by reducing confusion arising from different requirements or standards among agencies. It might also improve the ability of the U.S. to address international trade issues in a consistent manner. The disadvantage could be the disruption involved in transferring resources and responsibilities from existing agencies. There would also be a loss of the specific expertise that currently exists in different agencies, for example with respect to meat and poultry in USDA. Another concern is whether the variety and complexity of tasks to be accomplished would overwhelm a single agency's ability to perform them.

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# Trade Policy Overview

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International trade has become increasingly important to agriculture as interdependence among nations has increased since the early 1970s. Farm incomes are linked directly to international markets through trade. When trade expanded during the mid-1990s, prices and incomes grew. As trade stagnated in the late 1990s, market prices declined and farmers became more dependent upon the U.S. government for income support. The following five articles focus on the key trade components of the proposed farm bill. International Food Aid has been an important surplus disposal and market development for the United States over the past four decades. Issues affecting the future of this program are discussed. Agricultural Trade and Foreign Policy highlights U.S. efforts to maintain consistent international food policy, the use of sanctions to restrict trade, and the need to resolve trade disputes with other countries. U.S. Export Programs are designed to dispose of surplus commodities, promote exports, and provide credit guarantees to foreign buyers. Increased funding for export promotion programs has been proposed, but may be challenged by some competitors. Tariff and Non-Tariff Barriers to Trade examines policies designed to restrict trade between countries. Bilateral and Multilateral Trade Agreements discusses the types of international trade agreements and their justification under U.S. trade policy. The importance of presidential fast track, or trade promotion authority, is noted. Likely negotiating positions and issues of developed and developing countries in the current round of WTO negotiations on agriculture are highlighted.



# Agricultural Trade and Foreign Policy

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## Introduction

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U.S. policy makers have struggled to maintain balance among international food aid, the use of trade sanctions, and the resolution of trade disputes with other countries. Since the United States' trade embargo of the Soviet Union in 1980, some U.S. agricultural interests have sought to separate agricultural trade from foreign policy decisions. Specifically, one objective has been to preclude the use of U.S. food supplies as a diplomatic tool or weapon. Although the United States is the world's largest donor of international food aid, it also has used trade embargoes and sanctions for both foreign policy and economic purposes, while at the same time filing numerous trade dispute petitions with the World Trade Organization and other institutions. This paper discusses U.S. involvement in trade disputes and the use of export sanctions targeting food.

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## Trade Disputes

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Most recent U.S. disputes in agriculture have arisen under the rules of the WTO, the provisions of

NAFTA, or under the trade laws of the United States or its NAFTA partners. While the WTO has ruled in favor of the United States in the beef hormone and banana trade disputes with the European Union, in the view of some U.S. agricultural observers neither case reached a satisfactory resolution. While the United States is receiving compensation in the form of higher import duties on EU products, many U.S. producer interests believe that the compensation granted under the rules of WTO was well below the value of the actual damage caused by lost trade. The United States has also challenged Canada's milk TRQs in the WTO, and has requested that the WTO review Mexico's duties on high fructose corn syrup (HFCS).

Three types of disputes have characterized North American agricultural trade under NAFTA. Sanitary and phytosanitary (SPS) disagreements have accounted for a large share of the trade disputes filed. Antidumping petitions also are important and have increased in frequency in recent years. Other disputes involve the interpretation of specific provisions of NAFTA.

Under national trade laws, all three countries have investigated imports of their NAFTA partners. The United States, for example, in agreement with Mexico, has imposed minimum import prices of \$.21 per pound on tomatoes from Mexico. Investigations of cattle and beef imports from both Mexico and

Canada have also been conducted, but negative determinations were made and no antidumping duties were imposed. Canada has investigated and placed duties on U.S. apples, refined sugar, and potatoes. Mexico has investigated and placed duties on U.S. hogs, beef, edible offal, apples, and wheat, and on wheat from Canada. Canada is also investigating an antidumping complaint alleging that the U.S. marketing loan program is acting as an export subsidy on corn shipments to Canada.

Future trade disputes within NAFTA are likely to occur in sugar, wheat, and corn. U.S. sugar interests have requested that molasses imports from Canada be reclassified to come under the TRQ in order to account for sugar being extracted from stuffed molasses. The United States and Mexico also are in dispute over the terms of a sugar side letter requiring U.S. sugar imports from Mexico to be increased if Mexico attains certain levels of sugar production. U.S. corn exports to Canada were recently interrupted when Canadian customs imposed a \$1.58 per bushel duty on U.S. corn, nearly doubling the price. In September 2000, the North Dakota Wheat Commission filed a Section 301 petition with the U.S. International Trade Commission (ITC) to investigate U.S. mill purchases of durum wheat from the Canadian Wheat Board.

Interpretation disputes have centered on the implementation of NAFTA provisions. In 1995, the United States failed to implement NAFTA cross-border trucking provisions that would have allowed Mexican trucks full access to U.S. border states and U.S. trucks full access to Mexican border states. Mexico requested a NAFTA review panel to resolve the issues and the panel ruled in favor of Mexico. Further, Mexico has requested that full access to the U.S. market be granted since the deadline for that provision passed on January 1, 2000 without implementation. U.S. reticence to allow Mexican trucks access to U.S. roadways has centered on whether or not Mexican trucks can meet U.S. road safety standards. Other considerations involve weight and load restrictions, liability and collision insurance, and payment of road use fees and taxes.

NAFTA dispute settlements need not rely solely upon the formal process afforded to NAFTA parties. The formal process gives member countries the right

to request and establish a dispute settlement panel; guarantees a judicial process involving written submission, counter-submission, and hearings; gives time lines for governing panel operations; and provides an agreement that no party to a dispute panel can block the adoption of a report.

Most NAFTA trade issues, however, have been resolved through informal dispute settlement processes. NAFTA partners can choose to forego the formal dispute resolution process and, instead, develop resolutions through government-to-government negotiations, private industry negotiations, and technical working group assistance. This latter venue has been especially important in resolving SPS concerns between the United States and Mexico. Industry negotiations that resolved issues related to Mexican labeling regulations and negotiations within the cattle sector prevented the imposition of antidumping duties by Mexico. Hog cholera, Newcastle disease, avocado fruit fly, and karnal bunt issues were resolved under government negotiations between the United States and Mexico. Disputes over U.S.-Canadian animal health inspection regulations also were resolved between governments.

The development of a more streamlined dispute settlement process was one of the objectives of the Uruguay Round of GATT. Many contend that the Dispute Settlement Body (DSB) created by the URA, along with its dispute settlement process, is a marked improvement over the GATT system based on consensus and the use of veto power by single member nations. Since its inception in 1995, the new DSB has settled five important SPS and other agricultural cases: the EU hormone ban, the EU banana case, the EU-Brazil market access case, and the U.S. challenge of Japan's varietal testing requirements on fresh fruit. It is almost certain that both the hormone and banana cases would have been vetoed by the EU under earlier GATT procedures, and would have not been settled. Further, more agricultural cases have been adjudicated before the URA DSB of the WTO than during any previous similar period of time (USDA Economic Research Service, 1998).

One primary result of the URA DSB is that the dispute settlement process among contracting parties of the WTO is one of litigation rather than the



consensus-based process used under the GATT prior to 1994. Major changes in the process of the DSB are: 1) the automatic formation of a dispute settlement panel; 2) panel reports can no longer be vetoed by a single WTO member; 3) adoption of the report and its findings is now automatic unless an appeal is exercised; and 4) the panel is now explicitly directed to make an objective assessment and determination in each case.

While the DSB of WTO is much faster and more decisive than the dispute resolution procedures previously available under the GATT, several issues could be addressed that might improve the agricultural dispute settlement process.

### **Review Calculation of Damages**

In both the hormone and the banana cases, the requested damages by the United States were reduced by one-half by the DSB. This substantial reduction has raised concern among some parties that the process of damage calculation should be reviewed to determine its objectivity and the extent to which it may be subject to manipulation. A more objective, transparent process could allay these fears and lead to a more credible perception of the process.

### **Address Seasonality and Perishability of Products**

There is little evidence that the dispute settlement processes of NAFTA or the WTO account for either the seasonality or perishability of agricultural products. A faster preliminary ruling process would result in the expeditious return to normal trade and reduce the potential for shrinkage, spoilage, or the complete loss of food products due to delay in dispute resolution. Resolution of this issue could facilitate the flow of goods across borders and result in less potential for product loss. U.S. importers' costs could be reduced because transaction fees would be lower. Prices to consumers of imported goods could also decline as product movement becomes more efficient.

### **Enforcement, Compliance, and Credibility**

Concerns have been raised about the ability of NAFTA and the WTO to monitor and enforce decisions to ensure that countries comply with DSB rulings. Both agreements established organizations of sovereign nations bound together by mutually accepted upon rules and standards. One alternative rests with each country in maintaining its capability to ensure that judgements in its favor are under compliance. Without this, then both institutions (but especially the WTO) may revert to a system of ineffective rulings, having little or no credibility.

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## **Export Sanctions**

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The use of export sanctions and their impacts on trade continues to be perceived as important to the economic well being of U.S. agriculture and remains a politically controversial issue. Trade sanctions, often imposed as part of a broader foreign policy decision, are usually implemented unilaterally by the United States, though some sanctions have been supported by other nations (Rosson, Schweikhardt, Adcock, and Tothova).

Sanctions can be implemented on a unilateral or multilateral basis and can apply to specific products or all trade. Import duties, import quotas, export taxes, sanitary and phytosanitary barriers, and other non-tariff barriers typically are not classified as trade "sanctions."

The economic costs of sanctions include direct costs associated with lost exports sales due to the prohibition of exports, and higher consumer prices due to import prohibitions against the sanctioned country. These costs may vary widely with respect to their aggregate impacts and the distribution of those impacts. In addition, some other costs that are less easily quantified may also be incurred. These may include compliance costs associated with monitoring and enforcement of any trade sanctions, damage to the sanctioning country's reputation as a reliable supplier or import market, lost opportunities for forming critical business relationships or joint

ventures, and lost competitiveness as trade opportunities are taken up by firms from other countries (U.S. International Trade Commission, p. 4-1).

The countries subject to sanctions have included North Korea (imposed in 1950), Cuba (1963), Libya (1986), Iraq (1990), Serbia-Montenegro (1992), Iran (1995), and Sudan (1997). In July 1999, the sanctions on U.S. agricultural exports to Libya, Iran, and Sudan were lifted, permitting a resumption of exports to these nations. In general, the sanctions imposed on these countries have had very small impacts on aggregate U.S. agricultural exports, but have resulted in lost markets for some commodities. In 1996, these countries imported a total \$6.3 billion of agricultural products, accounting for 1.4 percent of worldwide agricultural imports. Libya and Iran accounted for two-thirds of the total. Imports by these countries accounted for 14 percent of world rice trade, 10 percent of world wheat imports, 4.8 percent of world vegetable oil imports, 5 percent of world barley imports, and 3 percent of corn imports (Jurenas).

Sanctions on Cuba and North Korea were imposed sufficiently long ago to render data on their trade history with the United States relatively meaningless in assessing the impact of sanctions on U.S. exports. However, data on other countries do provide some insight into the impact of sanctions:

- ***Iraq:*** In 1989, Iraq was the ninth largest market for U.S. agricultural exports, buying \$749 million in agricultural products. At that time, Iraq was the largest single market for U.S. rice exports, purchasing \$392 million of rice (the countries of the European Union purchased a total of \$498 million in rice during that year). Iraq was also the eighth largest importer of U.S. wheat (purchasing 1 million tons valued at \$170 million) and the fifth largest market for U.S. soybean meal exports (\$71 million) in 1989.
- ***Iran:*** Sanctions were imposed on Iran in 1995. In 1994, Iran was the fifth largest market for U.S. rice exports (purchasing \$73 million).
- ***Sudan:*** Sanctions were imposed on Sudan in 1997. In 1995, Sudan was the fourth largest

market for U.S. dried lentil exports (purchasing \$1.3 million).

An important aspect of any export sanction action is that the burden of that action tends to fall disproportionately on a relatively small segment of the agricultural sector because a country's imports tend to be concentrated in a relatively small number of products. The loss to U.S. producers of rice export markets in Iran and Iraq provide a good example of the disproportionate impact that trade sanctions can impose on a segment of U.S. agricultural producers. An additional issue is the impact of sanctions on U.S. imports from the sanctioned country.

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## Issues

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Though the imposition of sanctions is a domestic policy decision, some issues in the upcoming round of WTO negotiations could affect the future use of sanctions. Given the progress on market opening that was accomplished in the Uruguay Round Agreements, some countries have expressed concern about the impact of further liberalization on food security. Their primary concern is that, once dependent on food imports, they would then be exposed to disruptions in supply that could arise if export sanctions were imposed at some future date. Some countries that would be required to open their markets may demand some form of guarantee that exporters' capacity to impose sanctions be limited. The form that such guarantees might take is unclear, but any such provisions would have to be consistent with WTO's existing rules of compliance.

One form of compliance might permit an importing country to retaliate against an exporting country that imposes sanctions by imposing tariffs on imports of non-agricultural goods exported from the country imposing the sanctions. Such an arrangement would be comparable to existing WTO rules that permit an exporting country to impose retaliatory tariffs when another country has violated the rules governing import access. The imposition of tariffs by the U.S. on products from the European Union following the recent banana and beef decisions are

examples of the use of these rules. While feasible in those cases where export restrictions are imposed for economic reasons (e.g., exports are restricted in response to higher prices), this would be ineffective where comprehensive sanctions prevent exports of both agricultural and non-agricultural products to the target country, since the complete termination of trade between the two countries would leave the importing country with no targets for retaliatory tariffs.

The impact of sanctions on U.S. imports from the sanctioned country is also an important issue. Among the nations still facing sanctions, Cuba has the largest capacity to export agricultural products to the United States if sanctions are lifted. Sugar, tobacco, citrus fruit and products, and winter vegetables might be among the products that would be imported by the United States (U.S. International Trade Commission, pp. 3-5 to 3-7).

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## **Policy Alternatives and Consequences**

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### **Inequitable Distribution of Burden on U.S. Producers**

While the United States may prohibit exports to a particular country, those sanctions will only affect producers of those products that are traditionally exported to the targeted country. For instance, Iraq was the largest single market for U.S. rice exports. Losing this market had a significant negative impact on U.S. rice producers and has allowed other rice producing countries to increase their share of the market. One alternative is to ensure that food and other agricultural products are not adversely impacted by sanctions. This would result in more orderly marketing and less disruption to normal trade flows, and would maintain export volumes, enhance the perception of the United States as a reliable food supplier, and maintain producer prices.

### **Foreign Food Security**

Some countries have expressed concern about the impact of further trade liberalization on food security. A primary concern of these countries is that once they become dependent on food imports, they may become exposed to disruptions in food supply that could arise as a result of export sanctions imposed at some future date. Therefore, some countries may require some form of guarantee that limits food exporters' capacity to impose sanction in return for reducing import barriers and allowing greater market access.

### **Retaliation by Importing Countries**

A country that is the target of sanctions on non-agricultural products may retaliate by imposing tariffs on imports on goods not subject to the sanction. For example, even though the United States placed sanctions on Burma in 1997 prohibiting new investment by U.S. citizens and companies, Burma (Myanmar) could retaliate by implementing tariffs or other import restrictions on U.S. agricultural products. Retaliation against U.S. agricultural products would most likely result in some short-term impacts such as reduced demand, lower market prices, and restricted volumes of trade. Over the longer term, however, markets adjust to shocks. When other export competitors supply markets previously serviced by the United States, more demand is likely to occur in other countries. U.S. exporters and producers would be positioned to respond to these market demands. Trade volumes would increase and prices would return to more normal market levels. Over time, however, markets would adjust and there may not likely be any permanent long term adverse consequences in aggregate but individual agribusinesses and manufacturers can suffer substantial damages in the short term.

### **Impacts on Agricultural Imports**

Some countries that are the target of U.S. trade sanctions might increase their exports to the United States if export sanctions that prevent such imports are eliminated. In such cases, the lifting of trade

sanctions could result in increased import competition for some U.S. producers. While opening U.S. markets would increase trade volumes, it is also likely that prices would decline and returns to producers would fall. Consumers, however, would benefit from lower market prices and additional product selection.

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## Summary

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Agricultural trade and U.S. foreign policy are interrelated. U.S. export credit guarantees, sanctions policy, and trade disputes in national and international bodies all impact trade and U.S. agriculture either directly or indirectly. Global food security is of critical concern to many countries. The credibility of the dispute settlement process in WTO also has come into question as several major cases have gone in favor of the United States, but markets have not yet opened to U.S. products. Finally, U.S. trade sanctions have reduced the size of some export markets and contributed, at least partially, to lower prices and returns to U.S. producers in the near term. While some of these policies have been reversed, others have not, leading to political pressure for legislation to remove all export limitations and preclude export sanctions that single out food products in the future. In some cases, such as Cuba for example, the total removal of trade sanctions will certainly lead to more competition for some U.S. producers, while opening markets for others. These issues will surface during the debate of new U.S. farm legislation, with strong arguments being made on both sides.

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# Export Programs

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## Background

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In common with many other countries, the United States has implemented a wide range of programs that enhance agricultural exports. These programs include general and targeted export subsidies for products such as wheat and corn, broad-based export credit guarantees, food aid, market promotion and market assistance, credit, insurance and freight subsidies. Some countries implement less transparent programs to provide indirect export subsidies through government or quasi-government export State Trading Enterprises (STEs) such as the Australian Wheat Board, the Canadian Wheat Board, and the New Zealand Dairy Board.

The funding and scope of direct subsidy programs is already subject to limits and disciplines under the 1994 GATT agreement. Other programs (such as export credit guarantees, export STEs, and market promotion and assistance) have been targeted by some WTO member countries as areas for new restrictions and disciplines in the current WTO round of negotiations. This paper describes the different export support programs implemented by the U.S. and other countries and, for each type of program,

identifies related current and potential future trade issues.

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## Issues

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### Export Subsidies

National governments have long used export subsidies as a means for protecting and promoting specific sectors of the economy. Export subsidies involve the payment of a direct or in-kind subsidy that lowers the price of exports to foreign buyers. These subsidies may be implemented under a variety of schemes, including specific and ad-valorem subsidies, variable subsidies, targeted subsidies, export promotion and assistance, and food aid. The mechanics of export subsidies and their economic effects are straightforward. They divert products from domestic to international markets by driving a wedge between the domestic price and the price paid by foreign buyers, generally increasing domestic market prices. Export subsidies may also lower international prices, depending upon the elasticity of demand for the country's exports. Export subsidies have a long history in international commodity markets. Their use in agriculture, however, became

especially prominent during the 1980s with the implementation of the Export Enhancement Program, or EEP, of the United States.

The EEP program was instituted in 1985 under the Food Security Act of 1985 (PL99-198). The program was initiated in response to declining U.S. agricultural exports and ever-increasing foreign subsidies on the exports of competitors, primarily those instituted by the European Community. EEP bonuses are targeted subsidies that were initially paid using commodity certificates, although the current program pays cash subsidies. Although EEPs were used extensively during the late 1980s and early 1990s, they were last heavily utilized in 1995, when 72 percent of the total funds used for EEP bonuses were paid on wheat, 8 percent on flour, 6 percent on poultry, and the remaining bonuses spread over other commodities (Hanrahan, 2000). Since 1995, only modest EEP subsidies have been paid on agricultural commodities although the 1996 FAIR Act (PL 104-127) did authorize discretionary EEP funding. The 1996 Act also gave the Secretary of Agriculture authority to make funds available for subsidizing exports of intermediate agricultural commodities.

The United States also operates an export subsidy program for dairy products under the Dairy Export Incentive Program (DEIP). The DEIP was established under the 1985 Farm Bill to stimulate U.S. dairy product exports. As with the EEP, at least in part, the DEIP was also a policy response to large EU dairy product export subsidies.

Direct export subsidies are explicitly disciplined under the 1994 Agreement on Agriculture, adopted at the end of the Uruguay Round of GATT negotiations. With respect to export subsidies, the 1994 GATT Agreement mandated reductions both in terms of the level of support granted through export subsidies and the volume of exports that was subsidized. For developed countries, including the United States, the 1994 GATT agreement mandated that countries would reduce the value of subsidies by 36 percent and the volume of exports receiving subsidies by 21 percent over their 1986-90 base levels. Support reductions required of developing countries were considerably weaker. These countries were to reduce the value of subsidies by 24 percent, and the volume of quantity subsidized by 14 percent.

Coming into the Uruguay Round, the largest users of export subsidies were the United States and the E.U. In the subsequent years, the level of export subsidies applied by the E.U. has remained substantial while those of the United States and other countries have been quite low. In 1996, the E.U. accounted for nearly 84 percent of a world total of \$8.4 billion of export subsidies reported to the WTO while the U.S. accounted for only 1.4 percent of that total (Normile, 1998). Despite the large levels of export subsidies still characterizing world agricultural trade, especially for the E.U., both the U.S. and the E.U. satisfied their WTO obligations.

Several issues remain unresolved with respect to the 1994 GATT provisions for export subsidy reductions (Leetmaa and Ackerman, 1999). Some countries, including the E.U., have argued that they should be able to “bank” unused levels of subsidies from periods when they were far below their agreement for use at a later time. This would permit the E.U., among others, to impose large export subsidies in times of low prices.

Where export subsidies have been binding, Leetmaa and Ackerman note that countries have been innovative in adopting schemes that circumvent the agreed-upon reductions. For example, the E.U. now exports some processed cheese under the export subsidy commitments for skim milk powder and butter. Canada has implemented a two-tier price system that imposes a lower price on milk that is used in the manufacture of processed dairy products. In addition, as discussed below, export credits, food aid, and market development provisions are not subject to the disciplines of the WTO, in spite of their obvious export subsidy nature.

Overall, the reductions in export subsidies mandated by the URAA are modest and compliance has been easy for most of the 25 countries committed to reducing their use. Thus, although the agreement is important in terms of establishing a process for reducing direct export subsidies, the actual extent and effect of reforms realized so far is very modest. In addition, several issues remain unresolved, — most of which involve export-enhancing programs that are not currently counted as subsidies.

## **Export Credit and Credit Guarantee Programs**

Many developed countries also provide support for agricultural exports to other countries through the provision of credit guarantees to importers who seek to defer payments for the goods received. Foreign importers often seek to obtain agricultural commodities from exporting countries on credit provided by either the exporter or a third party. If credit were not available, then many of these sales would not be made. However, especially when the importer is located in (or the government of) a country facing economic difficulties, absent some form of credit guarantee, private financial institutions will not provide credit to the importer. To ameliorate these problems, some exporting countries choose to provide direct lines of credit to the importer, often at below-market interest rates. More often, the exporter's government may provide a guarantee to private financial institutions that any loans they make to the importer will be repaid by the government if the importer defaults on the loan.

The United States operates several agricultural export credit guarantee programs: GSM-102 Export Credit Guarantees, GSM-103 Intermediate Export Credit Guarantees, Supplier Credit Guarantees, and Facility Credit Guarantees. Under the GSM-102 Export Credit Guarantee Program, the United States Department of Agriculture (USDA) underwrites financial transactions by U.S. banks willing to finance agricultural export transactions for exports to countries where credit might otherwise be difficult to obtain. Its provisions cover credit terms with payment schedules deferred up to three years.

The GSM-103 Export Credit Guarantee Program provides credit guarantees similar to those made available under GSM-102, but for longer periods of up to 10 years. The Supplier Credit Guarantee Program provides short-term credit extended by U.S. exporters for no more than 180 days. The Facility Credit Guarantee Program guarantees credit extended by U.S. banks for the commercial sale of American goods and services to improve agricultural infrastructure in importing countries, including storage, processing, and handling equipment.

Agricultural credit guarantee programs are widely viewed as a form of export subsidy and have been

targeted for reform by WTO member countries. During the Uruguay Round of negotiations that preceded the 1994 GATT agreement, several countries unsuccessfully sought to define export credits as export subsidies that would be subject to GATT disciplines. Initial submissions in the current WTO negotiations have proposed either the abolition or curtailment of export credit guarantees. In 1999, the United States developed a proposal to limit the scope and length or tenor of agricultural credit guarantees to no more than 2 or 3 years for bulk commodities, and a maximum of 180 days for processed and non-bulk commodities. This proposal was submitted to, the member countries of the Organization for Economic Cooperation and Development and was accepted, with modifications. It may, therefore, form the basis for a WTO agreement on the use of export credit guarantees.

## **Export Market Promotion Programs**

Publicly funded market promotion programs to stimulate agricultural exports are also widely utilized by many countries. In the U.S., two USDA managed market promotion programs are intended to promote exports through the use of treasury funds. The Market Access Program (MAP — formerly called the Market Promotion Program or the MPP) is primarily directed toward promoting exports of value-added agricultural products. The MAP subsidizes promotional activities such as market research, technical assistance, and marketing activities. The 1996 FAIR Act authorized MAP funding of \$90 million per year through 2002, a level supported in the 2001 fiscal year budget of the President (Hanrahan, 2000).

The Foreign Market Development Program, introduced in 1955 and widely known as the *Cooperator Program*, is very similar to the MAP in that it is intended to enhance exports through market development activities. The two programs differ in that while MAP is directed toward value-added and processed agricultural commodities, the Cooperator program is directed toward unprocessed bulk commodities.

These two market development subsidy programs are notable in that under current WTO rules, they are

considered to be "non-trade-distorting." Those subsidies deemed to be non-trade-distorting were exempt from the reductions mandated by the 1994 GATT agreement.

### **Domestic Subsidies for Export Sectors**

Any subsidy directed toward the production of an exported product will affect international markets. Direct production subsidies increase output and may lower prices for both domestic and international consumers. As with export subsidies, the extent to which international prices are affected depends on demand elasticities for the exported good. A small country with very elastic demands for its exports will not influence world prices. However, the large subsidies applied by many of the world's major agricultural producers do have effects on international markets. Deficiency payment programs and income support programs such as the U.S. Marketing Loan and Loan Deficiency Payment program also implicitly subsidize exports by increasing production and exports.

The 1994 GATT included provisions for reducing domestic support policies. The Agreement mandated cuts in total domestic support of 20 percent for developed countries and 13 percent for developing countries from the 1986-88 base levels. Some policies deemed to be "minimally-trade-distorting" were exempted from the agreement. In addition, the domestic policies of many countries were adapted to conform to GATT provisions for "green-box" policies that were viewed as "minimally-distorting." The increased reliance on "green box" support policies will certainly be scrutinized in the current WTO negotiations round.

### **State Trading Enterprises**

State Trading Enterprises (STEs) are important institutions in international agricultural commodity markets. STEs are typically sole (monopoly) buyers or sellers of products for a country in international markets. Countries with export STEs include several large producers of food and feed grains such as Canada, Australia, and New Zealand. Import STEs

for agricultural commodities are important in countries such as China, Japan, Algeria, Iran, and Tunisia.

Export STEs are a concern because their monopoly status provides them with the ability to price discriminate. A monopoly marketing board STE may sell domestically at a higher price and export at a lower price. Alternatively, or in addition, the monopoly board may price discriminate among different international buyers, charging different prices according to individual buyers' elasticity of demand. Such actions are fully equivalent in their effects to export subsidies. The extent to which such actions are taken, however, is unclear and the ability to price discriminate certainly depends upon the extent of the competition facing each seller. Moreover, the actions of STEs are often not transparent, making it difficult to assess the impacts of their market practices.

Article XVII of the GATT Agreement recognizes STEs as legitimate international traders, provided that they do not operate commercially in a non-discriminatory fashion. Ackerman and Dixit (1999) point out that while the 1994 GATT contained explicit provisions for disciplining export subsidies, they did not extend to the export-enhancing activities of STEs. Thus, countries using STEs may circumvent 1994 GATT provisions curtailing export subsidies.

Given that, under the right conditions, export STEs are able to implicitly apply export subsidies, their role will certainly be one focus of attention in the current WTO negotiations.

### **Other Export Enhancement Programs**

National governments have utilized other programs to enhance exports. Freight subsidies have been important in some countries. Under the Western Grain Transportation Stabilization Act, for example, Canada provided prairie grain producers with rail freight subsidies of about \$20 per ton until 1996 (when the subsidy was abolished).

The United States also has provided subsidies for transportation and handling through government programs that subsidize infrastructure improvements (for example, through improving grain handling facilities at Gulf ports). Insurance, interest rates, and other subsidies have also been provided to exporters.



For example, through the Export-Import Bank of the United States, the U.S. government provides guarantees of working capital loans for exporters and credit insurance against non-payment by foreign buyers. Some of these programs, such as Canada's grain transportation subsidies, are or have been subject to WTO disciplines on agriculture. Others are not, either because they are viewed as having minimal or *de minimus* impacts or because they are tied to very broad economic development programs.

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## Summary and Options

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This paper has identified a wide range of export enhancing programs, many of which are currently or potentially subject to WTO disciplines. Policy initiatives relating to export and domestic subsidies for the 2002 Farm Bill will therefore have to take account of current and potential future U.S. international obligations. As noted previously, these obligations are as follows. For developed countries, including the U.S., the 1994 GATT agreement mandated that countries would reduce the value of subsidies by 36 percent and the volume of exports receiving subsidies by 21 percent over their 1986-90 base levels. Support reductions required of developing countries were considerably weaker. These countries were to reduce the value of subsidies by 24 percent and the volume of quantity subsidized by 14 percent. These GATT obligations, and also those that deal with domestic agricultural support levels, are likely to place important limits on some of the 2002 Farm Bill policy options.

Given the above discussions, and current and potential future U.S. obligations under the WTO, export program options that may be available under the 2002 Farm Bill, are as follows:

- *Continue market export promotion programs.* It is unlikely that this will be highly controversial in the context of the WTO as other countries have similar programs.

- *Continue Food Aid programs targeted towards humanitarian concerns.* While some WTO member countries are skeptical about food aid programs, many view them as important from a humanitarian perspective.
- *Continue Export Credit programs, although possibly in a modified form.* The current U.S. export credit programs (especially GSM 102 and GSM 103) have been targeted for strong criticism by some WTO countries. However, several important WTO member countries, including Canada and France, also utilize such programs. Also, OECD has developed a proposal for its members that would imply modifications to the U.S. programs that would make them somewhat less attractive to some eligible importing countries.

Some export and export-related program options appear to be off the table. Expanding direct export subsidies such as EEP beyond WTO permitted limits for 2001 and 2002 would be almost impossible, given current U.S. WTO obligations. Similarly, substantial increases in output and input subsidies that provide direct incentives for increased domestic production would prove to be highly controversial under the WTO. Also, efforts to improve farm income through the creation of State Trading Enterprise export marketing boards (such as a Durum Wheat Export Marketing Board) are unlikely to be acceptable.

Trade negotiations are likely to be extremely controversial. Many special interest groups are getting tired of hearing why the WTO is limiting what they can do in times of substantial liquidity pressure in much of agriculture. The future negotiations will be an anxiety test for the United States for freer trade.

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# Tariff and Non-Tariff Barriers to Trade

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## Introduction

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This paper examines tariff and non-tariff policies that restrict trade between countries in agricultural commodities. Many of these policies are now subject to important disciplines under the 1994 GATT agreement that is administered by the World Trade Organization (WTO).

The paper is organized as follows. First, tariffs, import quotas, and tariff rate quotas are discussed. Then, a series of non-tariff barriers to trade are examined, including voluntary export restraints, technical barriers to trade, domestic content regulations, import licensing, the operations of import State Trading Enterprises (STEs), and exchange rate management policies. Finally, the precautionary principle, an environment-related rationale for trade restrictions, and sanitary and phytosanitary barriers to trade are discussed.

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## Background

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### Tariffs and Tariff Rate Quotas

Tariffs, which are taxes on imports of commodities into a country or region, are among the oldest forms of government intervention in economic activity. They are implemented for two clear economic purposes. First, they provide revenue for the government. Second, they improve economic returns to firms and suppliers of resources to domestic industry that face competition from foreign imports.

Tariffs are widely used to protect domestic producers' incomes from foreign competition. This protection comes at an economic cost to domestic consumers who pay higher prices for import-competing goods, and to the economy as a whole through the inefficient allocation of resources to the import competing domestic industry. Therefore, since 1948, when average tariffs on manufactured goods exceeded 30 percent in most developed economies, those economies have sought to reduce tariffs on manufactured goods through several rounds of negotiations under the General Agreement on Tariffs Trade (GATT). Only in the most recent Uruguay

Round of negotiations were trade and tariff restrictions in agriculture addressed. In the past, and even under GATT, tariffs levied on some agricultural commodities by some countries have been very large. When coupled with other barriers to trade they have often constituted formidable barriers to market access from foreign producers. In fact, tariffs that are set high enough can block all trade and act just like import bans.

A tariff-rate quota (TRQ) combines the idea of a tariff with that of a quota. The typical TRQ will set a low tariff for imports of a fixed quantity and a higher tariff for any imports that exceed that initial quantity. In a legal sense and at the WTO, countries are allowed to combine the use of two tariffs in the form of a TRQ, even when they have agreed not to use strict import quotas. In the United States, important TRQ schedules are set for beef, sugar, peanuts, and many dairy products. In each case, the initial tariff rate is quite low, but the over-quota tariff is prohibitive or close to prohibitive for most normal trade.

Explicit import quotas used to be quite common in agricultural trade. They allowed governments to strictly limit the amount of imports of a commodity and thus to plan on a particular import quantity in setting domestic commodity programs. Another common non-tariff barrier (NTB) was the so-called “voluntary export restraint” (VER) under which exporting countries would agree to limit shipments of a commodity to the importing country, although often only under threat of some even more restrictive or onerous activity. In some cases, exporters were willing to comply with a VER because they were able to capture economic benefits through higher prices for their exports in the importing country’s market.

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## Issues

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In the Uruguay round of the GATT/WTO negotiations, members agreed to drop the use of import quotas and other non-tariff barriers in favor of tariff-rate quotas. Countries also agreed to gradually lower each tariff rate and raise the quantity to which the low tariff applied. Thus, over time, trade would be taxed at a lower rate and trade flows would increase.

Given current U.S. commitments under the WTO on market access, options are limited for U.S. policy innovations in the 2002 Farm Bill vis a vis tariffs on agricultural imports from other countries. Providing higher prices to domestic producers by increasing tariffs on agricultural imports is not permitted. In addition, particularly because the U.S. is a net exporter of many agricultural commodities, successive U.S. governments have generally taken a strong position within the WTO that tariff and TRQ barriers need to be reduced.

### **Non-Tariff Trade Barriers**

Countries use many mechanisms to restrict imports. A critical objective of the Uruguay Round of GATT negotiations, shared by the U.S., was the elimination of non-tariff barriers to trade in agricultural commodities (including quotas) and, where necessary, to replace them with tariffs – a process called tarrification. Tarrification of agricultural commodities was largely achieved and viewed as a major success of the 1994 GATT agreement. Thus, if the U.S. honors its GATT commitments, the utilization of new non-tariff barriers to trade is not really an option for the 2002 Farm Bill.

### **Domestic Content Requirements**

Governments have used domestic content regulations to restrict imports. The intent is usually to stimulate the development of domestic industries. Domestic content regulations typically specify the percentage of a product’s total value that must be produced domestically in order for the product to be sold in the domestic market (Carbaugh). Several developing countries have imposed domestic content requirements to foster agricultural, automobile, and textile production. They are normally used in conjunction with a policy of import substitution in which domestic production replaces imports.

Domestic content requirements have not been as prevalent in agriculture as in some other industries, such as automobiles, but some agricultural examples illustrate their effects. Australia used domestic content requirements to support leaf tobacco production. In order to pay a relatively low import

duty on imported tobacco, Australian cigarette manufacturers were required to use 57 percent domestic leaf tobacco. Member countries of trade agreements also use domestic content rules to ensure that nonmembers do not manipulate the agreements to circumvent tariffs. For example, North American Free Trade Agreement (NAFTA) rules of origin provisions stipulate that all single-strength citrus juice must be made from 100 percent NAFTA origin fresh citrus fruit.

Again, as is the case with other trade barriers, it seems unlikely that introducing domestic content rules to enhance domestic demand for U.S. agricultural commodities is a viable option for the 2002 Farm Bill.

### **Import Licenses**

Import licenses have proved to be effective mechanisms for restricting imports. Under an import-licensing scheme, importers of a commodity are required to obtain a license for each shipment they bring into the country. Without explicitly utilizing a quota mechanism, a country can simply restrict imports on any basis it chooses through its allocation of import licenses. Prior to the implementation of NAFTA, for example, Mexico required that wheat and other agricultural commodity imports be permitted only under license. Elimination of import licenses for agricultural commodities was a critical objective of the Uruguay Round of GATT negotiations and thus the use of this mechanism to protect U.S. agricultural producers is unlikely an option for the 2002 Farm Bill.

### **Import State Trading Enterprises**

Import State Trading Enterprises (STEs) are government owned or sanctioned agencies that act as partial or pure single buyer importers of a commodity or set of commodities in world markets. They also often enjoy a partial or pure domestic monopoly over the sale of those commodities. Current important examples of import STEs in world agricultural commodity markets include the Japanese Food Agency (barley, rice, and wheat), South Korea's Livestock Products Marketing Organization, and

China's National Cereals, Oil and Foodstuffs Import and Export Commission (COFCO).

STEs can restrict imports in several ways. First, they can impose a set of implicit import tariffs by purchasing imports at world prices and offering them for sale at much higher domestic prices. The difference between the purchase price and the domestic sales price simply represents a hidden tariff. Import STEs may also implement implicit general and targeted import quotas, or utilize complex and costly implicit import rules that make importing into the market unprofitable.

Recently, in a submission to the current WTO negotiations, the United States targeted the trade restricting operations of import and export STEs as a primary concern. A major problem with import STEs is that it is quite difficult to estimate the impacts of their operations on trade, because those operations lack transparency. STEs often refuse to provide the information needed to make such assessments, claiming that such disclosure is not required because they are quasi-private companies. In spite of these difficulties, the challenges provided by STEs will almost certainly continue to be addressed through bilateral and multilateral trade negotiations rather than in the context of domestic legislation through the 2002 Farm Bill.

### **Technical Barriers to Trade**

All countries impose technical rules about packaging, product definitions, labeling, etc. In the context of international trade, such rules may also be used as non-tariff trade barriers. For example, imagine if Korea were to require that oranges sold in the country be less than two inches in diameter. Oranges grown in Korea happen to be much smaller than Navel oranges grown in California, so this type of "technical" rule would effectively ban the sales of California oranges and protect the market for Korean oranges. Such rules violate WTO provisions that require countries to treat imports and domestic products equivalently and not to advantage products from one source over another, even in indirect ways. Again, however, these issues will likely be dealt with through bilateral and multilateral trade negotiations

rather than through domestic Farm Bill policy initiatives.

### **Exchange Rate Management Policies**

Some countries may restrict agricultural imports through managing their exchange rates. To some degree, countries can and have used exchange rate policies to discourage imports and encourage exports of all commodities. The exchange rate between two countries' currencies is simply the price at which one currency trades for the other. For example, if one U.S. dollar can be used to purchase 100 Japanese yen (and vice versa), the exchange rate between the U.S. dollar and the Japanese yen is 100 yen per dollar. If the yen depreciates in value relative to the U.S. dollar, then a dollar is able to purchase more yen. A 10 percent depreciation or devaluation of the yen, for example, would mean that the price of one U.S. dollar increased to 110 yen.

One effect of currency depreciation is to make all imports more expensive in the country itself. If, for example, the yen depreciates by 10 percent from an initial value of 100 yen per dollar, and the price of a ton of U.S. beef on world markets is \$2,000, then the price of that ton of beef in Japan would increase from 200,000 yen to 220,000 yen. A policy that deliberately lowers the exchange rate of a country's currency will, therefore, inhibit imports of agricultural commodities, as well as imports of all other commodities. Thus, countries that pursue deliberate policies of undervaluing their currency in international financial markets are not usually targeting agricultural imports.

Some countries have targeted specific types of imports through implementing multiple exchange rate policy under which importers were required to pay different exchange rates for foreign currency depending on the commodities they were importing. The objectives of such programs have been to reduce balance of payments problems and to raise revenues for the government. Multiple exchange rate programs were rare in the 1990s, and generally have not been utilized by developed economies.

Finally, exchange rate policies are usually not sector-specific. In the United States, they are clearly under the purview of the Federal Reserve Board and,

as such, will not likely be a major issue for the 2002 Farm Bill. There have been many calls in recent congressional testimony, however, to offset the negative impacts caused by a strengthening US dollar with counter-cyclical payments to export dependent agricultural products.

### **The Precautionary Principle and Sanitary and Phytosanitary Barriers to Trade**

The precautionary principle, or foresight planning, has recently been frequently proposed as a justification for government restrictions on trade in the context of environmental and health concerns, often regardless of cost or scientific evidence. It was first proposed as a household management technique in the 1930s in Germany, and included elements of prevention, cost effectiveness, and ethical responsibility to maintain natural systems (O'Riordan and Cameron). In the context of managing environmental uncertainty, the principle enjoyed a resurgence of popularity during a meeting of the U.N. World Charter for Nature (of which the U.S. is only an observer) in 1982. Its use was re-endorsed by the U.N. Convention on Bio-diversity in 1992, and again in Montreal, Canada in January 2000.

The precautionary principle has been interpreted by some to mean that new chemicals and technologies should be considered dangerous until proven otherwise. It therefore requires those responsible for an activity or process to establish its harmlessness and to be liable if damage occurs. Most recent attempts to invoke the principle have cited the use of toxic substances, exploitation of natural resources, and environmental degradation.

Concerns about species extinction, high rates of birth defects, learning deficiencies, cancer, climate change, ozone depletion, and contamination with toxic chemicals and nuclear materials have also been used to justify trade and other government restrictions on the basis of the precautionary principle. Thus, countries seeking more open trading regimes have been concerned that the precautionary principle will simply be used to justify nontariff trade barriers. For example, rigid adherence to the precautionary principle could lead to trade embargoes on products such as genetically modified oil seeds with little or no

reliance on scientific analysis to justify market closure.

Sometimes, restrictions on imports from certain places are fully consistent with protecting consumers, the environment, or agriculture from harmful diseases or pests that may accompany the imported product. The WTO Sanitary and Phytosanitary (SPS) provisions on technical trade rules specifically recognize that all countries feel a responsibility to secure their borders against the importation of unsafe products. Prior to 1994, however, such barriers were often simply used as excuses to keep out a product for which there was no real evidence of any problem. These phony technical barriers were just an excuse to keep out competitive products. The current WTO agreement requires that whenever a technical barrier is challenged, a member country must show that the barrier has solid scientific justification and restricts trade as little as possible to achieve its scientific objectives. This requirement has resulted in a number of barriers being relaxed around the world.

It should be emphasized that WTO rules do not require member countries to harmonize rules or adopt international standards — only that there must be some scientific basis for the rules that are adopted. Thus, any options for sanitary and phytosanitary initiatives considered in the 2002 Farm Bill must be based on sound science and they do not have to be harmonized with the initiatives of other countries.

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# Bilateral and Multilateral Trade Agreements

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## Background

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In the United States, since the mid-1970s under the Ford Administration, successive presidents have sought and frequently been given fast track authority by Congress to negotiate trade agreements. Under fast track authority, the Congress agrees to allow the president to negotiate all of the elements of a trade agreement, and then to vote without amendments on whether or not the whole agreement will be accepted — rather than to vote on each provision of the agreement. Fast track authority is widely viewed as having enhanced the ability of U.S. administrations to be more effective and credible in trade negotiations. Currently, the president's fast track authority has expired and Congress has not been willing to renew it. Many commentators believe that as long as the U.S. administration does not have fast track authority, little progress is likely to be achieved in the current round of WTO negotiations or other multilateral trade initiatives.

This paper describes the various forms that trade agreements may take and discusses the agricultural commodity provisions of major agreements that have direct or indirect economic consequences for the U.S. agricultural sector.

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## Issues

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### Types of Trade Agreements

Trade agreements are either bilateral, involving only two countries, or multilateral, involving more than two countries. They are usually intended to lower trade barriers between participating countries (though not necessarily between those countries and other non-participating countries) and, as a consequence, increase the degree of economic integration between the participants.

The Reciprocal Trade Agreements Act of 1934 (RTA) authorized the President of the United States to fix tariff rates. Between 1934 and 1947, the United States negotiated bilateral trade agreements with 29 nations. In 1947, however, GATT emerged as the primary forum for trade negotiations and the RTA declined in importance as a mechanism for trade liberalization. Since 1947, generally, although not always, the United States has pursued trade liberalization in multilateral settings.

Typically, trade agreements that increase access to each member country's markets are supported by sectors that export their products but are opposed by sectors that face competition from imports.

## **Trade Agreements and Forms of Economic Integration**

For the most part, trade agreements entered into by the United States have created free trade areas as one form of economic integration. In a free trade area, tariff and non-tariff barriers to trade between member countries are removed. Trade barriers with the rest of the world differ among members and are determined by each member's policy makers.

In customs unions, trade barriers between members are eliminated and identical barriers to trade with nonmembers are established, typically by common external tariffs. A common market is a customs union in which the free movement of goods and services, labor, and capital is also permitted among member nations.

An economic union is the most complete form of economic integration. National agricultural, social, taxation, fiscal, and monetary policies are harmonized or unified among member countries, and a common currency may be adopted.

### **The GATT and the WTO**

From the perspective of agricultural producers in the United States, the 1994 General Agreement on Tariffs and Trade (GATT), which created the World Trade Organization (WTO), is an extremely important multilateral trade agreement. The World Trade Organization (WTO) is a voluntary group of nations that negotiates, monitors, and enforces global rules for international trade. More than 140 nations have joined the WTO and have agreed to accept pre-negotiated trading rules. The WTO describes itself as dedicated to reducing barriers to trade between nations and ensuring that members adhere to predetermined rules for international trade.

Prior to the Uruguay Round agreement in 1994, many nations, including the United States, were signatories to the General Agreement on Tariffs and Trade (GATT), but no official "global organization" regulated trade. Nations participating in the GATT system (which was established in 1947) met regularly and GATT rules were enforced with the help of a small staff. Thus, the shift from GATT to WTO involved a relatively small transition. The GATT

continues to be the basic trade agreement contract between WTO members.

The 1994 Uruguay Round agricultural agreement included reforms related to market access, export subsidies and domestic support, as well as new rules concerning human health, animal health, and plant health regulatory trade barriers developed under the Sanitary and Phytosanitary (SPS) agreement. Market access provisions include:

- (1) Converting non-tariff barriers to tariffs,
- (2) Creating minimum market access for small import quantities at low or zero tariffs (typically three percent of domestic consumption expanding to five percent over time) when imports had been prohibited or almost prohibited,
- (3) Reducing all tariffs by an average of 36 percent over a 6-year period (or 24 percent over 10 years for developing countries), and
- (4) Requiring a minimum cut of 15 percent for every tariff.

No country could utilize these provisions to reduce previously available market access. However, safeguard provisions also allowed countries to raise temporary barriers if import surges caused economic hardship to specific domestic industry. Export subsidies are generally prohibited under the GATT. Between 1994 and 2000, agricultural export subsidies were reduced by 36 percent in value terms and 24 percent in volume terms and by 2000, agricultural export subsidies were smaller and less frequently used than in the 1980s and early 1990s.

The agricultural agreement also included provisions related to domestic farm subsidy programs that could distort trade. Nonetheless, the 1994 GATT recognized that many farm subsidy programs are used for objectives other than trade concerns. The agreement therefore attempted to limit the use of "trade distorting" domestic subsidies, phasing down the aggregate of these "amber box" subsidies over six years, while placing no restrictions on so-called "green box" subsidies that were not viewed as trade distorting.

All nations agree that legitimate public policy concerns may require restricting imports that threaten food safety, or plant or animals populations with pests or diseases. However, some sanitary or phytosanitary (SPS) barriers were used to restrict imports that posed no real SPS threat. The 1994 GATT SPS agreement required that all SPS barriers be based on sound science and that countries demonstrate the legitimacy of any barrier that was challenged. The WTO is currently engaged in three major activities: (1) monitoring trade policies and providing information about the benefits of freer trade, (2) providing an active dispute resolution program entailing a legal process of convening panels to provide an objective and fair dispute resolution process, and (3) initiating a new round of trade liberalization negotiations in agriculture, services, and (perhaps) other areas.

Under the 1994 GATT, agricultural negotiations were to begin in 2000 with the objective of rapidly developing a new agreement. These negotiations did begin but have progressed slowly with countries only stating their initial objectives. No real progress was expected until the new U.S. administration had its senior level trade team and strategies in place, and most observers expected the pace of negotiations to pick-up in the latter part of 2001

### **Developed Countries and the WTO**

During the Uruguay Round negotiations, the United States was generally a strong proponent of improved market access and reductions in internal supports that provided incentives for expanded domestic production. Given that the United States is a major exporter of many agricultural commodities, the U.S. administration may well retain a focus on further reductions in barriers to trade and output expanding domestic subsidies. In those respects, it is likely to find supporters for its negotiation positions among other major agricultural exporting nations such as Canada, Australia, Argentina, New Zealand, and other members of the CAIRNS group. This was a group of countries that developed a common set of freer trade oriented negotiation positions in the Uruguay round.

Some other countries such as Japan and the EEC, who provide producers with relatively large subsidies are concerned about further mandated reductions in tariffs and domestic support programs. Appealing to the multifunctionality of agricultural subsidies, they argue that both domestic subsidies and some trade barriers can be justified. Multifunctionality, in this context, involves a perceived need for domestic food security, maintenance of rural communities, and the provision of environmental amenities in densely populated countries.

The U.S. has also indicated that trade distorting operations of import and export State Trading Enterprises should be disciplined by new WTO rules, a view that is shared by the EEC. However, these disciplines are generally opposed by countries such as Japan, New Zealand, or Canada, which rely on import or export STEs to manage trade in important agricultural commodities.

Reductions in, or the abolition of, export subsidies (including export credit guarantees) are being sought by many countries, including the CAIRNS group. The United States has generally supported export subsidy reductions, but it opposes abolition of export credit guarantees.

Finally, the United States, along with Canada, has been strongly supportive of maintaining and strengthening the SPS provisions of the 1994 GATT, particularly because of concerns about the proliferation of non-science based restrictions on trade in genetically modified organism (GMOs) and livestock products produced with hormone additives. In contrast, some countries, such as Japan and the EEC, have indicated interest in modifying the SPS to allow for perhaps more arbitrary restrictions on trade in these products. A recent EEC-U.S. agreement on labeling requirements for products containing GMO crops may mitigate some of the heat generated by these issues.

### **Developing Countries and the WTO**

Since the Uruguay Round, developing countries have played a larger role in the WTO. Of the 140 WTO member countries, 105 are classified as developing and, of those, 29 are least developed. Although developing countries differ in many ways,

they have much in common and, since the 1960s, have attempted to influence trade negotiations by forming coalitions with common objectives, such as increasing access to industrialized country markets.

Several trade issues have emerged as important to developing countries. Expanding access to developing country markets may have adverse consequences for some, especially the poorest countries. One concern is that higher and more volatile food prices will reduce real disposable incomes for many poor households in some developing countries. Another is that poor farmers could be adversely affected by large imports of relatively low priced foods (Diaz-Bonilla). Some developing countries have also objected to policy making being determined in the WTO, arguing that the process sacrifices national sovereignty, and they have argued for a halt to the WTO process.

Nevertheless, some developing countries argue that reducing tariffs and expanding tariff-rate quotas in developed countries, especially for commodities like sugar and textiles, could improve market access for many poor countries. In addition, some countries consider their agricultural import barriers as highly regressive taxes on food consumption by low-income households that benefit large and affluent producers. Developed countries also usually impose higher import duties on processed products than on raw materials, discouraging processing in other countries. Therefore, lowering tariffs on processed products is also an objective for many developing countries.

Mechanisms and policies that provide enough regular and emergency food aid and reduce fluctuations in world prices are also supported by developing countries. Some developing countries also support expanded agricultural export credit and financial assistance programs that target the poor and do not displace commercial sales.

Several other WTO-related issues are important for developing countries. Generally, they are supportive of an international legal system that limits the unilateral actions of large developed nations by developing a more transparent, rules-based international trading system. Most developing nations also support special and differential treatment for themselves in the form of longer transition periods for implementing changes in agricultural trade barriers

and less rigorous adjustments than those required of developed countries, as was the case in the Uruguay Round Agricultural Agreement.

## **Regional Trade Agreements**

Trade agreements are often regional, involving only a relatively small number of countries. Several important regional trade agreements have been negotiated in the Western Hemisphere over the past 12 years. Two of these agreements, the Canada-United States Trade Agreement (CUSTA) and the North American Free Trade Agreement (NAFTA), have substantially reduced trade barriers for agricultural commodities, manufactured goods, and services in North America.

Both CUSTA and NAFTA are free trade agreements that eliminate many tariffs and other trade barriers between member countries, but they have no impacts on their trade policies with non-participants. The CUSTA free trade agreement between Canada and the United States was signed in 1988 and came into effect on January 1, 1989. The NAFTA was ratified by the U.S. Congress in November 1993, and was implemented on January 1, 1994.

Although the provisions of both of these free trade agreements have provided substantially improved U.S. access to agricultural markets in Canada and Mexico, they have also generated some controversy. Over the past 10 years, trade disputes between Canada and the United States have occurred over Canadian wheat, cattle, processed potatoes, and sugar exports to the United States, market access concerns and, in 2000, over U.S. exports of corn to Canada. Similarly, trade disputes and concerns between the United States and Mexico have arisen over U.S. wheat and other grain exports to Mexico and Mexico's feeder cattle, fruits and vegetables, and sugar exports to the United States. Such disputes are to be expected because free trade agreements tend to benefit a country's producers of exports but adversely affect producers of import competing products. On balance, across the entire U.S. agriculture sector, however, both CUSTA and NAFTA appeared to have provided the average U.S.

farmer with small net benefits in terms of impacts on farm gate prices and revenues.

Several important bilateral and multilateral trade agreements have been established in other parts of the world. Many of these agreements liberalize agricultural trade between participating countries, some have created common trade barriers against imports from other countries and one, the European Economic Community, has operated a common agricultural domestic and trade program.

In the context of U.S. agriculture, the European Economic Community (EEC) is clearly the most important regional trading bloc. Currently, the EEC consists of 15 member countries (Austria, Belgium, Britain, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and Sweden). Together, these countries produce about \$200 billion of agricultural commodities each year. Many other countries have applied to join the EEC, including several that have important agricultural sectors such as Poland, Rumania, and Hungary. The EEC's agricultural policies have generally been characterized by relatively high guaranteed domestic prices buttressed by import tariffs and export subsidies. Beginning in 1992, support prices for key commodities such as beef and cereals were reduced quite substantially first under the McSharry reforms, and then under the Agenda 2000 reforms. EEC farmers have been compensated for these price cuts through a series of partially decoupled subsidies called compensation payments. However, EEC export and domestic subsidy programs remain a prime target for other countries under the current WTO negotiations.

Several other regional trade agreements are important for US agriculture. MERCOSUR is a customs union agreement among Argentina, Brazil, Uruguay, and Paraguay with common external tariffs for imports from other countries and (with a few exceptions) zero tariffs for commodities traded within the customs union bloc. MERCOSUR was formed on January 1, 1991, and has provided considerable advantages to member countries over third countries in terms of market access for key agricultural commodities such as wheat and oilseeds.

Other Western Hemisphere trade agreements include the Andean Pact, established in 1969, the

Central American Common Market (CACM), established in 1960, and a series of bilateral trade agreements between Chile and several other countries. Andean pact countries, which include Bolivia, Colombia, Ecuador, Peru, and Venezuela, generally impose common external tariffs and enjoy free trade within the trading bloc. The Andean Pact imposes relatively modest external tariffs on import raw agricultural commodities such as wheat and corn but much higher tariffs on processed commodities such as flour. The CACAM, which includes El Salvador, Guatemala, Honduras, Nicaragua, and Costa Rica, also imposes common external tariffs and, generally, creates a free trade environment within the region.

Chile has negotiated a series of regional bilateral agreements with other Central and South American countries and also, in 1997, with Canada. The Chilean agreement with Canada is of substantial concern to U.S. agricultural producers as the agreement provides for lower tariffs of imports of commodities such as wheat, vegetable oil, and potatoes. Chile has also signed a trade agreement with MERCOSUR that will gradually eliminate all tariff barriers between MEROSUR and Chile, but it does not require Chile to impose MERCOSUR's common external tariffs on third country imports.

Other important regional trade agreements include (1) the Closer Economic Relations (CER) agreement between Australia and New Zealand initiated in 1983, (2) the Association of Southeast Asian Nations (ASEAN) Free Trade Area agreement between Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Thailand initiated in 1991, and (3) the proposed Asia Pacific Economic Cooperation Forum. Countries in APEC include the founding members — Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, Philippines, Singapore, South Korea, Taiwan, Thailand, and the United States — as well as three more recent entrants — Peru, Russia, and Vietnam — which joined APEC in 1998.

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## Summary

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This paper has described and discussed the structure and expanding role of bilateral and multilateral trade agreements for international trade and their implications for U.S. producers. Considerable attention has been given to the WTO, CUSTA and NAFTA, which have been the most important trade agreements for the United States in the past decade. While the farm bill debate is unlikely to address bilateral and multilateral trade agreements, the commitment under WTO and these agreements will certainly influence what is perceived to be trade distorting (amber) or green U.S. farm policy provisions.

# International Food Aid

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## Introduction

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U.S. government grant and concessional credit and international food aid abroad is administered under the authority of three programs: the Agricultural Trade Development and Assistance Act of 1954 (P. L. 480), commonly referred to as Food for Peace; Section 416 (b) of the Agricultural Act of 1949; and the Food for Progress Act of 1985.

Initially, food aid programs, particularly PL-480, played an important role in developing export markets and expanding trade, promote promoting broad-based development, fostering private enterprise, and combating world hunger and malnutrition. In addition, the well being of American farmers was closely linked to food aid programs. In the 1950s, food aid shipments accounted for as much as one-third of the total value of U.S. agricultural exports (Christensen).

In the 1970s, U.S. agricultural exports expanded rapidly while food aid stabilized and then declined. By the end of the decade, food aid represented only 3 percent of the value of U.S. agricultural exports. While food aid continued to play a role in export promotion, as former food aid recipients became

important commercial customers, other programs focusing on directly increasing exports, began to increase in importance. By 1978, exports under credit guarantee programs exceeded food aid exports and have remained so.

Despite the decline in the proportion of food aid to total agricultural exports, the U.S. commitment to food aid remains steadfast. The U.S. is the largest contributor to the International Food Aid Convention (Table 1). At the World Food Summit in Rome in 1996, the U.S., along with 186 other countries, pledged to cut the number of under-nourished people in the world in half by the year 2015 (USDA/FAS).

Most recently the United States has established a \$300 million food aid initiative linked to efforts to improve basic education and childhood development in poor countries. The U.S. Department of Agriculture's international school nutrition pilot program would purchase surplus agricultural commodities and donate them for use in school feeding and pre-school nutrition programs. The program will be administered in cooperation with the United Nations World Food Program in partnership with private voluntary organizations. Funding for the program would come from the CCC Charter Act and Section 416(b).

**Table 1. Food Aid Convention, Annual Grain Shipments, 1995/96 – 1998/99, July/June Year, Metric Tons: Wheat Equivalent**

Donor	Minimum Annual Contribution (1995 Conv)	1995-96	1996/97	1997/98	1998/99	Minimum Contribution (1999 Conv)
Australia	300,000	298,146	305,127	293,221	273,064	250,000
Canada	400,000	448,764	468,431	417,917	487,095	420,000
EU	1,755,000	2,431,991	2,049,591	2,201,162	1,962,481	1,320,000
Japan	300,000	474,870	326,835	302,626	560,135	300,000
USA	2,500,000	2,846,384	2,553,283	2,818,500	4,374,121	2,500,000
Other*	95,000	95,112	71,452	77,221	110,232	105,000
<b>Total</b>	<b>5,350,000</b>	<b>6,580,267</b>	<b>5,774,719</b>	<b>6,110,647</b>	<b>8,127,128</b>	<b>4,895,000</b>

\*Argentina, Switzerland, Norway  
Source: International Grains Council

## Issues

While the motives behind food aid programs can be laudable, as in the case of humanitarian efforts to address conditions of famine and malnutrition, they are not without their critics. Criticism of food aid generally relates to three main areas: disincentive effects, mis-allocation of resources, and problems associated with the distribution of food aid.

Critics argue that providing inexpensive imports may depress the importing country's farm prices to the detriment of domestic producers. In addition, the availability of food aid may result in recipient governments having less incentive to reform policies to develop self-sufficiency by increasing domestic production or generating foreign exchange to purchase food imports (Smith and Ballenger). Others argue that food aid has been directed to countries based on market development priorities at the expense of those countries with the most immediate or chronic food shortages.

Problems associated with the distribution of food aid donations also continue to be a source of criticism. For example it has been reported that millions of dollars worth of U.S. commodities donated to the

World Food Program through the Agency for International Development have been lost, stolen, or mishandled due to ineffective accountability procedures used to monitor the distribution and use of donations (GAO).

Aside from expanding exports, food aid has been used in times of over-supply to clear surplus production from the market and to stabilize declining U.S. commodity prices. Surplus disposal, in fact, is one of the major objectives of PL-480. U.S. competitors in the world grain trade, however, have been critical of U.S. commodity disposal actions. Australia and Canada, in particular, claim that U.S. surplus production is often shifted onto the world market when least needed, putting additional downward pressure on already low or declining prices.

Many of the issues surrounding food aid have not changed much since the debate over the 1996 Farm Bill. Central focus was given to the adequacy of food aid donations by the U.S. and other donors, the efficiency and effectiveness of food aid delivery mechanisms, the effect of cargo preference provisions for U.S. food aid shipments, and the additionality of agricultural exports provided in the form of food aid.

In the current environment, the debate over food aid will likely be conducted with respect to the issues



influencing the prospects for global food security. The International Food Policy Research Institute (IFPRI) has highlighted six critical issues that will significantly influence the world food situation and hence the need for food aid in the early 21<sup>st</sup> century (Per Pinstrup-Andersen, et. al.). IFPRI identifies new information on nutrition, low world market prices, the next round of trade negotiations, increasing productivity on small-scale farms, the potential role of modern biotechnology, and the relevance of new information technology and precision farming as the factors that will have the greatest effects on food security for low-income people for many years to come.

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## **Policy Issues and Consequences**

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### **Adequacy of Food Aid**

Food production in the developing world will not keep pace with demand. Estimates by IFPRI indicate that cereal import demands will almost double by 2020 to 192 million tons. Much of this increase in demand will occur in the areas where malnutrition and food insecurity are most rampant, such as Sub-Saharan Africa and South Asia. The ability of donor countries to maintain sufficient supplies of food aid is doubtful. 135 million children under 5 years of age are expected to be malnourished in 2020 — a decline of only 15 percent from 1995.

These estimates reinforce the conclusion that simply increasing the supply of food may help relieve hunger and malnutrition in the short term, but achieving food security requires long-term solutions to the problems of food availability, accessibility, and utilization in developing countries. Accordingly, U.S. food aid dollars may be better spent on programs designed to address the root causes of food insecurity. U.S. policies and programs designed to improve the handling and distribution infrastructure, especially in the poorest countries, may do as much to

enhance food security and meet international food aid needs as increasing available food supplies.

### **Efficiency and Effectiveness of Food Aid**

Multiple and sometimes competing objectives impede the effectiveness of food aid programs. A report by the General Accounting Office (GAO/ GGD-95-68) suggests that U.S. food aid programs have not significantly advanced the goals of sustainable economic development or long-term commercial market development. Recently, concerns have been raised that food aid is ineffective and may actually be counterproductive to U.S. commercial sales. In a proposal by President Bush, the Title I, PL-480 program and Section 416(b) donations will be reviewed to evaluate their effectiveness in meeting market development objectives. Groups calling for a review of current food aid initiatives question the effects of USDA food donation programs. Such groups encourage USDA to assess potential commercial markets before programming for food assistance. The results of any changes in the current Title I and Section 416(b) programs may have significant implications for the role of food aid in the future.

Burdensome requirements such as the requirements to carry title I cargo on U.S. flag ships, restrictions on re-exports of commodities and country selection process are obstacles to improved efficiency. Reforming these policies to increase the efficiency of U.S. food aid is one policy option that may be considered. It is likely that doing so would further reduce the competitiveness of U.S. shipping interests, but would benefit U.S. exporters and producers by increasing volumes of trade, reducing surplus stocks, and raising prices.

### **Current WTO Considerations**

The Uruguay Round Agreement on Agriculture contained specific language to prevent the circumvention of export subsidy commitments by food aid transactions. Citing the rapid decline in food aid donations over the period 1994-97 and subsequent increase in food aid donations since 1998 (an increase

of 120 percent between 1997-99), the EU is calling for a strengthening of the WTO provisions governing surplus disposal. If successful, further restrictions on food aid donations may lead to constraints on the ability of donor countries to respond to future food emergency situations. These actions would further exacerbate food shortages in the poorer countries and raise prices there. U.S. exporters and producers, however, would experience reduced volumes of trade and lower prices. The unintended consequences of these policy proposals could be quite severe, especially in the short run.

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## Summary

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International food aid was an important surplus disposal and market development tool during the 1950s and 1960s. Since then, its relative importance has declined as U.S. commercial exports have increased. The United States is still the largest donor to the International Food Aid Convention, accounting for 51 percent of the world's total in 1999. New initiatives, such as an international school nutrition program appear to be gaining momentum and may become important components of U.S. international food aid in the future. Food aid is not without its critics. Market disruption and lower prices in recipient countries, along with subsidized competition, have been cited by U.S. trading partners as undesirable consequences of international food aid programs in general, and U.S. initiatives in particular. Policy options for U.S. programs include issues related to the adequacy of U.S. donations to meet critical international food needs while facing the possibility of a declining food aid budget, the need to more effectively target food aid recipients, and the exacerbation of global hunger due to more stringent WTO requirements to limit or reduce international food aid shipments by some countries.

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# Natural Resource Policy Overview

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Federal government policy for diverting land use from crop production began in the early 1930s when policymakers hoped to stimulate depressed commodity prices by reducing commodity supplies. Later in the 1930s, policymakers sought to reduce erosion and depletion of soil by encouraging shifts to cropping practices known to retain top-soil and maintain its fertility. Over the decades, the objectives of soil conservation policy have expanded to include reduction in stream siltation, prevention of water pollution, and creation of wildlife habitat. Agricultural lands have been credited with an array of “environmental services,” including wildlife habitat, natural ecosystems, and a variety of amenities associated with rural settings. In 1972, the Federal Water Pollution Control Act Amendments included confined animal feeding operations (CAFOs) as point sources of water pollution subject to regulation under the National Pollutant Discharge Elimination System (NPDES). The four papers in this section focus on public policy issues, alternatives, and consequences that pertain to the expanded array of public aspirations for the nation’s agricultural lands.



# The Conservation Reserve Program

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## Background

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The Conservation Reserve Program (CRP) is a voluntary long-term cropland diversion program. CRP relies primarily upon positive economic incentives to entice owners, operators and tenants to convert highly erodible or otherwise environmentally sensitive cropland with appropriate cropping history into a conserving use for 10 to 15-year contract periods.

The United States' long-term land diversion policy began in the early 1930s with the purpose of adjusting production to demand by withdrawing cropland from cultivation. Later in the 1930s, the policy expanded to include conservation through a compensation program to encourage producers to shift from soil-depleting to soil-building crops. With the onset of World War II, the emphasis shifted to increasing production to meet war and post-war needs.

When overproduction of agricultural commodities again became a concern by the mid-1950s, the soil bank was put in place. Its objectives were to reduce commodity stocks and to conserve land resources. Participants were paid to divert cropland to conserving uses. Diverted cropland was not required

to meet any erosion or other environmental standards to be eligible. By the early to mid-1970s, diverted cropland was being returned to production to fulfill expanding export demand.

As over production again became a problem, short-term land retirement programs, including the 1983 payment-in-kind program (PIK), were periodically put in place. Long-term land retirement programs with conservation and production adjustment goals were not implemented again until 1986.

The Food Security Act of 1985 (1985 FSA) established the CRP. Other than its role in supply management, its primary objective was to reduce soil erosion. Secondary objectives were to protect the long-term capacity to produce food and fiber, reduce sedimentation, improve water quality, create fish and wildlife habitats, curb production of surplus commodities, and provide farm income support.

Land owners, operators, and tenants submitted per-acre bids for eligible lands with appropriate cropping history to county Agricultural Stabilization and Conservation Service offices (now Farm Service Agency — FSA). Bids less than or equal to the maximum acceptable rental rate set for the county were accepted. Most successful bidders realized returns to fixed resources from CRP payments that were equal to or more than the returns that would

have been realized under continued crop production. National-level CRP enrollment in 1990 was 33.9 million acres, about 75 to 80 percent of the maximum enrollment of 40 to 45 million acres authorized in the 1985 FSA.

The Food, Agriculture, Conservation and Trade Act of 1990 (1990 FACT) re-authorized the CRP, shifted the focus, and changed the bidding procedure. Highly erodible cropland remained eligible. Other eligible land included cropland devoted to filter strips and other easement practices in state water quality areas, within established wellhead protection areas, and within areas subject to scour erosion.

The CRP bid process had two phases. First, the CRP bid had to be less than the respective county-level bid maximum. (In the last sign-up under this Act, maximum CRP rental rates were calculated for each tract bid based on the inherent productivity of its soils and county-average cropland rental rates). Then, bids were evaluated to determine their environmental benefits through an environmental index, never explicitly known by the bidder, which embodied goals for surface and ground water quality improvement and preservation of soil productivity. Bids were ranked, and those with the highest environmental benefits relative to contract costs received priority consideration. National-level enrollment in 1995 was 36.4 million acres, about 96 percent of the maximum enrollment of 38 million acres authorized.

The Federal Agriculture Improvement and Reform Act of 1996 (1996 FAIR Act) again re-authorized the CRP. Eligible lands for the periodic sign-ups were similar to those designated under the previous Act. The two-phase bid procedure was modified. Maximum CRP rental rates are established for each tract. Each bid is evaluated through an environmental benefits index with elements and scoring limits known to the bidder. Also, there is a continuous sign-up for cropland determined suitable for the following practices: filter strips; riparian areas; shelter belts; living snow fences; field windbreaks; grassed waterways; salt tolerant vegetation; and shallow water areas for wildlife. Bids under the continuous sign-up adhere to the maximum acceptable rental rate calculations, but are not subject to the environmental benefits index rating. National

level enrollment in late 2000 was 33.5 million acres, about 92 percent of the maximum enrollment of 36.4 million acres authorized under the FAIR Act.

**Related programs: The Wetlands Reserve Program (WRP)** was also authorized under the 1985 FSA and has continued through subsequent legislation. The WRP offers landowners the opportunity to protect, restore, and enhance wetlands on their property. To be eligible for WRP, land must be restorable and suitable for wildlife benefits. Landowner eligibility is dependent on the participation option pursued. Currently, 1.05 million acres are enrolled — some in each state except Alaska.

Landowners may participate in WRP through permanent easements, 30-year easements, and restoration cost-share agreements of a maximum 10-year duration. For permanent easements, landowners are paid the lesser of the agricultural value of the land, an established payment cap, or an amount offered by the landowner. The USDA pays all of the restoration costs. For the 30-year easements, landowners are paid 75 percent of what they would be paid for the permanent easement and 75 percent of the restoration costs. Under the restoration cost-share, the USDA pays for 75 percent of the restoration activity, but there is no compensation for the land. Sign up for WRP is continuous through the Natural Resources Conservation Service (NRCS), the lead USDA agency. Enrolled land may be used for some agricultural purposes if compatible with the wetland plan, but must be requested from NRCS. Such uses may include haying, grazing, or wood harvest.

**The Conservation Reserve Enhancement Program (CREP)** was authorized pursuant to the 1996 FAIR Act. The program's primary objectives are to coordinate federal and non-federal resources to address specific shared resource concerns and to improve water quality, erosion control, and wildlife habitat related to agricultural use in specific geographic areas. Currently, the size of CREP is limited to 100,000 acres per state. Total CREP enrollment is part of the overall CRP enrollment cap of 36.4 million acres.

Participation and land eligibility requirements for CREP are the same as for CRP. In addition to the usual CRP rental payments, the federal government

may make special one-time or annual incentive payments to encourage participation in CREP. In some cases, annual payments from federal sources are enhanced by 20 percent. States and other program participants may provide other funding to further encourage program participation. Like CRP, the USDA's Farm Service Agency administers CREP. Sign up for CREP in states with approved programs is continuous. Presently, 15 states have been approved for participation in CREP and 6 other states have submitted proposals to participate. Just over 148,000 acres have been enrolled at an average rental rate of \$131/acre.

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## Issues

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Three major issues have surfaced with respect to current CRP policy and implementation rules. The first is the determination of the maximum acceptable rental rate. For a particular tract, the maximum acceptable rental rate is the weighted average of the soil rental rates for the three predominant soils in that tract plus an annual \$5 per acre allowance for conserving use maintenance.

Soil rental rates, subject to county Farm Service Agency committee review, are assigned to soil mapping units in each county. Soil rental rates are assigned to each mapping unit based on inherent productivity. The soil map unit in the county with the average inherent productivity (yield) is assigned the county average cropland rental rate. The more productive soils in the county are assigned rental rates up to 150 percent of the county average cropland rental rate. The poorest soils in the county are assigned rental rates as low as 50 percent of the county average cropland rental rate.

Assignment of soil rental rates based on inherent productivity criteria has shortcomings. Using the inherent productivity criterion ignores resource improvements that landlords and operators have completed on cropland, often with USDA technical and crop-share assistance. Furthermore, the inherent soil productivity criterion ignores the differences in management practices employed by individual operators.

The soil rental rate approach for setting maximum rental rates for CRP tracts tends to attract cropland with higher soil productivity ratings. These soils usually require fewer manufactured inputs for crop production compared to those soils with lower ratings. This approach tends not to attract cropland tracts with lower rental rates. Landlords, operators and tenants with cropland tracts with lower soil rental rates often continue to produce crops in rotation. In regions where the major concern is wind erosion, soils with lower inherent productivity ratings are often more erosive.

A second issue focuses on the environmental benefits index (EBI) used to prioritize the bids offered. Each bid is assigned a point score based on the relative environmental benefits associated with the land resource offered. Bids are ranked in comparison to all other bids submitted nationally. Selections are made from that ranking.

EBI components and their respective minimum and maximum scores are: 1) wildlife habitat benefits (0 to 100 points); 2) water quality benefits from reduced erosion, runoff, and leaching (0 to 100 points); 3) on-farm benefits from reduced erosion; 4) likely long-term benefits beyond the CRP contract (0 to 50 points); 5) air-quality benefits from reduced erosion (0 to 35 points); 6) benefits from enrollment in a conservation priority area (0 to 25 points); and 7) benefits assigned for the cost of the bid with points assigned after the sign-up period ends.

Management decisions of producers may influence EBI scores. The wildlife benefits subfactor may be influenced by the bidder's choices of cover and practices beneficial to wildlife. For instance, the bidder might maximize the cover and practice score by selecting a mixed stand of five species, possibly three grasses, one shrub and one forb suited for wildlife in the area. Management decisions also impact the cost factor. The cost factor usually involves two elements — the cost-share paid and the bid level. Usually, if cost-share is declined by the bidder for establishing the conserving use, EBI points are assigned, but the majority of the EBI points assigned for "government cost" are assigned based on the bid level submitted compared to the national maximum bid allowed. Lower bids yield higher factor

points but, often, the EBI points gained relative to each dollar the bid is reduced are minimal.

There may be science to reinforce individual factors measured in the index, but when the maximum points vary by EBI factor, science may be quickly overwhelmed by other considerations. Rather than the USDA asserting that the program maximizes *environmental benefits per dollar spent*, it is more accurate to say that the *environmental index is maximized per dollar spent*. The latter comment should not be taken as a measure of environmental improvement.

A third issue focuses on the landlord/tenant relationship. Historically tenant history was protected under CRP implementation rules. When cropland managed under crop share leases was enrolled in CRP, landlords and tenants often shared CRP payments in the same proportions that they shared crop revenues. In 1988, ASCS (now FSA) issued a directive that shares were to be determined commensurate with cost contributions of the landlord and tenant subsequent to conserving use establishment. Essentially, this would have reversed landlord and tenant shares. Many of the contracts under the Food Security Act were already in place. In subsequent sign-ups, CRP contracts continued to protect tenant history and usually maintained historical revenue shares.

Under current rules, tenant history is dependent on cropland use when offered for CRP consideration. If the acreage offered is not in CRP at the time of the sign-up, the landlord is required to provide tenants who have an interest in the acreage being offered an opportunity to participate. The landlord is not allowed to reduce the number of tenants as a result of enrollment in CRP. When the acreage being offered is enrolled in CRP at the time of the sign-up, a tenant on an existing (but expiring) contract must have an opportunity to participate in a future CRP contract if (1) the tenant is otherwise involved in farming other acreage on the farm at the time of the sign-up, or (2) the tenant has an interest in the acreage being offered on the effective date of the new contract. Some tenants, who had interests that expired concurrent with an expiring CRP contract, and with no other farming interest with the landlord, have been left out.

Now, there is latitude for negotiation in the division of the CRP payments. The annual CRP rental payment is to be divided among the participants on a single CRP contract in the manner that is agreed upon in the contract. However, each contract involving landlords and tenants is subject to county Farm Service Agency committee review, and proposed payment divisions are evaluated.

There are two probable policy alternatives. The first would re-authorize the CRP and manage the program under the existing implementation rules. The second would re-authorize the program, but set the maximum per acre rental rate at the county-level average cropland rental rate. It is quite possible that both alternatives would try to increase the maximum enrollment substantially beyond the 36,400,000 acres that were authorized under the 1996 FAIR Act.

There is a possible third policy alternative — that of phasing out the CRP. It is not expected that this alternative will be strenuously pursued because the majority of the current CRP contracts are at less than mid-term in the usual 10-year contract period. An estimated 27 million acres currently under contract are not due to expire until fiscal year 2007 or later. Furthermore, as has been demonstrated at times during the 15-year history of the CRP, an effective way to curtail enrollment is to not schedule bidding periods.

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## Policy Alternatives and Consequences

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### Re-authorization of the CRP Under Current Rules

This alternative would re-authorize the CRP and continue implementation under existing rules. There are several consequences of the current implementation rules that would be expected to continue:

- Allowing the highest soil rental rates to be three times that of the lowest soil rental rate in a county exaggerates the range of these rates relative to



the range of cropland rental rates that exist in the market. Tenants and other operators face distorted cropland rental markets.

- Older contract holders tend to have larger percentages of their cropland in the CRP than do younger contract holders. For older potential CRP participants who are landowners their opportunity cost for enrolling in the CRP is the prevailing cropland rental rate. CRP rental rates based on the higher soil rental rates available in a county are above the opportunity costs for such producers, distort the cropland rental market, and cause excessive expenditures of public funds.
- CRP environmental goals to limit soil erosion and improve water quality may not be met. The soil rental rates approach to setting CRP rental payments does not necessarily attract soils that are highly erosive and/or otherwise contribute to environmental degradation. Soils with lower soil rental rates are often left in crop production because the opportunity cost for resources in crop production are greater than the maximum CRP rental rates for such soils.
- Surveys of CRP contract holders in the mid-1990s showed that 85 percent of the CRP contract holders were likely to bid for continuation of their CRP participation at the rental rates they were receiving at the time. CRP rental rates above the county-average cropland rental rate are in excess of the payment needed to fulfill program goals.

#### **Re-authorize CRP with different implementation rules**

This alternative would limit CRP rental rates to a maximum equal to the county-level average cropland rental rate, as established by county FSA committees. There are several expected consequences of this change in implementation rules:

- Limiting the CRP payments maximum to the county-level average cropland rental rates would

reduce the total public expenditures for the program.

- These rules will tend to attract CRP tracts that have soils that have lower soil productivity ratings and have cropland rental market opportunity costs that are less than the CRP rental rates.
- These rules will attract lower productivity soils that are more erosive in regions where wind erosion is predominant.
- A revised Environmental Benefits Index (EBI) could be specified if there is a desire to shift CRP participation away from the current heavy participation in the Great Plains states. A revised EBI could incorporate factors unique and/or favorably weighted to encourage participation in other targeted regions. Some have advocated permitting individual states to make adjustments in the EBI to better reflect local conditions and objectives.

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## **Conclusions**

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There is likely to be some interest in expanding the CRP acreage limits, especially if other current short-term cropland deferral programs such as flexible fallow do not receive favorable attention in the policy making process. That is, there may be a desire for the CRP to expand, not necessarily to achieve environmental and conservation goals, but to serve as the defacto supply management program.

The impetus for using CRP as a defacto supply management program is predicated on the positive impact that removing cropland acres would have on reducing domestic crop production and increasing commodity prices. Positive price impacts would be expected to be minimal for commodities such as wheat, rice, and cotton of which the United States accounts for only modest portions of world production. The potential for price increases subsequent to CRP expansion for other agricultural commodities for which the United States accounts for

a major portion of world production will depend on what levels of CRP payment could be realized.

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# Green Payments Policy

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## Introduction

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Green payments, or government expenditures to farmers and ranchers for the provision of environmental services, is gaining supporters either as an addition to, or as a substitute for, income support. A recent example is the proposed federal Conservation Security Act (CSA) of 2000 (introduced by Senator Harkin and Congressman Minge). The CSA, which would provide payments to any farmer and rancher willing to implement a conservation plan, is currently being debated as one option for farm bill payments.

Agricultural enterprises, if managed well, can provide a broad array of environmental services: specifically, habitat services, ecological services, and amenity services (Bromley, 1997). These services are not mutually exclusive, each rely on the others. Adequate habitat provides the necessary conditions for the well-being of animals and plants that are not already part of the agricultural enterprise. Examples are wild game, waterfowl, and a broad range of native plants. Ecological services are those attributes of the farm or its management that affect the functioning of a healthy ecosystem. For example, the careful protection of an on-farm wetland can provide

important buffering and filtering effects that ultimately lead to cleaner water in nearby streams or which can provide flood control. Or, the building of soil quality can provide a carbon sink to aid in ameliorating global climate warming. Amenity services are those that stem from maintaining farms and ranches so that they provide a visually appealing component in the rural landscape. These landscapes can in turn provide recreation and tourism opportunities. Agricultural producers, regardless of management capability, have few financial incentives to either maintain beneficial services or to mitigate adverse environmental impacts. Green payments could provide these incentives if properly designed.

Green payments are sometimes referred to by the European expression of “multi- functionality”, where producers are paid for their production of environmental, cultural, or social attributes. Examples might include the preservation of historic buildings, the provision of wildlife corridors, or even the production of a regional cheese. The use of the term, green payments, in the United States usually only refers to the environmental services from agriculture. One considerable appeal of green payments is that paying farmers and ranchers to produce such services—as opposed to paying them for commodity production—should not violate trade agreements (as interpreted by the World Trade Organization (WTO)) as long as

they have minimal distortions on production and trade (Ervin, 1999).

Green payments are not a new concept. Traditional state and federal agro-environmental programs such as the Conservation Reserve Program (CRP), the Wetlands Reserve Program (WRP), and the Environmental Quality Incentives Program (EQIP) are examples of green payment programs. However, with the exception of the CRP, none of these programs is really designed to transfer a significant amount of income (USDA-ERS, 1997). For instance, EQIP is a relatively small program of only \$200 million per year, and it provides only limited cost sharing. Together, these programs have been successful in reducing cropland erosion, restoring wetland acreage, and in improving wildlife habitat (USDA-ERS, 1997). However, the cost-effectiveness of these programs in achieving environmental outcomes is questionable. For example, the use of CRP as a land retirement approach is seen as a relatively expensive way of achieving environmental benefits (USDA-ERS, 1997; Claassen, et. al., 2001). Moreover, agriculture continues to confront important environmental problems, particularly water pollution from nutrient runoff.

The design of green payments is challenging. Agro-environmental problems are complex: involving management practices on specific farms and their effects on environmental services. These effects are not always well understood. Although knowledge is growing, the science linking farm and ranch practices to environmental outcomes is fragmented and incomplete.

It is known, however, that there are a number of characteristics that complicate the design of any green payments program: (1) multiple contributors to agro-environmental services, (2) difficulty in observing and/or measuring impacts, (3) heterogeneity in underlying conditions, and (4) unpredictability of natural events (Claassen and Horan, 2000). The nature of agro-environmental services is that significantly enhancing the environmental management on one farm may not appreciably impact environmental services; frequently, many farms must improve their environmental management to achieve improvements.

As a result, it is difficult to measure and monitor individual contributions to agro-environmental services. Furthermore, agriculture is extremely diverse, with crops, management practices, topography and weather varying widely among regions. There is an uneven distribution in the location of environmental problems. This diversity means that a “one-size-fits-all” policy is not likely to be as effective in enhancing environmental services as would a more targeted policy. Finally, many agro-environmental problems are subject to significant variations as seasons change or as extreme storm events take place. There can be more variation in off-farm runoff, for example, from variations in climate than from variations in farm practices, although properly chosen practices can often reduce the adverse impacts of extreme weather events (Claassen and Horan, 2000).

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## Issues

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Because of the complexity of agro-environmental services, there are many issues to be resolved in designing a green payment program (Heimlich, 1994; Claassen, et. al., 2001). These issues include:

- **What is the objective of the program?** Is the objective only the enhancement of environmental services or are farm income support and other program objectives also important? What are the inherent tradeoffs between income support and environmental objectives? What environmental services are to be the focus of the program? How are these services to be measured? Will there be different objectives for different regions or enterprises?
- **Who should be paid?** Who is eligible? Should payments go to areas of intensive agricultural production or to areas where the provision of the services affect many people and/or have significant environmental impacts? Should payments be targeted, and what selection criteria should be used? What land should be targeted: those with significant actual or significant

potential environment problems? Or, should certain regions or types of crops be targeted?

- **How much will farmers and ranchers be paid?** Will payments exceed producer costs? Will payments vary spatially? Will total payment amounts be limited?
- **What should farmers and ranchers be paid to do?** Should payments be based on performance (e.g., on a set of criteria that combine several environmental services, perhaps based on an environmental impact index), on the adoption of specific management practices, or on a whole farm conservation plan? What is the appropriate baseline from which to evaluate payments? Should payments be made only for improvements from the status quo, or for past stewardship? Will constraints be imposed on which lands are eligible for payments? How should compliance with green payment requirements be monitored and enforced?

All of these issues are important for the overall design of green payments and the determination of the ultimate beneficiaries of the program.

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## Alternatives and Consequences

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There are many green payment policy alternatives — each incorporating different answers to the questions posed above. Each choice involves tradeoffs and will result in a different distribution of payments. For example, if income support objectives are combined with the objective of providing environmental services, there will be a different geography of payments than if the only objective were the provision of environmental services.

A program targeted to only environmental objectives would be more cost-effective in providing specific environmental services than one with the dual objectives of both income support and the provision of

environmental services. But targeting a single environmental service will not necessarily address problems stemming from other environmental services (Claassen, et. al., 2001). A different policy alternative therefore is to use some measure of *multiple* environmental services to determine eligibility for payments. Another policy is to make all farmers and ranchers eligible to receive green payments—say for adopting a whole farm or ranch conservation plan. However, providing green payments to all farmers and ranchers regardless of their land's impact on environmental services significantly increases the taxpayer costs of providing environmental services and greatly increases enforcement and administrative costs. Cost-effectiveness criteria suggests a need for targeting broadly enough for impact, but not so broadly as to dilute the effectiveness of the program.

Cost-effectiveness can be further enhanced if compliance is measured by environmental outcomes, at least in those instances where such outcomes can be observed and measured. Where such outcomes are not easily measured, the most cost-effective approach is to provide payments for those changes in practices most highly correlated with the provision of environmental services. However, payments based on improved outcomes requires agencies to have a considerable amount of information and may involve significant costs for planning and enforcement. Furthermore, farmers and ranchers may find such an approach inequitable because those adopting the same practices may not receive the same payments.

An alternative would be to pay farmers and ranchers uniformly for using certain practices. Supporters of such an approach may claim that uniform payments may lower program administration costs and would appear to be more equitable. However, such arguments may be misleading. First, uniform payments reduce overall cost-effectiveness because they encourage farmers with little environmental impacts and/or high costs to over-supply environmental services, while farmers with large environmental impacts and/or low costs would not have incentives to supply enough environmental services. Second, such a program may reduce the flexibility of producers to select the least cost environmental management technique. Combined

with the fact that adoption of certain practices may not always result in the provision of the desired environmental services, the effect would be to increase the costs of providing environmental services. Finally, there is evidence that uniform payments could actually increase the divergence in the returns to agricultural landowners (Claassen and Horan 2001).

In all cases, the selection of the appropriate baseline from which to measure changes will be critical in affecting both program participation and the level of income transfers. Program participation and the level of income transfer will be smaller if the baseline is too stringent. However, too lax a baseline could cause some producers to be paid for doing things they should already be doing, implicitly penalizing those who have already taken steps to provide environmental services (Baumol and Oates). That is, the good steward producer might not receive any green payments, since he or she is already adequately providing environmental services. Also, too lax a baseline could create an opportunity for “moral hazard”—that is, to create agro-environmental problems in order to be compensated for ameliorating them.

To be cost-effective, farmers and ranchers should receive enough in the way of payments to offset any opportunity costs they incurred with respect to the provision of the payments. Determining the level of payments (which depend on both payment rates and also the baseline from which payments are evaluated) that motivates changes that would not otherwise have taken place (Batie, 1994) and which neither over- nor under-compensates the farmer or rancher is difficult.

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## Summary

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Developed countries, including Japan and those of the European Union, are moving toward green payment programs as a WTO-legal way to protect environmental and cultural services from agriculture. The United States is now scrutinizing the concept. However, what on the surface appears to be a relatively simply concept of paying farmers and

ranchers to provide environmental services, is actually quite complex.

There are four fundamental issues with respect to program design.

- What are the objectives of the program?
- Who should be paid?
- How much should they be paid?
- What should farmers and ranchers be paid to do?

The answers to these questions are crucial in determining not only the cost-effectiveness of the program and the geography of the payments, but also in determining the actual obtainment of the enhancement of environmental services.

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# Rural-Urban Interface Issues

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## Introduction

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Americans are moving to the countryside in unprecedented numbers. They seek the various amenities of open space, relief from congested urban places, and a different lifestyle. Some of the new ruralites scatter themselves throughout the countryside on small (3 to 10 acre) and large (20 to 80 acre) lots. Others move to more orderly subdivisions beyond the urban boundary. All demand the familiar public services of schools, police and fire protection. Retail strip malls are usually close behind. In many places, the rural-urban interface is ragged, disjointed, and ill defined. In others, policy actions have led to a better-defined boundary between country and city.

Farms and other land uses blend well sometimes, but not always. Type of farm and the expectations of the new residents make a difference. There is frequently misunderstanding among people with diverse rural and urban backgrounds — new arrivals do not understand the day-to-day realities of an active farm or the passion with which farmers hold their private property rights. Farmers may not fully appreciate why the non-farmers moved out into the countryside or their expectations about the public responsibilities of land ownership. Both sets of rural

residents have rights and obligations with respect to each other. Conflicts do emerge, and these conflicts lead to demands for policy change.

The new rural residents may bring heightened health and safety concerns — water and air pollution from confined animal feeding operations and chemical drift, for example. Other concerns relate more to lifestyle preferences, the various amenity services of open farmland, and competition for location.

The indigenous rural population brings a different set of concerns to the table including congestion, trespass, litter and illegal dumping, new taxation to support growth, and limitations on specific farm practices (e.g. manure spreading, controlled burning, and aerial spraying). Certainly, after the economic damage resulting from wildfires throughout the United States in 2000, fire safety has become a major issue in rural areas. The infusion of new homes onto the rural landscape has reduced the ability of landowners to use prescribed burning to manage land due to liability and health related issues. The reduction in prescribed burns has led to an increase in fuel loads, increasing the risk of more severe fires and the cost of fire suppression.

Environmental problems at the rural-urban interface are not addressed in this paper but are covered by other papers in this series. Focus here is on federal policies designed to guide land use patterns to protect land for farming, encourage provision of

farmland amenities for non-farm people, and reduce the incidence of conflict between farm and non-farm people. Further, emphasis is on the federal role and the 2002 Farm Bill.

### **The Data on Land Use Change**

The 1997 National Resource Inventory (NRI) indicates the dynamics of land use change. From 1992 to 1997, just over 11.2 million acres of land were converted to urban uses. One in four of those acres was prime farmland (3.2 million acres). More than 50 percent of the land converted to urban uses can be found in eleven states: Texas (894K acres), Georgia (852K), Florida (825K), California (553K), Pennsylvania (545 ), North Carolina (507K), Tennessee (401K), Ohio (365K), Michigan (364K), South Carolina (362K), and Virginia (344K).

Some 645 thousand acres of prime farmland are being developed annually. More than 50 percent of this land conversion is occurring in the top 10 states. Texas leads in the annual conversion of prime farmland with 67,000 acres. It is followed by Ohio (42K), Georgia (37K), North Carolina (34K), and Illinois (32K).

The fragmentation of farmland may reduce the amount of economically harvestable land. While the NRI shows that 645 thousand acres are being converted to developed uses each year, the amount of farmland being cut up into uneconomic units is not recorded.

Changing farm structure is one indication of this fragmentation problem. The largest increase in number of farms reported in the 1998 Census of Agriculture was in the category “residential/lifestyle” farms — those grossing less than \$250,000 in sales and reporting a non-farm occupation as the primary one for that household. Nearly half of the census farmers in many key farming states (like Ohio, Indiana, and Illinois) report more than 200 days a year working off the farm. Fifty-five percent of all farms report off-farm work. The traditional family farm is increasingly a multi-enterprise operation with off-farm work a significant source of income stability. Far from the trivial, nearly recreational image suggested by the “residential/lifestyle” title, this category of farming might be the mainstream in this 21st century.

It represents a degree of blending of farm and non-farm activity at the interface, where farmers depend on outside jobs and more urban people have direct contact with farming. While large in numbers (40 percent of all farms in 1998) and important to land use patterns, these farms account for only about 6 percent of farm product sales. They represent 22 percent of all farm assets and 16 percent of land in farms.

### **The History of Farmland Policy at the National Level**

The primary policy actors in rural land use and farmland protection have been, and will continue to be, state and local governments. All 50 states have some type of farmland protection program. Policy instruments include property tax incentives that reduce farming costs, capital gains taxes and transfer fees to discourage conversion, state and local farmland conservation easement purchase programs, and agricultural zoning. Ag zoning may be “exclusive farm use” zoning that prohibits non-farm uses in agricultural districts. In other cases, and more commonly, agricultural zones are “inclusive” and merely try to discourage conversion with high minimum lot size restrictions. Counties and other local governments typically implement farmland programs as part of local plans within state enabling laws. Growth management programs in several states protect farmland by directing growth away from prime lands and by reducing the uncertainty of development patterns.

National efforts to retain farmland were first taken seriously following the dust bowl in the early 1930s. In 1934, the Natural Resources Board proposed a national scheme for identifying and protecting lands of particular importance to food production through a coordinated system of county farmland plans. The idea never matured. Senator Henry Jackson, of Washington proposed a national system of state comprehensive plans in the early 1970s. The proposal merged with President Nixon’s bill to become the “Land Use Policy and Planning Assistance Act of 1973. It was one of several victims of Watergate, and of the continuing general suspicion of federal incursion into what was

considered by most to be a state and local matter. Congressman Jim Jeffords of Vermont proposed the National Agricultural Land Policy Act in 1977, building on Jackson's work, to analyze effects of various national development subsidies on rural land use patterns. While this bill disappeared fairly quickly, the energy behind it led to the National Agricultural Lands Study (NALS), co-directed by Mr. Jeffords' former staffer Bob Gray. The NALS carefully documented the pace and pattern of farmland conversion, though there was little consensus (particularly among NALS staff) about the import of those findings. The Farmland Protection Policy Act, a provision of the 1981 Farm Law, required federal agencies to minimize the impacts of their programs on the nation's farmland supply. That program continues — adding information to the policy process. It was really the last significant federal initiative for farmland policy until the Farmland Protection Program contained in the 1996 FAIR Act.

While federal action does not drive U.S. farmland policy, federal initiative has been very important as a source of seed money triggering local action, and also as a source of intellectual energy on the topic. NALS instigated detailed collection and analysis of land use and policy data from throughout the country. USDA support of research and extension programs of the land grant universities has facilitated further study leading to better understanding of land use dynamics. Federal assistance for local infrastructure planning and growth management affects farmland protection. Federal policy makes a difference.

### **The 96 FAIR Act and Farmland Policy**

The 1996 law directs the Secretary of Agriculture to conduct a national Farmland Protection Program to purchase voluntary conservation easements on up to 340,000 acres of "prime and unique farmland." The main focus of this program is to assist state, tribal, or local governments in protecting productive agricultural lands from conversion to developed uses. The federal dollars were available on a matching basis only to states with organized farmland protection programs, and were fully committed within three years. The Natural Resource Conservation Service of USDA administered the program.

Through FY 98, \$33.5 million of federal funds were allocated to 19 states, leveraging another \$230 million of state and local dollars, and preserving 127,000 acres of farmland on 460 farms by permanently retiring the development rights. Another \$30 million was allocated to the Farmland Protection Program through the Agricultural Risk Protection Act, with the most recent announced in January of 2001. Thus, the Farmland Protection Program under the 1996 Farm Law has assisted states, local governments, and private land trusts in carrying out their locally-designed land use programs through the authority to buy selected land use rights from farmers on a completely voluntary basis. Other states have recently enacted their own purchase programs that will make them eligible for any future federal dollars for that purpose.

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## **Options for the 2002 Farm Bill**

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Certainly, the single greatest impact on farmland use is the profitability of the farming enterprise. Low profitability may discourage people from going into farming, and it increases the incentive (and need) for existing farmers to sell land for the income or operating capital.

Past agricultural policies have not specifically targeted benefits to smaller farmers or those at the margin, but have used payment limitations to reduce the level of assistance provided to large producers. To the extent that federal payments are targeted to maintain the current land use, farmland conversion will be slowed.

In Europe, governments actively engage in policy designed to maintain the landscape with the result that there are three times as many farmers farming one-third as much land as in the United States. While this is a costly endeavor, the maintenance of the rural landscape is an important, highly supported social goal in many European nations. While we are unlikely to immediately engage in a similar set of policies here in the United States, there are numerous possibilities for the new farm bill that would move us in the direction

of supporting a desired landscape in which farmland is a multi-service resource. These would include:

- **Continuation and expanded funding for the Farmland Protection Program** as contained in Title III of the 1996 FAIR Act, with the same general terms and conditions. There is a long waiting list of farmers willing to sell development rights. Local and state proposals far outstripped the federal funds appropriated.
- **Inclusion of a special title on the generation and distribution of improved information on the value of farmland amenities and ecological services, and on the performance of alternative local land use policy instruments.** The purpose of the former would be to improve the ability of state and local governments to consider any benefits of farmland protection policy that go beyond the value of commodities produced. There is general recognition that such amenities and eco-services exist, but little evidence of their economic value to weigh against implementation cost. The latter would help local governments consider the impact of policy on land use patterns. Do these policies really make a difference? The federal role would be to improve chances for sound local policy, not to initiate federal action. Research to measure non-commodity benefits of farmland and the performance of alternative farmland protection and growth management policies would be funded on a competitive basis, perhaps through the National Research Initiative of USDA. Funds for educational assistance would be allocated competitively as well, through the Cooperative State Research, Education and Extension Service (CSREES) of USDA.
- **Development of a national data system on actual farmland conversion,** based on real estate records, to augment the National Resources Inventory for state and local policy development. Such data are currently unavailable, or very uneven, among the states.

- **Federal support of other state programs to help attract and retain people in farming.** Farmland protection works only if there are farmers. Special attention could be given to state efforts to link retiring farmers to prospective farmers seeking the farm assets they need to get started. Such efforts exist in about 20 states, involving a database of potential matches for entering and exiting farmers. Another possible model is the Massachusetts Farm Viability Enhancement Program, in which eligible farmers receive financial and technical help in developing additional on-farm enterprises in return for a protective covenant on the land for 10 years. Priority would go to farms at the rural-urban interface seeking to adapt but stay in farming.
- **Implementation of a system of federal incentives for land stewardship,** similar to those in the proposed Conservation Security Act (S.1426). Such a program would be designed to encourage the farmer's protection of land, air and water quality as a part of land ownership.
- **Target a portion of Environmental Quality Incentive Program (EQIP) and Conservation Reserve Program (CRP) funds on farms at the rural-urban interface.** Emphasis would be placed on those farms and attributes of farms that contribute amenity value to the non-farm population.

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## Consequences of Alternatives

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### Beneficiaries

Primary beneficiaries of the suggested farmland provisions of the 2002 Farm Bill are state and local policy makers wanting to develop a farmland protection or growth management program, or to improve an existing one. We assume that these officials are responding to demands from constituents

that farmland services be protected in some way. Thus, the ultimate beneficiaries would be non-farm people seeking the amenity services of farmland.

Farmers benefit to the extent that they can sell conservation easements in line with their business goals, or be protected from near-by land uses that conflict with farming. Targeted incentives would primarily benefit farmers within or near metropolitan areas.

Taxpayers benefit from better-informed and, therefore, more efficient land use programs. Funds could thus be allocated away from programs that have little effect on land use patterns. Taxpayers also gain from development patterns that are least costly to provide with public services.

Agribusiness firms depending on local farm production would see a more secure future when state and local policy encourages retention of the best farmland and manages the pattern of development. There will always be economic adjustments in agriculture, and no land use program will significantly alter those basic economic forces, but such programs can potentially reduce uncertainty and the pain of adjustment. Successful programs to strengthen economic viability of farms at the rural-urban interface would benefit local agribusinesses as well.

Rural communities that are farm based and those that rely on a mix of farm and non-farm people would gain from an improved system for guiding rural change. Thoughtful, effective land and growth policies help the community adapt to change gracefully rather than being held hostage to ill defined or understood development pressure. However, communities where the farmland is less productive may not be helped by these programs and may experience continued decline. Smaller communities at the interface between rural and urban will have a better chance of retaining the farmland amenity and eco-system services that they value.

Such policies speak directly to those environmental and conservation groups concerned about long-term food sufficiency and sustainability of resource systems. Farmland and growth management programs are clearly not enough to meet the needs of these groups, but they do contribute. Such groups would also benefit from improved land stewardship through any targeted incentives.

## **Detractors, Those Who May Perceive Loss**

Farmland protection and related research and education provisions of the 2002 Farm Bill will worry some interests. Developers, builders, and those who service the construction industry will view these policy actions as both unnecessary and potentially damaging to the development process. To the extent that development rights are acquired, some farmland with development potential will not be available. Removal of some land from the development market may increase the cost of remaining land, thus increasing the cost of housing. These impacts could be analyzed as part of policy performance work proposed above.

Some farmers may feel that any program to redirect the development process will reduce the value of their land. Historically, farmers have seldom been the most enthusiastic supporters of programs to protect farmland. Development potential is an important part of a farmer's asset base. While the Farmland Protection Program merely supports voluntary acquisition of farmland conservation easements, some may fear that more regulatory approaches will follow because of all this attention to the issue. Easements are just the "nose under the tent" — next will be direct incursions into the private property rights of the landowner. In fact, state and local governments may be interested in regulations, and their work could be facilitated by proposed research and education grants.

Property rights groups may oppose any land use planning, farmland protection, or growth management efforts just as a matter of principle. These programs are designed to adjust land market signals and change the pattern of change — considered by some to be inherently unfair and unwise.

Environmental groups have seldom listed farmland protection at the top of their priority list. Some may feel that dollars allocated to purchase conservation easements would be better spent enforcing water quality standards or buying wetlands and other fragile eco-systems. Further, many environmentalists feel that farmers are subsidized too much already and would support more mandatory techniques of land use control in lieu of purchase of conservation easements. Farmland programs are

distractions from the real environmental problems needing attention.

Community leaders may be wary of efforts to deflect development, potentially depriving their community of tax dollars. In those rural areas experiencing economic decline for any of several reasons, any development would be welcome. Farmland protection is simply unnecessary. Other policy initiatives and allocation of dollars would be preferable.

Taxpayer groups may oppose further subsidy for farmers, even though directed at land stewardship, and prefer that these actions by farmers be required as part of the responsibility of land ownership.

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## Conclusions

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Farmland protection will be a small part of the 2002 Farm Bill. Other provisions will make more of a difference to farmers and the agricultural community in general. However, this part of the conservation and natural resource package will be important to the range of support necessary for ultimate passage of the legislation.

The federal role in this area will likely continue to be one of support and facilitation of state and local decision-making. The very fact that such a provision is included at all will be an indication of national attention and priority, but with local action.

The gains and losses from such provisions are not dramatic. Purchase of conservation easements will not make or break a local economy, or even meet the full needs of those strongly supporting farmland protection. Federal dollars are only helpful with state and local match and as part of a broader policy process. As with any such legislation, there are many gainers, widely dispersed, with each person experiencing relatively little improvement in their overall well being, while potential losers are fewer, more concentrated, and vocal. Debates on farmland protection programs will continue to be lively.

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# Federal Water Quality Policy and Animal Confinement Operations

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## Background

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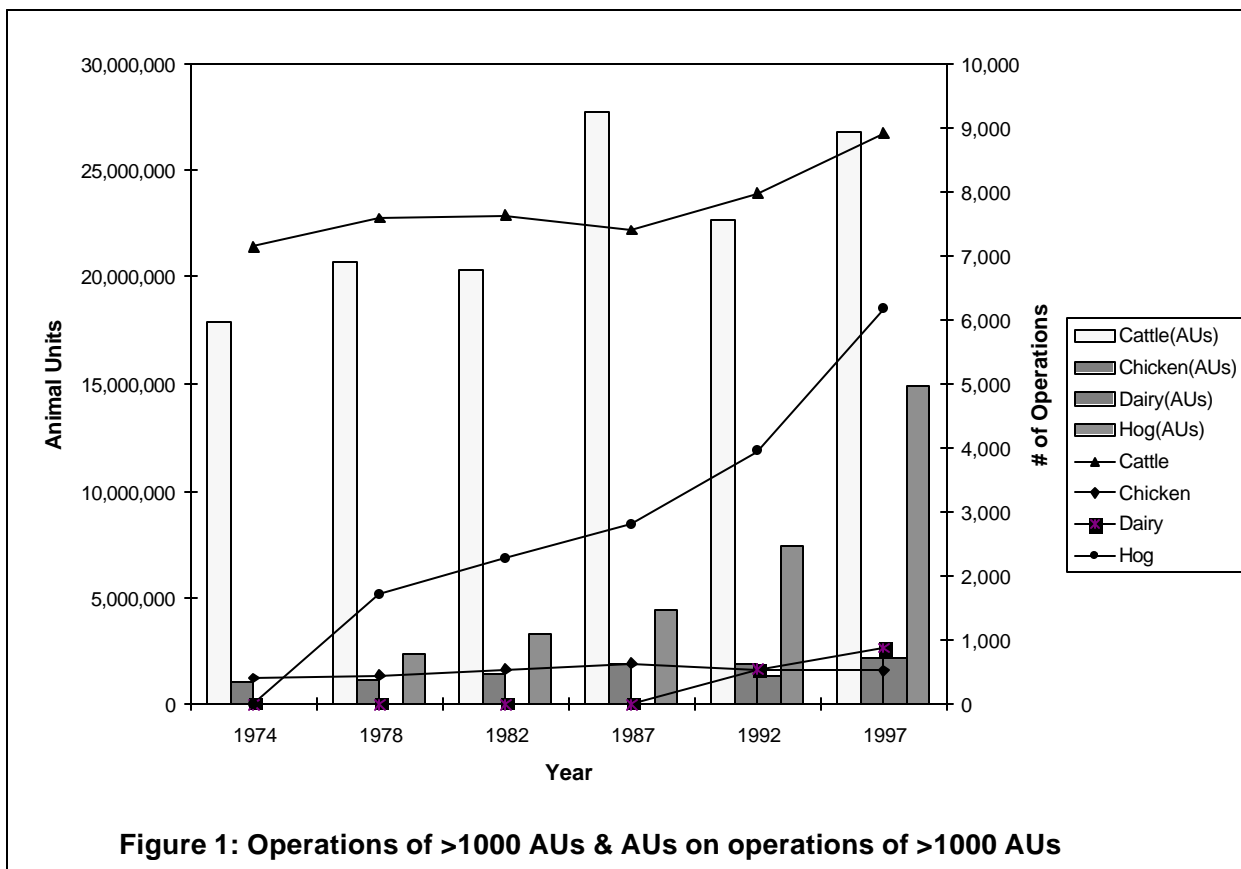
The National Census of Agriculture indicates that U.S. livestock and poultry production has been relatively stable in terms of animal units (AU) for the past quarter century. The number of livestock operations has decreased markedly across all species, indicating a general increase in operation size over the period (NASS, 1999). Of the 1.3 million livestock operations in the U.S., the U.S. Environmental Protection Agency (EPA) estimates that 376,000 livestock operations confine animals, generating approximately 128 billion pounds of manure each year (USEPA, 2000). Nutrients and bacteria in manure find their way into rivers, lakes, and streams when manures flow out of improperly designed or maintained manure storage structures, or when excessive rainfall washes manure from storage units or from cropland where manures are applied as fertilizer. Algal blooms, fish kills, and public health concerns related to polluted waters continue to focus public interest on the regulation of animal agriculture, in general, and manure management, in particular.

Federal regulation of animal manure started with the Federal Water Pollution Control Act of 1972 (known as the Clean Water Act (CWA) since 1977),

which defined concentrated animal feeding operations (CAFOs) as point sources of discharge and mandated that all CAFOs maintain National Pollutant Discharge Elimination System (NPDES) permits (Section 402). Current regulations automatically consider as a CAFO any facility that confines 1,000 AU or more. EPA currently estimates that there are approximately 12,660 operations in this category (USEPA, 2000).

Although census data do not precisely convert to 1,000 AUs across livestock species and not all livestock operations of that size are considered CAFOs, Figure 1 illustrates the estimated number of operations and animal units potentially affected by the 1,000 AU standard. Approximately 60 percent of all hogs produced in the United States would appear to be subject to this regulation but, until quite recently, very few dairies were large enough to be considered concentrated. Smaller operations may be designated as CAFOs depending upon how they manage manure and storm water. However, most smaller operations are defined as nonpoint sources, and are subject to no regulation of manure management.

An NPDES permit requires that the CAFO build and maintain sufficient wastewater storage capacity to accommodate a 25-year, 24-hour rainfall event. The permit stipulates a performance standard (called an effluent limitation guideline): No discharges to waters of the U.S. except when chronic or



catastrophic rainfall events cause an overflow from a facility designed, constructed, and operated to hold process-generated wastewater plus runoff from a 25-year, 24-hour storm event. These discharges are what the NPDES program permits. Federal NPDES permit guidelines also specify design criteria for anaerobic lagoons to hold wastewater and runoff – the impermeability of clay liners, the recommended capacity of the lagoon – as well as criteria for best management practices for applying manure from CAFOs to cropland.

In 36 states, the authority to issue NPDES permits to CAFOs has been granted by EPA to state regulatory agencies; seven states do not have authority to issue NPDES permits to CAFOs, and programs in those states are administered by EPA (USEPA, 1999). However, inconsistent interpretation and enforcement of current regulations by state and federal regulators continues to raise questions about whether existing programs are sufficient to protect water quality.

While nonpoint sources are not regulated, manure management on these smaller operations is addressed indirectly in the CWA's Section 319 that describes how states should control nonpoint sources, and more directly in the Coastal Zone Management Act that provides for more careful control of nonpoint sources in designated states. In addition, the USDA-USEPA Unified National Strategy for Animal Feeding Operations (AFOs) provides for the development and implementation of comprehensive nutrient management plans (CNMP) by smaller operations. While nonpoint source control programs are voluntary, a federal district court has recently found that nonpoint sources of pollution are not exempt from Total Maximum Daily Load (TMDL) limitations (established under CWA section 303d) on nutrients entering targeted water bodies (Terrene Institute 2000). Both EPA and USDA have provided cost sharing to assist these smaller operations with adopting manure management technologies.



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## Issues

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- Critics of current programs question basing the stringency of regulation on the size of an operation. Difficulties arise when policies are based on the assumption that a 499 animal unit operation is less risky environmentally than a 500 animal unit operation, or that a 999 animal unit operation poses less risk to water quality than a 1,000 animal unit operation. As the number of operations in excess of 1,000 animal units continues to grow and the number of smaller operations continues to decline, a larger proportion of operations will become subject to regulation under the CWA. Smaller operations are not immune from scrutiny – questions have been raised about whether small livestock farms with older technology potentially present significant environmental risks, while newer, larger farms often have the resources to adopt modern, more environmentally protective technology.

The evolution of federal water quality policy is characterized by efforts to address, first, the largest sources of pollution that can be reduced at least cost and, later, to address smaller discharges that are more costly to control. This history lends little to risk management discussions that focus on chronic sources of discharge found in older, smaller operations and acute risks associated with spills from larger operations.
- The size issue complicates discussions about who should bear the costs of preventing water pollution from animal manure. Economies of size in manure management have been cited as reasons why smaller, and often older, operations cannot afford the costs of meeting the same regulatory requirements as larger operations. Public support, in the form of cost share payments, has been made available to smaller (nonpoint source) operations through the U.S. Department of Agriculture's Environmental Quality Incentive Program (EQIP) and EPA's Section 319 Nonpoint Source Program. Industry

representatives question the fairness of limiting financial assistance for compliance to small facilities, while environmental and sustainable agriculture advocates raise concerns about using public funds to help regulated entities comply with environmental laws.

- Economists continue to search for more efficient approaches to environmental management, and flexible incentives, or "smart policy," is receiving considerable attention from policy analysts. Flexible incentives specify objectives but allow choices as to response (Batie and Ervin). "Smart policy" requires clear performance standards, affords flexibility to the regulated entity in how performance standards are met, invests in management proficiency, targets changes to areas where benefits of reducing pollution most outweigh costs, and devolves programs to state and local areas that have the greatest knowledge of pollution and control processes (CFARE).

A move toward more flexibility for animal agriculture is limited by current policies that enforce technology-based performance standards (regulations specify what manure management technologies should be used to meet performance standards), and that provide financial assistance for the adoption of specific manure management technologies. Smart policy prescriptions that devolve pollution control authority pose additional challenges for the effective monitoring and enforcement of regulatory compliance.

Enforcement of local and state programs may require greater skill among local personnel. More localized control may create economic and political power disparities between those charged with enforcing policies and those who are meant to comply with them. State and local authorities must be willing and able to guide policy compliance in order for smart policies to work with greater local autonomy.

- In policy debates, issues associated with environmental quality and the industrialization of animal agriculture are inextricably linked. To date, environmental regulation of animal agriculture has focused, at federal and state

levels, on proper manure management to protect water quality. However, not all complaints against animal agriculture are quelled with assurances of reliable water pollution prevention.

Opponents of the size and structural changes in animal agriculture express concern about the loss of a traditional farming structure, competition for resources, and competition for markets. Other objections related to size and locational changes in animal agriculture relate to concerns about odor, public health, and property value impacts. Where disputes between animal operations and their neighbors have progressed to lawsuits, water quality regulations offer the only legal instruments that give complainants standing in court. Thus, the lawsuit is about the adequacy of the livestock facility's management of manure to avert water pollution, even if the actual problem is odor, flies, or, more abstractly, the disruption of a way of life. The problem for the design of effective policy is that these cases do not send signals that motivate changes in behavior or technology to address the root problems causing resistance to large-scale agriculture. Effective water quality policy may not end debates about manure management.

- As fewer independent producers have production volumes sufficient to gain access to marketing channels, smaller operations are turning to contractual relationships with larger firms linked to the end of the marketing chain. Traditionally, environmental policy compliance was the responsibility of the producer or farm manager. With contracting corporations increasingly providing all of the means of production except for labor, including manure management technology, there is increasing sentiment to hold the contractor as well as the contracted farm manager responsible for environmental regulation compliance. Proponents of this approach argue that the contractor has as much, if not more, ability to affect the risk of mismanagement of manure as the actual manager of its handling and dispersal. Co-permitting between contractors and producers would implement this shared compliance responsibility.

- Best Management Practices for the handling and dispersal of agricultural nutrients have traditionally focused on limiting the potential environmental impacts of excess nitrogen (N). Phosphorus (P) is now receiving increased attention due to its role in accelerating eutrophication of surface waters. Among the complicating factors in managing for P rather than N is that relatively small amounts (about 0.02 ppm, or about 1/10 the critical concentration for plant growth) of P can cause water quality impairment (Waskom 2001). P-based manure management policies may imply a three-fold increase in the amount of land required for dispersal of dairy manure with no change in typical feeding practices (Waskom 2001).

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## Policy Alternatives and Consequences

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Water quality policy changes affecting animal confinement operations will focus on alternative responses to two primary questions: 1) Will adoption of manure management technologies by confinement operations be required by law, or will it be encouraged under a voluntary approach? 2) Who will bear the costs associated with adoption of manure management technologies? Responses to these questions will be reflected in decisions made within EPA and USDA, as well as decisions about how authority for policy development and implementation is shared (or divided) between EPA and USDA.

### **What are the rules and who has to comply with them?**

Currently, livestock confinement operations of greater than 1,000 AUs are defined as point sources of pollution, and are subject to the provisions of the Clean Water Act. They must, therefore, obtain an NPDES permit to remain in compliance. Individual operations of between 300 AU and 1,000 AUs can be

considered point sources if they discharge manure through man-made structures or if manure is discharged to waterways that run through the facility or come into contact with the animals. All other livestock operations are considered nonpoint sources of pollution and are not subject to CWA regulations. These operations are encouraged to prepare CNMPs in order to decrease the likelihood that they will contribute to water pollution.

On December 15, 2000, the EPA announced new proposed regulations for animal confinement operations. The EPA proposes several measures to clarify the definition of an animal confinement operation and a concentrated operation. It proposes setback requirements, phosphorus-based land applications, a record keeping requirement and the elimination of the 25- year, 24-hour storm exemption, and provides for remediation of closed manure storage facilities. The proposal recommends co-permitting of contractors and producers and creates a number of new CAFO categories, including veal.

One track of the proposal would maintain the same animal unit thresholds, but would place the responsibility to establish exemption from the CWA on operations in the 300-1,000 AU category rather than the permitting agency. An alternative two-tier track would reduce the CAFO threshold to 500 AUs with the permitting authority responsible for any designations for smaller operations. This track is expected to affect approximately 10 times the number of operations currently subject to the policy, or 26-36,000 operations, at a cost of \$850 to \$940 million to bring these operations into compliance (USEPA 2000).

### **Who will pay?**

Possible policy directions are to place the burden of paying for manure management technologies on the operations that adopt the technologies, or to provide financial assistance to those operations. Financial assistance programs may benefit operations that are required to adopt technologies and operations that do so voluntarily, or benefits may be limited to those by whom voluntary adoption is sought. If EPA broadens the definition of a CAFO to include operations with 500 AU or more, then smaller

operations may be burdened financially by additional regulatory requirements. By definition, these smaller operations would no longer be eligible for cost sharing assistance made available by EPA's nonpoint program.

If the USDA restriction on cost sharing to large operations, required with the Environmental Quality Incentives Program (EQIP), is maintained, and if "large" continues to be defined in line with CWA requirements, then fewer operations will be eligible for these funds as well. Whether USDA will be able to provide cost sharing to affected facilities hinges largely on whether the public perceives the smaller operations to be family farms that should be protected (and assisted), or as production facilities that should be subject to the "polluter pays" principle.

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# Agricultural Markets and Structure Policy Overview

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The structure of agricultural markets is changing. Alliances and other new structures are transforming the food supply system. Some sectors of agriculture are moving toward vertical integration; poultry is integrated and pork is rapidly moving in that direction. Fewer commodities are moving through traditional open markets. Concentration has increased in meat processing and grain handling. While some farmers and ranchers have embraced these changes, the speed of change has increased the feeling of uncertainty and raised concerns about government policies designed to encourage market competition and assure access to agricultural markets. These three papers identify policy issues related to structure, market access, production contracts, antitrust, market concentration and commodity promotion. They identify policy alternatives and discuss the potential consequences of these alternatives. These are issues not normally associated with farm bills, but with rising producer concerns, these issues are bound to be part of the upcoming debate.



# Market Access, Structure, Contracts, and Prices

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## Background

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People often express concern over the loss of market access in agriculture as local auctions disappear, increasing distances that commodities have to be transported to a new point of sale, or the dwindling number of buyers of farm products. The emerging importance of market coordination methods, such as contracts, combined with other approaches, such as alliances or buying or selling clubs, puts some producers at risk of being left behind or left out altogether. Another concern is that loss of access may have an adverse effect on prices received by farmers. Unease expressed about the loss of markets springs from structural changes in U.S. food production, processing, and distribution. Issues include changes in consumer food preferences, consumption patterns within the U.S. and other countries, technology and production systems at all levels of the food system, size of operations, and the geographic location of buyers and sellers (Boehlje and Doering; Martinez and Reed).

Although the issues are not new (Rhodes), some of the underlying forces that contribute to structural adjustment in the farm sector have changed, raising concern about market access. Unrest with the

resulting relationships with non-agricultural firms and physical access to facilities remain a principal part of the discussion, as they have been for many years.

Joining these traditional concerns are efforts to differentiate products through genetic alteration or branding products, to develop convenience foods, and to create trace-back for food safety issues.

Adoption of new technologies has contributed to farming and the food system becoming more industrial, manufacturing-oriented production processes. Firms have aligned through ownership, contracts, alliances, joint ventures, or other means to create food supply chains that stretch from seed or breeding stock to finished consumer products.

Farms are changing as the food supply system itself is changing. A highly diverse sector, farms range from retirement and residential operations which rely on traditional cash markets to million dollar farm businesses which use state of the art technology and a variety of means to access the market. Ongoing changes in the structure of the U.S. agricultural system contribute to a grouping of farms based on cost structure, supply chain connections, and degree of off-farm work (Edelman; Saxowsky and Duncan). Recent empirical work shows that farms can be classified based on the ways that farmers access markets, their ownership and investment structure, and labor allocation choices (Johnson and

Perry). Gloy and Akridge segment the market for agricultural inputs into four groups of farmers consisting of price buyers, performance buyers, convenience buyers, and balanced buyers. These studies illustrate that there is no one all-encompassing way that farmers and farm families organize their farms, purchase their inputs, produce their commodities, or make allocation decisions about their labor and ownership structure.

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## Issues

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There is little doubt that the industrialization of agriculture, including the increasing use of contracts, is likely to continue, with potential positive and negative consequences. Following are questions that address some of the issues.

### **Where can farmers sell and who will buy their commodities?**

Today's farmers see themselves as surrounded by concentrated market power from the companies that sell them inputs and buy their products. Sector by sector (farm, agribusiness, wholesale, and retail foods), fewer firms control a larger portion of the market. Yet, these changes have not reduced the means that farmers are using to participate in the market. Farmers have developed a wide range of connections with input suppliers, and typically depend on more than a single market at the first handler level to sell their products (Perry and Johnson). It may be the case that in some communities and geographic locations, market outlets have become fewer and more dispersed. Farmers in these locations could have additional search costs to discover new outlets and opportunities.

### **What happens to the market when prices become less visible?**

Price signals convey messages to producers and consumers concerning available quantities, qualities, cost, and value. The traditional network that

developed around U.S. agriculture considered products low-valued, perishable, and produced on millions of geographically dispersed farms. Farmers sold those fungible products to assemblers, traders, brokers, processors, and wholesalers who then sorted, processed, and distributed food products to retailers who sold them to consumers. Pricing and demand for many differentiated commodities now occurs at the consumer level, and signals are transmitted back through the supply chain via contracts and other agreements. Price signals are thus less transparent than in an open-auction type market. Less market information is publicly available for those that choose to remain in the spot market, and price discovery may become problematic.

### **How does the sharing of entrepreneurial activities affect farming?**

Contracting and vertical integration, in which farmers share many of the traditional entrepreneurial activities and decisions with non-farmers, is expanding.

Day-to-day management still plays an essential role in returns to farmers, although contracting may limit farmers' roles in marketing and production decisions. Decisions made for a specific commodity are not the only decisions that the farmer makes. In addition to producing for the cash market, farmers can and do have marketing and production contracts for the same or other commodities. Some farmers contract with other farmers for inputs, such as, for feed or replacement heifers. Others access markets through the Internet, by forming buying clubs, and by developing niche markets. The farmer's skills in financial management, acquiring other inputs, combining and coordinating the production of an array of commodities, and allocation of time provide returns to successful entrepreneurship.

Concern continues to focus on returns to management and on what portion of those returns the farmer may earn. Contracts may create an opening for firms to exert influence over the terms and conditions of production and or marketing, particularly when contracts require a large capital investment in specific (non-transferable) assets. Contract risk may occur when prices in the open market exceed those



specified by the contract. Finally, growers operating under a relative performance system may be at a disadvantage; especially if companies do not maintain strict accuracy in the accounting and allocation of inputs among growers. These “relationship risk” issues between growers and integrators have led to legal action on various occasions, and several states have adopted some form of legislation regulating production contracts in agriculture.

### **How does the adoption of new technologies and managerial systems create new markets and different market channels for some farmers?**

Technology has always influenced production systems. Today, changes in crop and livestock production systems lend themselves to meeting the quality and quantity standards demanded by processors and consumers. Information technology is perhaps the most pervasive new technology in agriculture. For example, mechanized production systems used in irrigation, tillage practices, pest management, and animal monitoring frequently are computer controlled. Aided by computers and satellites, weather forecasts and global positioning systems help farmers monitor soil fertility, soil moisture, and harvest yields. Farmers use computers to develop accounts to follow costs of production more closely, to obtain loans, calculate mortgages, or find production budgets. Farmers use this technology to create, locate, or participate in markets, as evidenced by the one-in-ten large farms having used Web sites to purchase inputs in 1999, according to USDA’s Agricultural Resources Management Survey. Other marketing technologies, such as refrigerated containers and breathable films to improve shelf life, allow the continued differentiation of products and access to markets far from the local area.

Many new technologies in the past have helped farmers produce more on larger acreage. E-commerce technology may be at least as helpful for smaller operations using niche markets, forming alliances, and contacting buyers. The appeal of the “net” is that searches for inputs and product markets can extend across the globe. In addition to connecting buyers and sellers, it can give a seller

more control over the sale of their products. If the price offered by a potential buyer is not acceptable for whatever reason, the farmer can search for another buyer, or wait and sell later that day or week, versus consigning the product to an auctioneer who sells on one day at one particular place. Contacts are timeless in that no one has to be physically present at the point of contact, and access to these markets operates essentially free (after start-up costs are paid).

### **How do changes in market access, pricing, and farm structure affect rural communities?**

Issues of market access extend past the farm. While economic incentives within agriculture, and across agricultural and non-agricultural sectors, continue to encourage structural change, environmental concerns, corporate farm laws, and conflict with nonfarm neighbors will help shape the direction of change. In addition to changing location and function of markets, contracting changes who does business with whom. E-commerce has many of the same effects. Other arrangements such as joint ventures, alliances, or clubs affect where and how farmers buy and sell merchandise. Thus, a concern is that farmers are becoming less likely to get financing, purchase inputs, and market output in their local community. As farms consolidate and deal in more geographically dispersed markets, rural communities with close ties to commodities could have fewer farms and fewer businesses to support a healthy local economy. Because farmers are sharing the value of production with other businesses, a portion of farm profits may not benefit the local economy.

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## **Policy Alternatives and Consequences**

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Farmers, rural communities, and public policy makers have a long history of interest and action in assuring access to farming by those wishing to enter the business. Opponents of the developing structure

of ownership away from individual proprietorships and towards shared decision-making believe that competition in agriculture is reduced under the current process. In capitalism, government intervention in market processes is somewhat limited, however oversight and regulations can provide a framework to guide the process and insure access. Three alternative policy stances come to mind.

### **Continue Current Program of Market Information**

The current program of market information and analysis provides information about supply, demand, and prices for selected market transactions. Programs have oversight responsibilities with regard to changes in input and processing industries. Generally, access to market channels is left to private parties for resolution. This policy option presumes that farmers would continue to make the choices that they consider most appropriate for their farm operational plans. Current evidence indicates that farmers make use of a variety of market channels in their businesses. The cost of acquiring information about new markets and alternatives emerging in today's farming could likely be lower for some farms, depending on the transaction costs of seeking out and engaging in new markets. As the sector becomes characterized less by atomistic producers selling undifferentiated products in open cash markets and more by private transactions involving differentiated products and formula pricing, the rationale for this public role and the ability to carry it out becomes a controversial issue.

### **Leveling the Playing Field in a New Era.**

The marketing component of the farmers' management function is becoming more complex, and the opportunities and rewards of incorporating new channels and marketing tools likely differ by type of farm and geographic area. Changes in agricultural product and input markets may give rise to disparities among farm groups, especially if there are differences in a farm's cost structure and ability to access different marketing channels. With more exchanges becoming proprietary, the role of

government in price discovery becomes even more important. Rather than simply asking what price was paid for what quantity, the key questions are becoming:

- Who is buying from whom,
- Who is selling to whom,
- At what price are products sold, and
- What quality attributes do the products have?

Traditional market reports focus on supply, demand, and price received in auction, elevator, or other such markets. However, these traditional sources may not be sufficient to provide accurate reporting for all segments of agriculture. Production and marketing of grains, broilers, hogs, or processed vegetables, as well as other commodities, may be affected by private party transactions or contract arrangements. Prices under arrangements such as direct sale, banding, or pooling of products might not be readily observed. On the input side, public reporting has focused on prices paid at traditional dealers and suppliers of production inputs. Farmers are finding economies in purchasing inputs as part of a cooperative, or other purchasing arrangement away from local cash markets.

Recognition of the diversity of marketing channels points toward traditional market information suppliers revisiting what data they provide for public use, how they collect their base data, and which clientele base they are serving. Smaller farm operators report that they tend to obtain information about market activities from neighbors, elevators, and input suppliers. Larger farms report using information primarily from elevators, brokers, on-line market information sources, banks, and accountants (Perry and Johnson). Coupling these differences in information sources with the diversity of farms — running the gamut from low-cost, high volume operations to farms with complex supply chain linkages, to farms with significant off-farm incomes and investments — suggests that farmers are likely to have different market information needs. Helping to provide or maintain a level playing field among segments of the farming industry will require the public role in research, education, and outreach

beyond traditional supply, demand, and price reporting to include information about diverse market channels.

### **Providing Expanded Oversight of Market Transactions.**

Government can use legislative action and regulatory authority to govern market access. Some states have laws against corporate or foreign ownership of farms to control who buys and who sells, and these regulations can be expanded to further regulate market conduct among participants. For example, in contracting, government can provide additional standards for redress of grievances, enforce fair labor laws, and provide public scrutiny of contracts. Government actions can address the sharing of liability—particularly for environmental and food safety related issues. Government can provide stepped up oversight/scrutiny of mergers and firm actions with regard to acquisition of agricultural commodities. Government could take a more active oversight role by restricting or the eliminating use of contracts in some business arrangements — captive supply arrangements in the livestock industry, for example.

To provide increased monitoring of farm organizational change and examination of relationships among business entities across supply chains requires different data, different data collection instruments, and perhaps mandatory compliance. In particular, a new rule requires that large cattle, swine, and lamb packers and importers provide contract information, including pricing, for public dissemination.

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## **Conclusion**

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Economists and policy makers have traditionally relied on prices as signals of health for the industry. However, spot prices found in competitive markets are relevant only to extent that they provide information about the value of products moving through the system. As stages of food production are coordinated more by supply chain contacts and less by cash markets, this information is less useful in assuring the efficiency of markets. Changes in

market structure require new approaches to generating price information, measuring the distribution of risk and returns through the coordinated system, and ensuring against abuses of market power. Three alternative policy stances to meet these new challenges have been outlined — continuing traditional market information services, leveling the playing field among segments of the agricultural sector, and providing extended oversight and reporting of market and contractual transactions.

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# Concentration, Mergers, and Antitrust Policy

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## Background

Farmers and ranchers in many agricultural commodity markets have experienced prices that do not keep up with inflation, or with occasional sharp drops in prices and income. Several reasons are often given as to why low prices occur:

- Long-term productivity increases and supply shifts in agriculture may outpace demand increases.
- Cyclical, and often weather-related, production surpluses may lead to low prices in some industries.
- Concentration and market power by processors, distributors, or input suppliers may adversely affect farm prices and incomes.

This paper will focus on the increasing concentration in agribusiness, including evidence of its impact on prices. It will review current antitrust policy and several proposals that have been advanced to deal with agribusiness concentration.

Table 1. Concentration in Meatpacking

	1980	1985	1990	1995	1997
-- Share of Purchases by Four Largest Packers --					
Hogs	34	32	40	46	54
Steers/Heifers	36	50	72	79	78
Broilers	30	35	44	46	49

Source: USDA/GIPSA for hog and steer and heifer measures; data derived from Feedstuffs (annual reference issues) for broilers in 1990-97, and from Census Bureau data for 1980-85.

The most striking recent case of concentration occurs in meatpacking, where the 4 largest firms handle 80 percent of U.S. steer and heifer slaughter, up from only 36 percent in 1980 (Table 1). Concentration in hog slaughter — also increased rapidly—the four largest firms handled 54 percent of all 1998 slaughter, up from 32 percent in 1985. Poultry processing concentration is lower, but increasing rapidly, the 4 largest processors handled 49 percent of all 1998 broiler slaughter — up from 35 percent just 12 years before.

High concentration extends to other agribusiness sectors as well. In grain and oilseed processing

**Table 2. Concentration in Grain and Oilseed Processing**

Industry	Leading Firms	Four Firm Concentration			
		1977	1987	1992	1997
Flour Milling	ADM Conagra Cargill Cereal Food	33	44	56	62
Wet Corn	ADM Cargill Staley CPC	63	74	73	74
Soybean Milling	ADM Cargill Bunge AGP	54	71	71	83
Cottonseed Milling	Anderson Clayton	45	43	62	
Malting	Conagra Cargill ADM Breweries	59	64	65	

Sources: 1977-92 concentration data from Census of Manufacturers. The identities of leading firms, and the concentration estimates, were obtained from trade publications.

(Table 2), the top 4 firms handle more than 60 percent of shipments in flour milling, wet corn milling, soybean processing, and cottonseed milling — with some sharp increases in recent years. The largest agribusiness firms are also quite diversified, so that a few large firms face each other in many meat, grain, and oilseed businesses.

These examples concern firms that buy farm commodities. However, concentration is also high and rising in some businesses that provide inputs and services for farmers.

## Concentration and Current Federal Merger Policy

The goal of the antitrust laws is to protect economic freedom and opportunity by promoting competition. The laws prohibit practices that restrain

trade, such as price-fixing conspiracies, predatory acts designed to achieve or maintain monopoly power, and corporate mergers likely to reduce competition in particular markets.

Two federal agencies, the Federal Trade Commission (FTC) and the Antitrust Division of the Justice Department (DOJ), share responsibility for merger enforcement. The U.S. Department of Agriculture provides technical advice to those agencies on agribusiness issues and enforces the Packers and Stockyards Act, which is aimed at controlling unfair or deceptive trade practices in livestock marketing.

Because Congress provided the agencies with a general mandate — to prevent those mergers that might substantially lessen competition — agencies and courts must specify the precise conditions under which a merger might lessen competition. The antitrust agencies have codified a set of guidelines that they use in deciding whether or not to oppose a merger. The guidelines indicate that antitrust agencies are concerned about mergers where a few firms dominate a market, and where a merger will noticeably increase concentration (the guidelines may be found at on the DOJ website at [www.usdoj.gov/atr/public/guidelines/horiz\\_book/hmg1.html](http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html)).

Firms merge for many reasons. Eliminating a rival (through merger) may lead to less competition and higher profits. The laws are designed to prevent those mergers. However, firms may also merge to reduce costs, either because economies of scale in production or merchandising processes allows a larger firm to realize lower unit costs, or because one of the merger partners is better managed and can run the acquired firm more effectively. Mergers that reduce costs further the ultimate goals of the antitrust laws by allowing lower costs, lower product prices, and greater production.

### Agribusiness Examples

Two examples highlight antitrust enforcement of current merger policy to firms that buy from or sell to farmers. In its review of Cargill's proposed acquisition of Continental Grain's North American grain operations, DOJ quickly decided that the relevant geographic market for grain sales from those

facilities was global. Because Cargill and Continental competed with many other firms in that world-wide business, a combination of the two was unlikely to lead to increase in prices to grain buyers. However, DOJ also decided that procurement markets for purchases of grain from farmers and country elevators were local and regional — transport costs, among other things, limited grain producers' options — and that a merger would reduce the number of relevant buyers in some markets that already had only two or three. The investigation further established that there were significant entry barriers in some port and terminal elevator markets, such that the combined firm might be able to set lower prices to grain producers without facing new entry. DOJ and Cargill reached an agreement that allowed the merger — if Cargill or Continental facilities in highly concentrated port and terminal markets were sold to other firms to maintain competition in those markets.

The second example concerns Syngenta AG, a company formed by combining the seed and agricultural chemical business of Novartis with the agricultural chemical business of AstraZeneca. The FTC filed a civil complaint against the merger, alleging that it would reduce competition in two markets: 1) pre-emergent herbicides for the control of grassy weeds in corn, and 2) foliar fungicides for the treatment of diseases in cereal, citrus, cotton, peanuts, potatoes, rice, vegetables, and turf crops.

The FTC ultimately cleared the merger under the conditions that Novartis divest its worldwide foliar fungicide business (sold to Bayer), and that AstraZeneca divest its worldwide corn herbicide business (sold to Dow AgroSciences).

Enforcement agencies were concerned that these mergers would combine large competitors who faced each other in many precisely defined local (Cargill and Continental Grain) or nationwide (Novartis and AstraZeneca) highly concentrated markets. In each case, the agencies chose to settle before trial — accepting the sale of businesses or facilities in the most worrisome markets. Generally, agencies may accept a settlement because a divestiture meets the government's competitive concerns, and due to the cost and uncertainty of the outcome if the government pursues the case in court.

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## Issues

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### **What is the effect of concentration on agricultural commodity prices?**

Economic analyses of the linkage between concentration and competition typically look at statistical associations between concentration and prices. Such studies do not find a robust and universal relationship. On average, high concentration is weakly associated with less competition. That average encompasses cases where concentration leads to considerable market power and much higher prices to buyers, as well as cases in which high concentration has no apparent effect on competition and prices. Market power is more likely when branded consumer products have weak substitutes, and is less likely for basic commodities with easy market entry or good substitutes. While some highly concentrated agribusiness industries have been able to substantially raise prices on products bought from or sold to agriculture (for example, in the lysine and citric acid price fixing cases), other concentrated agribusiness sectors have not shown any price effects from higher concentration.

### **Why is agribusiness concentration increasing?**

There is no single reason. Some processing industries do have important and wide-ranging economies of scale, which allow larger plants and firms to realize lower costs and improved competitiveness. As long as demand for the industry's product grows slowly, increased plant sizes will lead to increased concentration. Increased concentration can then lead to greater profits, even while suppliers and consumers are not adversely affected.

Some mergers do lead only to increased market power through eliminating competitors. The prospect of greater market power may be the motivation for concentration, and antitrust agencies try to foreclose mergers with likely significant anti-competitive effects.

Seed industry concentration represents a third avenue. Mergers have combined firms at different stages of the process (trait developers, established seed companies, and distributors) as part of a search to find organizational forms that will best allow them to create and exploit investments in biotechnology.

Finally, many mergers in consumer products food industries and in food retailing combine firms that do not compete directly. That is, they combine retailers who primarily operate in different geographic areas — perhaps to buy products or serve national customers more effectively, or manufacturers whose products do not directly compete with one another. In these cases, aggregate concentration (e.g., the share of the largest retailers in nationwide retail sales) may increase, but market concentration (e.g., the share of the largest retailers in the relevant local market) may not.

### **Why are farm to retail margins increasing?**

Increasing farm to retail margins are presumed to be evidence of increases in agribusiness market power, leading to reduced farm prices, increased retail prices, and increased margins. However, that is not necessarily correct, as market power is not the only source of widening margins.

Processors and retailers face higher input costs (e.g., for labor, fuel, or materials), and they have added more processing to food products in order to provide greater convenience to consumers. Further, productivity growth in agriculture has exceeded that in food processing and retailing. Thus, the costs of food marketing have been rising faster than the costs of producing agricultural products, leading to widening margins.

### **Are antitrust laws biased against farmers?**

Some argue that antitrust laws are designed only to protect consumers against high prices and, hence, do not protect farmers against low prices due to the market power exerted by industrial buyers.

Because most cases concern seller market power, enforcement agencies have more experience in those investigations. It is also possible that some judges and prosecutors may act as if seller market

power were the primary or only concern. However, the laws direct enforcement agencies to focus on competition, and merger enforcement guidelines specifically consider buyer as well as seller market power. The DOJ, in the Cargill-Continental Grain case, clearly recognized that the key issue was restricted competition for farmers' grain, and it forced the sale of facilities in local and regional markets where too few competitors remained.

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## **Policy Alternatives and Consequences**

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### **Maintain current merger policy under the antitrust laws.**

Congress could maintain the current policy, which prohibits those mergers that may reduce competition. Current policy does not restrict conglomerate mergers among firms that do not directly compete with one another. As such, it allows mergers among firms in different parts of agribusiness (such as a merger between a grain processor and a meatpacker). Moreover, as the laws are currently enforced, mergers among competitors are allowed in industries with moderate levels of concentration or low entry barriers. As a result, market concentration would probably continue to increase under current policy; particularly in commodity processing industries.

### **Prohibit mergers among large agribusiness firms**

Some recent Congressional proposals would place a temporary or permanent moratoria on mergers between large agribusiness firms. Such actions would eliminate two types of mergers that can bring overall benefits to the economy. First, mergers that allow firms to realize economies of scale would not occur. Second, some mergers would effectively allow for the replacement of one poorly performing management team by another. In each case, the merger would allow for lower costs, however product prices, and expanded output. Expanded output, in



turn, would lead to a higher demand for agricultural inputs. Merger prohibition could eliminate those gains.

A prohibition on large mergers would also eliminate those mergers that create market power, but which would not have been stopped by antitrust authorities. In those cases, the prohibition will lead to lower product prices to consumers, or higher prices paid to farm producers. Finally, some mergers do not lead to market power, but they create no new cost efficiencies — rather, they lead to inefficiency by simply making the merged firm more complicated, without any attendant advantages. An agribusiness merger moratorium might also limit those types of mergers and their attendant costs.

Agribusiness mergers are one strategy for large firms, and they could respond to a ban with other strategic steps. Those seeking scale economies could grow internally by building bigger facilities instead of merging. Because firms have that alternative, a merger prohibition will not necessarily halt increases in concentration based on scale economies. Second, firms could respond to a prohibition on the purchase of large agribusiness firms by purchasing other large firms in the economy and becoming conglomerates. Such moves might be particularly inefficient (cost-raising).

The likely economic effects of a merger prohibition, therefore, rest on a weighing of several effects. In particular, if the current merger policy effectively stops anti-competitive mergers, then a merger ban looks quite costly. Its advantages grow with one's estimate of the current competitive losses from the merger that are currently allowed.

**Change the standard for evaluating agribusiness mergers from one based on harm to competition to one based on harm to agricultural producers.**

Several proposals restate antitrust law to prohibit those mergers which are likely to result in substantial harm to the ability of producers (usually defined specifically as family farmers or independent producers) to compete in the marketplace. Harm is usually defined according to likely effects on prices paid to the producers who deal with the merger parties, and sometimes note is also taken of a

merger's adverse effects on other producers or on specific regions.

These proposals represent a fundamental policy shift. Current merger laws focus on competition, and enforcement in agribusiness mergers emphasizes the effect of changes in the number of competitors on prices received by agricultural sellers (as in the Cargill-Continental Grain merger). However, some mergers reduce costs for the merging firms. In those cases, a merged processing firm will generally expand production and purchase more local agricultural output, benefiting local agricultural suppliers. Conversely, output expansion will harm competing processors, causing them to reduce output and, if they purchase agricultural production in a different local market than the merged processor, harming their agricultural suppliers as well. The policy proposal would require antitrust agencies to identify separate winners and losers from a merger, and to oppose the merger if some of the identified losers were agricultural suppliers or regions — a far more complicated task than they now face.

**Specifically prohibit meatpackers from offering higher prices to those livestock producers who sell in greater volumes, irrespective of livestock quality differences.**

This practice is common in other agricultural commodities and in a range of businesses, and has two sources. First, in some cases, larger volumes may be less costly to buy, on a per unit basis. For that reason, some of these proposals allow cost justification defenses.

Second, firms with market power may be able to make more money by paying discriminatory prices to some producers based on their size or on easily available options for selling their livestock. Those with fewer livestock or market options will be offered lower prices. In short, buyers in this case may have market power (the ability to lower price from competitive levels) over some sellers but not others, and they will exercise market power where they can.

In addition, most packers offer higher prices to producers of higher quality livestock (e.g. grade and yield buying programs). Such programs provide incentives to increase livestock quality.

To be effective, enforcement of a ban on price discrimination must be able to distinguish those cases

in which favorable prices are based on lower costs, higher quality, or value, since to prohibit different prices in those instances would also serve to limit firms' searches for ways to reduce costs or produce better quality products. However, even without cost justifications, higher prices may reflect competition among buyers where they collide in selected geographic areas, or where they face a few well-informed and aggressive sellers. By banning the higher price, enforcement could lead to less competition among buyers, and ultimately lower prices for all sellers. In short, enforcement of laws against price discrimination can sometimes result in the strengthening of market power. Enforcers would need to be quite careful to tailor enforcement actions to cases in which price differences actually reflect the exercise of market power, rather than quality incentives, cost differences, or emerging competition.

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# Commodity Promotion Policy

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## Introduction

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Generic commodity promotion has become one element in the overall marketing planning for producers facing changing consumer preferences, increasing global competition, and decreasing government price supports. Numerous federal and state advertising and promotion programs generate funds from producer assessments and use public sources for domestic and export promotion. As the recent Supreme Court ruling in the mushroom case indicates, they are not without controversy.

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## Background

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Table 1 shows total dollars available to the largest organizations by commodity programs. Commodity promotion is intended to help U.S. agricultural producers enhance consumer demand and improve their competitive position in both domestic and foreign markets. A large portion of the funds are collected under federal legislation and administered through commodity boards. For the 2000/2001 fiscal year, 15 fruit and vegetable marketing orders budgeted a total

**Table 1. Funds Available Under National Check-off Programs\***

Program	(\$ million)
Beef	\$87.90 (\$48.1 to National Board)
Cotton	\$60.20
Dairy	\$244.00 (\$80.8 to National Board)
Eggs	\$18.80
Fluid Milk	\$109.50
Honey	\$3.60
Mushrooms	\$2.65
Peanuts	\$18.74
Popcorn	\$0.45
Pork	\$54.60 (\$43.6 to National Board)
Potatoes	\$8.57
Soybeans	\$61.40 (\$30.7 to National Board)
Watermelons	\$1.60

\* For most recent audited fiscal year, as of March 2001.

of \$28.4 million for generic advertising and promotion. State authorized programs also generate significant funds for promotions.

The federal commodity promotion programs began in 1954 with the passage of the National Wool Act, and with an amendment in August 1954 to the

Agricultural Marketing Agreement Act of 1937 authorizing generic research and promotion programs as part of marketing orders for fruit, vegetable and specialty crops. In the mid-1960s, Congress began passing a series of statutes authorizing advertising, promotion, and research programs for specific commodities. A new era was established in 1983 when a dairy promotion program was authorized with nonrefundable assessments and a delayed referendum. Beef and pork programs were subsequently authorized with similar provisions. The primary focus of the programs with federal check-off authority is on domestic promotion programs. In the 1990 Farm Bill, dairy processors were authorized to establish a check-off program for fluid milk advertising. While separate from the producer program, this may set a precedent for processing or marketing firms in other industries to join funding efforts.

Foreign market development programs supported by federal appropriated funds operate under the jurisdiction of the Foreign Agriculture Service (FAS) of USDA. The Foreign Market Development Program (FMDP) has operated since 1955. The Market Access Program (MAP) was authorized in 1978 as Section 203 of the Agricultural Trade Act. The level of funding for these programs has declined from \$107 million in 1995 to \$53 million in 2000.

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## **Current Situation and Forces for Change**

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Commodity promotion policy has evolved over the past two decades as more commodity interests have initiated check-off programs. Federal check-off promotion programs have been established with the intent to require all industry participants to contribute — generally based on amount or value of products sold. They have extended coverage to include imports, and several major programs were initiated prior to conducting a producer referendum to affirm support of them. The check-off for cut flowers was terminated under one of these delayed referenda

after less than two years of activity. Some programs have undergone a subsequent referendum, which confirmed producer support. In the most recent case of pork, the program was defeated by those producers voting in a USDA advisory referendum. However, the pork promotion program continues to operate, under a court case settlement, subject to several changes, including a commitment to a future binding referendum.

Continuing change in consumer preferences may create market opportunities for industries prepared to aggressively pursue them. At the same time, pressures to reduce income and price supports to farmers puts a premium on industry-led marketing initiatives. Globalization of markets in recent years has also stimulated producer interest in market development opportunities in international markets.

Increased marketing efforts by other exporting countries put pressure on producers to obtain public or self-generated funds to promote U.S. products in foreign markets. Reduced availability of export price subsidies creates incentives to increase emphasis on non-price promotion approaches often funded through check-off programs.

Increasing demand for accountability led to a new section in the 1996 FAIR Act, which requires that federal commodity check-off programs conduct economic evaluations of their impacts every five years.

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## **Issues**

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Public policy issues arise from internal as well as external factors. Issues include:

**Changing industry structure.** Significant change in the structure of production agriculture, types of producers, and their expectations present challenges to these programs. For example, in the rapidly concentrating hog industry, do the major integrators favor promoting undifferentiated commodities? Can the classic small producer of homogeneous commodities continue to expect to benefit from collective marketing action through generic promotion?

**Mandatory promotion programs.** Check-off programs are intended to provide producers with tools to help themselves on a market-wide basis. Some producers have challenged mandatory program implementation, arguing that there is no government purpose for these programs and that they restrict freedom of speech. The 1996 FAIR Act attempted to lay out a “finding of Congress” regarding the need for collective producer action so that check-offs would be protected from court challenges. Several lawsuits have revolved around whether the commodity is already regulated by the government, such as through marketing orders or price supports, thus giving legitimacy to a “government purpose” for the check-off.

**Generic export promotion.** Globalization of markets has progressed significantly in recent years, creating challenges from imports and opportunities for exports. Export promotion programs provide one tool for U.S. producers to increase their market share in global markets. However, there is also some concern about whether export promotion programs are a form of export subsidy in conflict with international trade agreements, such as the WTO.

**USDA’s role in mandatory evaluation and referenda.** The appropriate level of USDA regulatory oversight continues to be debated. The 1996 FAIR Act required mandatory evaluation which has impacted small industry programs as well as the major commodity promotion programs. How well have these impact evaluations worked to inform producers, policy makers and other industry participants of the impacts of the programs within their own industry and across commodity lines? Have they produced results which allow producers to judge the benefits they receive for their check-off dollars, and shown whether it is in their best interest to continue or to revoke the programs? Should periodic referenda be mandated?

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## Policy Alternatives and Consequences

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Alternative approaches to dealing with these issues, and their potential consequences, are discussed below.

**Changing industry structure** creates equity and efficiency questions that commodity promotion programs must address. Policy options could include:

- Exclude producers who are contractually committed to provide particular product characteristics which are marketed through branding or other consumer promotion activities from paying for assessments for generic product promotion. However, this could significantly reduce the generic promotion funding available in rapidly changing industries. It could put producers not involved in the supply chain at a competitive disadvantage in margins realized from product sales. Yet, it would prevent “double taxation” and would reduce the incentive for producers involved in supply chain contracts to oppose the program.
- Restrict use of promotion funds to require separation of promotion activities from organizations charged with lobbying on various industry issues, as included in the pork industry referendum settlement. This would deal with any concerns about commingling funds for purposes other than demand expansion. This is an important consideration since some smaller producers fear that policy positions of commodity organizations are accelerating consolidation trends.
- Institute mandatory periodic referenda so that petitions are not required, thus making it easier for participants to review and vote out a check-off program if they believe it no longer serves the collective industry purpose. This would eliminate the regulatory load on USDA in confirming validity of signatures on petitions, and would allow

for the check-off programs to phase out if the industry structure no longer warrants their existence.

- Permit importers to opt out of check-off assessments when the industry structure indicates a strong separation of interests, and when domestic production might benefit from a separate, differentiated promotion. While this is contrary to the logic of avoiding free-riders by collecting the check-off on imports, it could reduce the tensions created among different groups of stakeholders as inevitable structural change occurs.

The role of mandatory promotion programs may be questioned more frequently as industry structures change. Options for dealing with this issue include:

- Requiring a broader assessment of total program impact. Measures of gross or net benefits to some aggregate set of producers may not be sufficient. When the authority of government is used to generate the funds, there is a public interest in the programs. To understand the total impacts of the programs, it is necessary to account for effects on consumers, other producers, participants throughout the marketing chain, and taxpayers. There may be disagreements over the appropriate effects to be included in such a wider assessment and on the methods to measure them. There is also an issue of the existence of legislated commodity programs or legal entities such as cooperatives and their interaction with promotion programs.
- Strengthening the Secretary of Agriculture's discretion regarding the initial approval of check-off programs. Included in this could be the requirement to show that the impacts on other commodities or participants in the marketing system are not likely to be substantial. Congress could provide criteria to be used in assessing impacts.
- Requiring importers to contribute to programs the same as producers. This would maintain the

integrity of the intent to eliminate free riders, and would help maintain critical levels of funding in programs experiencing rapid growth in imports. However, it would also create potential opposition within the industry.

The role of generic export promotion may get more attention in new trade negotiations. To what extent will export promotion programs be permissible as a non-trade distorting activity? Options for dealing with this issue include:

- Providing government matches of program expenditures supported by producer check-off dollars. This option would increase the funds available for promoting U.S. commodities in export markets, emphasizing a marketing approach rather than a regulatory subsidy approach to boosting producer income. However, it may be perceived as an export subsidy which distorts the market and, thus, it is in conflict with WTO requirements.
- Allowing export promotion programs to be funded only by producer check-off programs, with no government matching. This would have the advantage of being a market-oriented program funded by those within the industry, would avoid any distortions created by government payments, and potentially would be more acceptable under WTO guidelines.
- Linking the size of federal budgets for export promotion directly to the strength of the dollar to help offset its negative effects on the competitiveness of U.S. commodities abroad. This would have the advantage of routinely boosting export aid when producers need it, and of reducing aid as exports respond to declines in the U.S. dollar. However, this approach begs the question of to what extent promotion can offset the effects of higher prices. Given relative effects of promotion vs. price demand responses, the impact could be limited.

The USDA's role in mandatory evaluation and referenda is contentious. These activities are intended to assess the economic impacts of commodity promotion programs on producers,

marketing sector participants, consumers, and taxpayers. Some ways of dealing with this issue include:

- Mandatory periodic impact evaluations give policymakers an opportunity to determine needed changes in program implementation and the effects on different segments of the industry and consumers. Requiring industry to finance them from collected funds adds to the cost for program participants and can be particularly burdensome for industries with small program revenues. Exemptions could be established for programs below a certain budget size or total sales volume, allowing them to do impact evaluation on a less frequent basis. Industry funding provides some potential incentive for researchers and/or administrators to satisfy interests of the funders in obtaining positive outcomes.
- An increased government role in the evaluation process could address any objectivity concerns about evaluations funded by the check-off boards. USDA could be given the role as a “clearing house” for evaluations, contracting with third-party evaluation professionals. Funding could be budgeted from general revenue, or as part of the administrative charge assessed to the check-off programs. Acting as a clearing house would separate the evaluation professionals from the direct oversight of the commodity programs they evaluate.
- Periodic referenda would allow industry producers to regularly determine whether they wish to continue the program. Understanding the economic impacts provides producers with a basis for judging whether or not to continue funding. However, the ultimate evaluation is a vote on program continuation. Some programs legislatively require periodic referenda among producers to continue the program, while others have a requirement that a certain percentage petition for a referendum.
- Limiting government authority to assuring compliance with legal and financial requirements.

This minimizes government interference with the market, yet protects the public interest. However, it also allows only one segment of those affected to make the most of the decisions.

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## Summary

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A number of issues exist in government authorized check-off and budget-funded commodity promotion programs. Options for addressing these issues range from increased government roles to periodic producer reauthorization to additional program authority over the scope of activity. The implications of these alternative approaches will likely be vigorously debated in any legislation considered.

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# Rural Development and Human Capital Overview

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A plethora of issues affecting the well being of farmers, and the broader community of which they are a part, are described in the collection of six papers assembled under the theme, “Rural Development and Human Capital. The first article suggests that the health of the agricultural sector is intimately linked to the strength of the communities of which it is a part. As such, it is critical that attention be given to the broader set of forces that are eroding the economic, social and environmental vitality of rural communities.

The role of traditional land-grant universities in conducting vital agricultural research, and extending research knowledge via the teaching and outreach activities of these institutions, serves as the central theme of the second paper. The authors document the changing nature of the partnership that has emerged between the federal government and state land-grant institutions over time. The paper outlines a series of policy options that might be considered in an effort to further advance the agriculture-related research and development activities of our nation’s land-grant university system.

Two audiences that continue to command attention in any debate about rural development policy are hired farm workers and small-scale farmers. Despite the major technological advances realized on many of our nation’s farms, sizable numbers of farms remain dependent on hired labor. However, serious questions regarding the legal status of hired laborers persist. Various options for ensuring an adequate supply of agricultural labor are presented in the article authored by Rosenberg. With regard to small and underserved farmers, Duffy argues that an effective response to dealing with the needs of small farmers is difficult in light of the on-going confusion regarding a definition of small-scale farms. The small farm typology created by the Economic Research Service is proposed as an important starting point for defining this important audience. Next, the roles that legislation, education, and research can play in addressing the needs of small and underserved farmers are highlighted.

The final two papers in this series are devoted to the financial health of the farm sector. Koenig and Doye provide an important overview of federal farm credit policies and programs. They outline a variety of policy options that might be considered by Congress in its efforts to enact programs that effectively address the credit needs of the farmers during this period of significant structural adjustments in agriculture. Knutson and Anderson devote attention to the expanding farm program payments being directed to nontraditional crops, activities that typically have been undertaken outside of the traditional bill authorizing process. They present four viable options for addressing nontraditional commodity payments.



# Rural Development

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## Background

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Over the last thirty years, rural America has been on an economic and social roller coaster. Prior to the 1970s, the status and role of rural America within the larger economy was clearer than it has been at anytime since. In general, urban America produced products in the early stages of the product cycle, while rural America generated raw materials, food, and energy, and provided low cost labor for the production of products in the mature stage of the product cycle.

As the traditional rural industries became more capital intensive, rural employment bases shrunk and populations declined. However, at least rural communities could count on the linkages between their agricultural, mining, and manufacturing sectors and their financial, trade, and service sectors. Rural policy in this environment involved the attraction and retention of a few key economic base sectors including agricultural, mining, forestry and manufacturing.

As we consider the first farm bill of the Twenty-first Century, population growth has returned to some rural communities. Yet, despite the fact that growth is occurring in some rural communities in every

region, more than one-quarter of all rural communities continue to decline, and three-quarters of all recent non-metro growth has occurred in just one-third of non-metro counties. Almost all the declining counties are in the plains region from North Dakota to Texas.

While the USDA is the Congressionally-mandated lead department for our nation's rural development policy, numerous agencies in most federal departments, (Transportation; the Education, Health and Human Services; Housing and Urban Development; and Commerce) contribute significantly to federal rural development efforts. Social Security, Medicare, and Medicaid are huge sources of income in many rural communities.

Nation-wide, farm income represents less than two percent of total income. Most studies of the contribution of farming to state economies find that agriculture contributes less than 20 percent to the state Gross Domestic Product, even including farm input suppliers, agricultural value-added processing, food and fiber distribution, and the multiplier effects of income earned in all of these activities are included. Much of this agricultural contribution actually occurs in urban, not rural, communities.

Even the most farm-dependent communities depend on agriculture for only a fraction of their income. With the multiplier effects of farm income included, farming's contribution to all but a few

communities is likely to be considerably less than 50 percent.

On the other hand, according to the last Census of Agriculture, the average census farm family had net earnings of just under \$6,000 from all farming activities while earning over \$46,000 from off-farm sources, for a total of over \$52,000. Of each dollar of farm family income, 12 cents comes from net farm income, 48 cents comes from off-farm employment, and 40 cents comes from interest, dividends, rent, and transfer payments. Farms and farm families also depend on their communities to provide them with public and private services, infrastructure, marketing opportunities, good education, etc.

One could argue, then, that in most rural communities, farms are more dependent on their communities than communities are dependent on farms. Because of the physical tie of farm families to the location of their farms, farm families are particularly sensitive to the location of these jobs — they cannot relocate to improve their access to employment opportunities.

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## **Current Situation and Forces of Change**

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Several forces, including changing technology, globalization, and localization, are leading to significant changes in rural life.

### **Technological change**

From the rural community's perspective, technological change affects more than just employment patterns. In production, the most significant economic forces are the rising importance of information, communication, robotics, artificial intelligence, genetic engineering, and other embodiments of technology. In addition to the direct effects of these changes on employment, they also have led to increased use of services (particularly information related services), and to the reduced use

of raw materials in the production processes of other manufacturers.

Due to technological change, the productivity of labor has risen dramatically — reducing the relative cost of labor. As the costs of raw materials and labor become less important, location and investment decisions will be based more on other factors such as access to appropriate information infrastructure, life-long educational opportunities, and other accoutrements that provide firms a competitive advantage in securing skilled employees. This process, then, can have positive effects on income, job security, etc., even while it reduces employment.

### **Globalization and localization**

Increased trade and global competition among firms is usually the assumed consequence of globalization. However, the movement of information, technology, capital, and people is of greater significance to rural communities.

The term “localization” refers to the growing role of local conditions and local choices in the prosperity of communities. The reasons for the growing primacy of local circumstances include technological change, changing social and political attitudes, and the globalization that has opened competition with the world.

All industries now have greater freedom to behave like footloose industries. The growing role of information exchanges, communication technology, and computers allows many services and otherwise market-oriented industries to locate further from their markets. Satellite and fiber optics technologies allow instantaneous audio, video, and information transmissions over long distances. This allows financial, insurance, real estate, educational, business management, accounting, legal, and many other services to centralize some functions and decentralize others but, in general, they are freed from locating strictly according to the location of their clients. Indeed, many of these services can be, and are being, provided in international markets just as goods have always been. Retailing will become increasingly footloose as consumer acceptance of mail order and computer shopping rises.

These forces have left many communities unsure of their best strategies. Public investment in human capital often increases the mobility of a community's labor force. In declining communities, this undoubtedly reduces the incentive to make public investments in people. Industrial attraction programs are very risky and, when successful, attract employers that can as easily be lured away again by another community with an even more attractive incentive offer.

### **Industrial Structure**

The emergence of industrialized agriculture, farmer alliances, new generation coops, and other elements of supply chains is precipitated by changes in technology, growing globalization, and the existence of economies of size. The supply chain revolution in agriculture is having a wrenching effect on rural communities as well. The spatial concentration of agricultural products and firms is growing. This affects the stability of these communities and increases their dependency on particular firms.

Most non-farm residents have an interest in the health of the agricultural sector — rural communities benefit when their local agriculture sectors prosper. However, structural changes in agriculture seem to be eroding some of these common interests. Increased industrialization of agriculture is weakening the ties between farms and their communities. Research has found that concerns with industrial agriculture and meatpacking plants are greater among rural residents who live in smaller towns, or who live closer to these farms and plants. Furthermore, in many states and communities, agriculture has effectively limited its exposure to local property taxes — further reducing the interest that non-farm residents have in the sector.

### **Devolution and New Governance**

All levels of government are transforming in the face of changing technology, economics, and global realities. “Market oriented,” “entrepreneurial,” “competitive,” and “results-oriented” are some of the descriptors of effective government used in the widely quoted recent book, *Reinventing Government*. Reinvented governments are balancing

their budgets and overhauling their system of local finances. They are financing themselves with user fees and other market mechanisms. They are privatizing, outsourcing, and forming strategic alliances with other governments and with the private sector. They are becoming performance-based.

This trend places even more importance on the capacity of rural communities to manage information, and to develop strategies that effectively exploit this information to achieve measurable improvements in the delivery of public services.

For many rural communities, this is a tall order — given their small or non-existent staffs and resources, and their limited experience with many of these new areas of responsibility.

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## **Policy Issues**

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### **Non-farm Employment and Income**

For most farm families, a reasonable level of income and employment benefits depends on the availability of good off-farm employment and small business opportunities. Yet, given small local markets and the limited size and diversity of the rural labor forces, the scale of many rural firms is limited. In a world where scale is becoming more and more important, this puts rural areas at a distinct disadvantage. However, with a global marketing strategy and intensive use of skilled labor and information technology, the necessary scale may still be possible in certain rural sectors.

### **Under-investment in Human Capital**

The most depressed rural areas are also those with the lowest levels of educational attainment. A poorly educated workforce and a poor public education system retards employment growth, and low rates of employment growth discourage individuals from investing in education. Those that do invest are more likely to migrate to other rural, urban or suburban regions. Similar patterns are evident in other types of human capital — skills development, nutrition, and health.

## **Infrastructure**

The critical public policy trends discussed above highlight the importance of infrastructure. Rural economic development requires investment in the traditional forms of infrastructure (roads, airports, housing, water and sewer, hospitals, and schools) — and in the new infrastructures (cable, DSL (internet), fiber optics, and wireless systems). Skilled labor will also demand amenities such as parks, recreational facilities, and public safety. The challenge is to provide this infrastructure over large areas and small populations.

## **Fiscal Crisis in Local Governments**

Despite recent weakness in the economy, revenue prospects are relatively strong for federal and state governments, while local governments have experienced weaker receipts for several years. In general, this is a consequence of tax limitation legislation, non-taxable e-commerce retail sales, changing spatial patterns of retail sales, and slow growth in real property values. Another compounding factor is the continuing evolution in inter-jurisdictional responsibilities that have increased the demand for local expenditures.

## **Land-use Conflict**

Both growing and declining rural communities can experience land-use conflict. On the urban fringe, the conflict is between farmers and urbanites, developers, and environmentalists. Farmers want to farm their land as they wish, in a profitable fashion, pay as little property taxes and special assessments as possible, and be able to sell their property at the highest possible value if they choose to stop farming. Urbanites want to buy property and live where they wish, and to enjoy their homes free of odors, noise, and inconvenience. They want their neighbors to keep their property in a pleasant fashion. Developers want to purchase attractive tracts of land, develop it inexpensively, and market it at the highest possible value. Environmentalists want to keep productive land in farming, and to reduce traffic, water degradation, and air pollution.

In rural areas, land-use conflict often occurs between farms and non-farm residents, and between small farms and larger farms. Some farmers want to expand their farms and invest in the most profitable technologies, and to exploit economies of scale while others want to maintain and support smaller farms. Most non-farm residents would like agriculture to remain as it is, or as it was in the past.

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# **Policy Options**

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## **An Interagency Rural Secretariat**

In the past various federal rural development policy options and institutional alternatives have been suggested, and even tested. These range from a stand-alone Department of Rural Development to an interagency rural development working group. Canada has instituted a Rural Secretariat, which is not a department but which has a cabinet position in the Parliament. They have also introduced the policy construct of a “Rural Lens” that requires all agencies to conduct what is essentially rural impact statements. This goes further, however, by challenging each agency to achieve certain objectives in rural areas. This mirrors existing EU policy that has a similar set of rural objectives.

A U.S. rural secretariat could reduce wasteful duplication and gaps between the multiple agencies that affect rural areas. Such a secretariat should be mandated to report regularly on the state of rural America.

These recommendations are consistent with those forwarded to President Bush by the bipartisan Congressional Rural Caucus, and endorsed by over 30 of our Nation’s most important rural advocating organizations.

## **Expansion of Value-Added Activities**

A policy to expand value-added manufacturing and services has several advantages over others. First, it increases the demand for agricultural products in the region — potentially increasing prices and assuring demand. Second, it often reduces overall

transportation costs or, at least, it reduces transportation costs as a percent of product value. Third, it creates employment opportunities. Fourth, it expands the local tax base — allowing improvements in local services. At the same time, we observe in communities with new meat packing plants that value-added manufacturing can lead to troublesome environmental issues, land-use conflict, reduced diversity in agricultural production, and other negative side-effects not always valued by farm and rural residents.

### **Human Capital Investment**

Whether the goal of policy is to support places or people, human capital investments have a high pay off, and they must be directed at the places where people live. The emerging information economy demands that regions and communities must compete globally. A well-educated, healthy, and adaptive (learning) work force is the foundation of a prosperous community. Human capital investments include early childhood nutrition and development; day care; elementary and secondary education; post-secondary education; skills development and training; and physical and mental health care.

### **Rural Entrepreneurship and Venture Capital**

The difference in employment growth rates between successful and failing rural communities can be traced to several factors, but lack of small business growth is a very important dimension. Emergent small businesses are more often birthed and successful where there are entrepreneurs, and where they have the necessary financing. Therefore, an expanded range of financial options for rural businesses, including equity and venture capital, is an important condition for rural economic growth. In addition, a tradition of rural entrepreneurship has to be rekindled through training and mentoring. Micro-financing programs, revolving venture capital funds, technical assistance programs, and small business incubators have all proven helpful to rural entrepreneurs, and these programs should be expanded.

### **Rural Telecommunication Infrastructure**

Rural areas may eventually get the quality of broadband services now available in most metropolitan areas. However, they will always be one generation behind — making them much less attractive to employers, employees, retirees, and recreationists. Without public policy intervention to aggregate demand and build this infrastructure, rural areas will fall further and further behind urban areas.

### **Revenue Enhancement of Local Governments**

Policies are needed to sort out the issue of collecting taxes on e-commerce retail sales. Furthermore, the taxing authority of rural local government should be reviewed and adjusted to reflect the new reality of devolved government.

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## **Summary**

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Simple calculations suggest that the best rural development policy is not larger subsidies to agriculture. However, the best farm policy may well be greater support for rural communities. In fact, farmers are perhaps the greatest beneficiaries of successful rural community development.





# Research, Extension, and Education Policy

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## Background

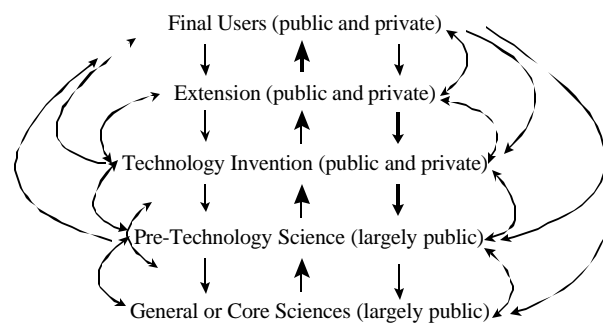
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The present-day set of research-teaching-extension institutions serving U.S. agriculture and households have enjoyed relatively long lives. The leading institution is the land-grant university system with a legislatively mandated mission involving federal-state-local partnerships for research, education, and extension. The secondary institution is the USDA with the Agricultural Research Service and Economic Research Service engaged in agricultural research. The early political recognition that local climates, soils, and environments play an important role in determining the local research and extension needs of farmers and rural people enabled passage of the Land-Grant College Act of 1862, the Hatch Act for state agricultural experiment stations in 1887, and the Smith-Lever Act of 1913 for Cooperative Extension. These institutions had unusual designs that provided the capacity to evolve and change with local needs.

An effective organization of research and development (R&D) for agriculture is one where the final users of technology and information are part of a complex, integrated, and multi-layered structure of research, development, and information exchange

(see Figure 1). A clear allocation of responsibilities between the public and private sectors, and between the states and national government are needed to obtain efficient use of resources and internalize externalities. Although private agricultural R&D has



**Figure 1.. Organization of R&D for Agriculture – Complex, integrated, multi-level organization.**

been growing much faster than public research over the past decade, the private sector will leave much to be done by the public sector.

Federal funds for agricultural research in constant dollars decreased at an average rate of 1 percent per year during the past decade (and for all research at 1.5 percent per year). Also, federal funds for non-agricultural research relative to agricultural research

have declined over the 1989-1991 period with the contraction of federally funded defense and energy research, but the ratio was stable over 1991 to 2000. State government funding of agricultural research grew at 2 percent per year over 1989-2000, thereby increasing the states' share of public funding of agricultural research.

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## Issues

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### Why Is Public Agricultural Research Important?

The supply of agricultural outputs is positively related to R&D stocks, and for more than two decades, the relative price of food and fiber has been decreasing which benefits consumers. R&D is a major reason for U.S. households having the lowest share of personal income spent on food (about 12 percent) for any country. Also, rightward shifting supply curves for U.S. agricultural products are a major factor for increasing the competitiveness of U.S. agriculture in the world export market. As U.S. consumers' concerns for food costs have lessened, other concerns have become visible, e.g., food safety, fat content, processing, and technology used to produce products. Although the demand for food is income inelastic, the demand for food safety, resource and environmental amenities, and for food processing is income elastic. Continued per capita income growth can be expected to provide a growing demand for research in these areas.

Major developments have occurred in science permitting genetic engineering through biotechnology and new information systems. These technologies hold interesting potential for farmers to reduce their costs of production and, eventually, for new and cheaper products for consumers. These technologies, however, have raised many new issues that need researching, e.g., effects of genetically modified (GM) inputs on the environment, effects of GM foods on human health, methods to assess web and internet information quality, and mechanisms to detect fraud and enforce contracts. Other technologies have raised broad environmental issues, e.g., effects on water and air quality and, ultimately, on human health.

Land-grant universities are testing new sources of funding — income from intellectual property sales enabled by the Bayh-Dole Act, exclusive arrangements with private sector firms, and federal competitive grant programs. These new institutional arrangements have income potential, but they weaken ties to traditional within-state stakeholders of land-grant universities. This holds potential risks over the long term.

### Change in the Historical State-Federal Partnership

Agricultural research and cooperative extension have historically been a federal-state partnership. Within the USDA, most research is conducted by the Agricultural Research Service (ARS) and the Economic Research Service (ERS), which obtain their funds for in-house research almost exclusively from Congress. The combined research budget of ARS and ERS decreased about 5 percent in real terms over 1988-97. The strongest justification for funding the USDA's own research is for conducting research that produces national (or international) public goods for agriculture, e.g., national environmental and resource issues, food safety and nutrition, and agricultural, community, and rural development policy. Some of these activities require highly specialized resources, with large fixed costs. The USDA may undertake certain types of nationally important pre-technology or basic scientific research needed for the agriculture and household sectors, but they are at a scientific locational disadvantage because they are not part of a major research university.

State Agricultural Experiment Stations are the dominant public agricultural research institution, and they are engaged in a wide range of research from the applied to pre-technology and basic/general sciences. Although their initial funding was heavily federal, state governments have become the source of a majority of SAES funding. However, regular federal appropriations continue to account for about 14 percent of the SAES system funding. Real non-grant funds (largely formula funding) through Hatch, Regional/Multistate, and other sources to the SAES system were roughly the same at the end of the

decade as at the beginning, but were larger than at mid-decade. Over the decade of the 90s, Cooperative Research, Education, Extension Service (CSREES) tried to move competitive grant programs forward in a variety of ways. This, however, led to a small increase in real research resources for the SAES system, and at the end of the period, these programs accounted for about 2.5 percent of the SAES system funding.

Given the long term historical developments of institutions and federal legislation dealing with funding of agricultural research, a debate continues on the advantages and disadvantages of alternative funding mechanisms, e.g., formula-funding, competitive grants, special grants/public earmarking, and cooperative agreements. Most of the regular federal appropriations for SAES research continue under some type of formula. Under formula funding, each state's share of the appropriation is based on a legislated rule, originating in politics needed to pass the original Hatch Act, the Amended Hatch Act (1955), and other legislation providing funding for agricultural research in state institutions. Since 1935, matching funding has been an important attribute of this funding, i.e., a state institution must at least match its regular federal appropriation with other research funds.

The USDA's competitive research grants program was first established in 1977 to address high-priority research areas identified by an advisory committee to the secretary of agriculture, but it was refocused in the mid-1980s on biotechnology and renamed the National Research Initiatives Competitive Grants program in the 1990 Farm Bill. This was to be a major research program with relatively large, long term grants on high-priority fundamental and mission-oriented research of the importance of biological, environmental, physical, and social sciences relevant to agriculture, food, and the environment. However, the program has evolved into a small-grants program providing short term funding. As such, it has especially high transactions costs, e.g., scientists' time for proposal preparation, evaluation, and rankings (associated with a low success rate) and administrative costs relative to the amount of funds distributed, and distorts scientists' time away from effort paid for under other SAES funding, e.g., state

government funded projects. The introduction of new competitive grant programs, having new goals and guidelines, is an attempt to obtain more funds for competitive research programs for agriculture, but it has introduced added uncertainty about these programs as the Fund for Rural America received federal funding for only two years and then was unfunded for several years.<sup>1</sup> Then, the grant program for Initiatives for the Future of the Food System was started in 1998. The status quo in real funding for agricultural research and instability in federal programs for agricultural research can reasonably be interpreted as weakening the federal-state partnership for agricultural research.

## **Accountability**

Accountability for use of federal funds for agricultural research is an issue dating back to the Hatch Act. In the late 1800s, systematic accounting procedures were first established, agricultural experiment station visits or reviews were conducted, and legitimate station research was defined (Huffman and Evenson, pp. 40). As land-grant universities developed better accounting systems and came under stronger state government oversight, the Office of Experiment Stations, or the Cooperative States Research Service, discontinued its emphasis on accounting procedures. However, it continued to require annual progress reports and financial reports, (e.g., the Current Research Information System (CRIS), established in 1968), and periodic departmental reviews. Furthermore, a large number of studies undertaken by economists have shown that the marginal real social rate of return to public funds invested in agricultural research in the United States is relatively high, e.g., in the range of 20-50 percent (see Evenson; Alston, Marra, Pardey, and Wyatt), which is large relative to alternative public investments.

During the 1990s, accountability for the use of federal funds has been a popular political theme. The

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<sup>1</sup> To offset some of the adjustments anticipated, the Fund for Rural America was established as a new research program that focused on increasing international competitiveness, efficiency, farm profitability, environmental stewardship, and rural community enhancement. As another competitive grant program of the USDA, it initially competed with the NRI for congressional funding.

Government Performance and Results Act (GIPRA) of 1993 required strategic planning and annual program performance reporting for every agency of the federal government, including the CSREES which oversees the federal formula funding of agricultural research and extension of the land-grant universities (U.S. Congress 1993). This legislation was stimulated by concerns in the U.S. Congress for greater accountability to taxpayers for the performance of programs and a need for better planning of federal programs. Although significant attempts were made to implement its provisions for public agricultural research, it was a federal program that did not work well for public research.

Hence, the 1998 Agricultural Research, Extension, and Education Reform Act (AREERA), superseded GIPRA, and introduced a new form of accountability for research and extension. This act applies specifically to land-grant institutions receiving Hatch (research) and Smith-Lever (extension) formula funds from the federal government (U.S. Congress 1999). In carrying out the 1998 legislation, CSREES established goals for its next five-year plan and expected institutions receiving federal funding to conform. The goals were to establish: 1) an agricultural system that is highly competitive in the global economy, 2) a safe and secure food and fiber system, 3) a healthy, well-nourished population, 4) greater harmony between agriculture and the environment, and 5) enhanced economic opportunity and quality of life for Americans. The program pushed accountability by requiring “plans of work” by each institution for using federal funds, integrating research and extension activities (for roughly 25 percent of the funds), and implementing a process for obtaining stakeholder input concerning the uses of research, extension, and education formula funds. In addition, merit reviews of programs are required at least once every five years.

The response of the land-grant universities has generally been to abolish the old SAES project system (which contained more than 11,000 projects). Each of these projects was carried out by one or a small set of scientists over a three to five year horizon, and the scientists were held locally accountable for progress reports and outputs. The typical response by the agricultural experiment stations has been to

define a few, large umbrella projects which fit under the goals of the new legislation and cover many scientists. For each of these umbrella projects, a very brief summary report (relative to standards of the past) of achievements and impacts, numerical counts of categorized outputs, and a few success stories are being reported.

The fundamental problem with federal accountability for research is that it fails to come to grips with the unusual attributes of research as a productive activity. First, the R&D payoff is the “best” of scientists’ outputs, rather than their total outputs. Second, the research production process is subject to a large amount of ex ante uncertainty. Third, asymmetric information exists in that each scientist has better information about how he allocates his effort and on his ability than does his research or federal accountability administrator. Given ex ante uncertainty in research production, it is impossible for research or accountability administrators to accurately infer effort from observed output. Fourth, research administrators are in a better position to bear risk associated with risky research projects than scientists, but scientists are being asked to bear increasing amounts of research risk. These are complex issues in the management of science that need addressing.

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## **Policy Options and Consequences**

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Several alternative policy options exist for research, extension, and education. These options and their consequences are listed below.

Honor the original land grant university partnership by stabilizing federal formula funds for research and extension to at least protect the purchasing power of formula funds against inflation, or increase the formula funds.

- Consequences for farmers and agribusinesses
  - Maintain access to new technologies and management tools across all firm sizes.
  - Obtain greater production efficiency, added product quality, new products, and new market options.
  - Contribute to viability of small farms and agribusinesses.
- Consequences for consumers
  - Have access to lower cost food, fiber, and energy.
  - Benefit from greater food safety and enhanced nutrition of foods.
- Consequences for taxpayers
  - Required to make involuntary contributions through taxes, but obtaining high rates of return on public funds invested in agricultural research, extension, and education.
- Consequences for the environment and rural communities
  - Block-granted formula funds expand the capacity of state universities to address locally and regionally specialized research, extension, and education issues associated with public policy issues like environmental quality and rural development, for which private entities have no incentive to undertake.
- Consequences for consumers
  - Obtain greater consumer security for the American food system.
  - Improved confidence in the American food system.
  - Observe and participate in a transition of rural communities.
- Consequences for taxpayers
  - Orderly flow of research, education, and information with higher returns on public investment due to a lower cost organization structure.
  - Direct public funds to both important national and local issues.
- Consequences for the environment and rural communities
  - Focus public resources on public good knowledge of environmental improvement and rural community transition.
  - Obtain more efficient use of public knowledge investments.

Stabilize and maintain a single federal research and extension grant mechanism under the National Research Initiative format to encourage sizeable competitive grants and multi-organizational consortia across Land Grant Universities, Agricultural Research Service, Economic Research Service, and the National Agricultural Statistics Service, to address core national and international issues.

- Consequences for farmers and agribusinesses
  - Obtain collective access to basic scientific knowledge.
  - Obtain new markets for specialized agricultural products, e.g., carbon credits.
  - Obtain access to tools for compliance with environmental regulations.
- Consequences for farmers, agribusinesses, and consumers
  - A clearer focus on issues relevant to their regional climate and economy, rather than following a nationally led agenda.
- Consequences for taxpayers
  - Reduced overhead cost of continuous, specific project review, and numerous planning and evaluation functions. Every state must maintain a significant investment in staff, operating support, and travel for

Honor the original land grant university partnership, and recognize that the federal partner plays a small financial role relative to the state partner, and by replacing federal program plans of work and annual progress reports, as well as sub-accounting for multi-state and integrated project categorization of work, with a simple five-year comprehensive review. These reviews would be similar to an accreditation review, attempting to answer the question: “Does this land grant university perform research, extension, and education in a responsible manner in accordance with the land grant partnership mission?”

- program planning and evaluation focused on federal reporting.
    - Greater attention to local and regional issues, rather than on a national agenda. This respects the greater state investment in research and extension.
  - Consequences for the environment and rural communities
    - Greater customer focus on local and regional environmental and rural community solutions. Eliminate federal funding of agricultural research.
  - Consequence for farmers and agribusinesses
    - Less basic and applied research discoveries from which to develop new technologies.
    - Greater demands for direct contributions to public agricultural research funding.
    - Development of new technologies driven more heavily by the private sector.
    - Less public information available on performance of new technologies.
  - Consequences for consumers
    - Less food safety research, and less confidence in the American food system.
    - Less environmental research.
    - Less focus on transition of rural communities.
  - Consequences for taxpayers
    - Reduced federal tax burden, but increased state tax burden for agricultural research.
    - Lower social rate of return to federal expenditures.
  - Consequences for the environment and rural communities
    - Background Reduced public information on environmental and rural community issues.
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# Agricultural Credit Policy

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## Background

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Modern agricultural production systems are capital intensive, but relatively low-margin segments of the U.S. economy. As such, a large portion of capital used in farming is borrowed. For the majority of commercial-sized producers, credit is necessary to facilitate input purchases and can be a significant cost of production. Farm credit demand has been steady in recent years and creditworthy farmers generally experience competitive lending markets.

The federal government has a long record of supporting agricultural credit markets, dating back to 1916, when Congress chartered the Federal Land Banks, the first component of the Farm Credit System (FCS). Today, three institutions have primary responsibility to deliver federal farm credit policies. The USDA's Farm Service Agency (FSA) provides direct loans and loan guarantees to farmers unable to meet conventional credit standards. The cooperative FCS is a government-sponsored enterprise (GSE) with an implicit federal guarantee, which serves farmers that meet conventional lending standards. The privately owned Federal Agricultural Mortgage Corporation (Farmer Mac), also a GSE, provides liquidity for rural lenders by buying agricultural and

rural home loans. Other federal lenders with less prominent roles serving agricultural producers include the Small Business Administration, the Commodity Credit Corporation, and the Rural Business and Cooperative Service. The Federal Home Loan Bank System (FHLBS) also serves as a source of funds for rural lenders. Roughly one-third of the \$180 billion in farm debt at the end of 2000 was held by or guaranteed by the government, through FSA or GSEs. In some regions or for some classes of borrowers, the federal government supplies or supports half of all farm credit needs.

Federal credit subsidies may have different objectives, but they all work to lower production costs for farmers and increase access to credit. Today, direct and indirect federal farm credit subsidies are substantial — totaling hundreds of millions of dollars annually. In addition to specific farm credit policies, the regulation and supervision of financial institutions, as well as monetary, fiscal, tax, and antitrust policies have a significant effect on the operation of agricultural credit markets.

The credit titles in the last three farm bills have dealt mostly with FSA farm loan policies, and their content reflects the issues of those periods. The 1985 Farm Bill was drafted during a farm economy downturn and emphasized help to farm borrowers unable to repay their loans or assist after failure. The

1996 Farm Bill was drafted during a period of relative farm prosperity and focused on limiting FSA eligibility, encouraging graduation from FSA loans, and reducing loan program costs. Most significant changes to farm credit policies are not made in farm bills. Policies regarding the banking industry come under the authority of the banking committees and, thus, may not be a part of farm bill deliberations.

### **Credit Policy Issues and Options**

Federal farm credit policies over the past 85 years have been motivated by perceptions that private lenders were not adequately, efficiently, or fairly supplying credit to farmers. Federal credit policies seek to address concerns about social equity and to enhance economic efficiency by raising lender competition, lowering transaction costs, or improving market information. Some specific policy objectives have included raising farm-family incomes, overcoming the difficulties of financing farm startups, stemming the out-migration from farming, reducing the financial impact of natural disasters, decreasing interregional variation in borrowing costs, improving liquidity to rural capital markets, and reducing credit rationing.

Today, Congress is faced with defining a proper role for federal farm credit subsidies as structural change in agricultural production and within the financial services industry continues at a rapid pace. Past federal farm credit programs and policies may be inappropriate or ill equipped to address issues relevant to a modern and increasingly industrialized agriculture. In this context, policy makers may address the role of federal credit policies in providing a farm financial safety net, affecting farm financial market performance, and in addressing concerns of social equity and structural change. These and any other policy objectives will likely have to be balanced against concerns over federal credit subsidy costs.

Credit facilitates the acquisition of production inputs. In the context of the World Trade Organization, any new proposals calling for additional government farm credit subsidies would likely be considered trade-distorting domestic support. As such, some policies and proposals would likely be in the “amber box” domestic support category.

### **Issue: Providing a Farm Financial Safety Net**

USDA subsidized farm loans have traditionally been used to aid financially stressed farmers, especially during economic downturns or in response to losses incurred from natural disasters. Weak commodity prices have significantly lowered farm revenues in recent years. To maintain aggregate farm income at a politically acceptable level, the federal government is making record amounts of payments to farmers. These payments have lessened the need for credit and enhanced farmer creditworthiness.

While most federal farm aid is transferred through other means, farm loan subsidies delivered through the Farm Service Agency remain a significant component of the federal farm financial safety net. Congress more than doubled FSA’s farm lending authority from fiscal 1998 to fiscal 2000 to \$5.6 billion to assist the least creditworthy producers. Federal farm loan programs are discretionary expenditures and, as such, are subject to annual federal budget allocations. While recent U.S. budget surpluses have reduced the urgency to cut federal outlays, the desire to trim costs and streamline loan programs remains an important policy objective.

### **Credit Policy Options and Consequences**

#### **Farm Service Agency Farm Loan Programs.**

Congress could elect to expand the funding or eligibility of FSA loan programs to assist a broader range of farmers. This policy would raise subsidy costs and, in the absence of sufficient needs testing or targeting, would likely be more of an income transfer mechanism as opposed to a financial assistance mechanism. If income transfer is the objective, other mechanisms can be more effective. Alternatively, Congress could elect to cut farm loan program funding and/or their scope of eligibility. Limiting funding or eligibility would mean that fewer borrowers would qualify for federal credit and, hence, would face greater credit costs or an inability to obtain credit.

An alternative to reducing funding would be the transfer of more funding to the guaranteed loan programs. Guaranteed loans allow more lending



decisions to be made by commercial lenders. Because guaranteed loans are less expensive to make, more borrowers can be covered for the same budget cost. However, transferring authority could mean some borrowers might receive less federal subsidy and that very high-risk borrowers who qualify for direct loans might not qualify for credit with a loan guarantee.

Reevaluating the level of FSA credit subsidies is another option that could lower costs, while maintaining or increasing program coverage. Current law provides a 4-percentage point reduction on the interest rate paid on guaranteed operating loans, and provides 5-percent interest rates on direct farm ownership and operating loans for eligible borrowers. Statute requires that FSA provides set levels of additional subsidies on direct loans, regardless of need. Restricting or better targeting of subsidies could reduce program costs while improving or not significantly harming borrower performance. Such a policy change would raise capital costs for some, make some ineligible, and provide even greater subsidies to others.

Administrative changes could also be made to expedite and improve FSA credit decisions, reduce the burden for applicants and staff, and enhance the success of the agency's mission by providing more uniform program delivery to borrowers. Some of these changes may require congressional approval or encouragement. For example, FSA could adopt credit-scoring techniques to make faster and more consistent lending decisions, especially on smaller credit requests, much like private sector lenders have embraced.

Although the mission of USDA farm loan programs is to serve as a temporary source of supervised credit for those unable to obtain private credit at reasonable rates or terms, many FSA borrowers rely on federal credit for many years. Legislative changes in the 1990s sought to reemphasize the agency's role as a temporary credit source by imposing limits on program eligibility. Further restrictions, administrative changes, and financial incentives to encourage graduation from FSA could be adopted. Some farm businesses would fail; others would become commercially viable more quickly.

**Emergency Disaster Loan Program.** Federally subsidized crop insurance has replaced much of the *ad hoc* natural disaster relief and emergency federal credit once supplied to farmers in the aftermath of natural disasters. With even greater subsidies provided by the Agricultural Risk Protection Act of 2000, crop production losses can now be insured at more affordable costs through private insurers. Congress could elect to maintain the existing emergency program at some level of funding or choose to cut this program area.

*Credit, whether subsidized or not, is typically a poor substitute for lost production income.*

Emergency loans carry high administrative costs and have a high loss rate despite offering large subsidies. Outright grants or subsidized self-insuring mechanisms provide a policy alternative. Most physical losses can also be insured through private insurers. If such policies were adopted, producers failing to obtain or unable to secure proper levels of insurance would be forced to use higher cost credit alternatives to finance a recovery.

### **Issue: Coping with Structural Change and Helping Under-served Groups**

Structural change in U.S. agriculture has hastened in recent years, especially for certain enterprises. Federal credit subsidies influence structural change by reducing the cost of capital and funneling subsidized capital to specific groups. The industrialization of agriculture is producing a dualistic structure where a relatively small number of large farms produce the majority of food and fiber, and a large number of small farms produce very little. Mid-sized farm numbers are falling and this raises concerns that farming is evolving in directions that may lead to the demise of the "family farm." Preserving the family farm remains at least rhetorically a policy objective. The average age of farmers rose one full year to 54 years from 1992 to 1997, while the number of young farmers continued to fall. These trends are raising concerns that an insufficient number of new farmers will be available to replace retiring farmers. The large amounts of capital required to operate a cost-competitive farm can be a significant barrier to entry for new farmers.

Federal credit policies attempt to overcome capital barriers by subsidizing start-up capital for new farmers seeking to reach a competitive size.

While the number of farms operated by racial and ethnic minorities rose somewhat from 1992 to 1997, these farmers still represent only about 3 percent of all farms, and their operations remain smaller than the typical non-minority owned farm. The number of African American-operated farms continued to fall, and now represents less than one percent of all farms. Legislation in the 1980s targeted FSA lending programs to socially disadvantaged farmers. Improving the access to credit and reducing capital costs for under-served groups is seen as one policy tool available to assist these producers in developing successful farm businesses.

### **Credit Policy Options and Consequences**

**Farm Service Agency Targeting.** FSA farm loans currently target family-sized farmers, beginning farmers, and under-served borrowers to help them obtain an economically sufficient size. Targeting is largely accomplished through caps on the amount of FSA credit a borrower can obtain, or by allotting a share of annual lending authorities for targeted groups. Better targeting methods could be employed and more incentives provided to private lenders to increase guaranteed loan program targeting. However, while providing more credit subsidies reduces costs for qualified applicants, this by itself may be insufficient to have a significant effect on the policy objective being pursued, as many other factors may be more important. Evidence also suggests that non-targeted groups, frequently through higher bid prices for business assets, may capture a portion of the subsidy provided.

**Farm Credit System and Farmer Mac Targeting.** The FCS charter does not specifically require it to target its lending to small borrowers, beginning farmers, or socially disadvantaged groups. On average, the FCS lends to larger farms. Likewise, Farmer Mac is not required to direct its mortgage purchasing activity to under-served groups. The FCS is required to report to Congress on its lending to young, beginning, and small farmers and is

supposed to operate special programs for these farmers. Congress could impose more specific mission requirements on the FCS and Farmer Mac to improve credit access and lower capital costs for these and other under-served groups.

A new mission could require detailed reporting on lending to targeted groups, and that a certain share of their lending or profits be devoted to serving these groups, similar to the mission goals imposed on the housing GSE's — Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System. Any new mission requirement could impose additional costs and, hence, make their federal charters less valuable. Redirecting credit subsidies to targeted groups may not have a large effect on the policy objective being pursued, particularly in the absence of other policy adjustments. Also, evidence suggests that non-targeted groups, frequently through higher farm asset bid prices, may capture a portion of the subsidy.

**Beginning Farmer Grants.** The National Commission on Small Farms called for beginning farmer grants as an alternative to providing a subsidized loan. In lieu of an FSA loan, a beginning farmer might elect to receive the loan's subsidy value as a start-up grant, perhaps on a matching basis. While subject to the same economic arguments as a loan subsidy, a subsidy amount delivered via a grant could be less costly because the term of subsidy is more likely to be fixed, and because of potential administrative and servicing savings. In addition, beginning farmers would benefit by building equity, rather than debt. However, small grant amounts, given the economies of size and scale that exist in commercial operations, may not yield expected results and could end up supporting bigger "life style" operations.

**Aggie Bond Guarantees.** Legislative proposals exist that would modify the tax code to increase Aggie Bond usage. One related proposal would be to allow USDA guarantees on Aggie Bonds used to finance FSA eligible beginning farmers. Aggie bonds are tax-exempt revenue bonds issued by states with funds used to provide low interest rate loans to farmers. Bondholders, typically commercial banks,

are exempt from federal income tax on the interest income earned from these bonds, resulting in a loss of income to the federal government. Such a guarantee could increase credit access for eligible borrowers, but impose default costs upon the government. Some of the new subsidy would be captured by third parties, such as bondholders, perhaps making this subsidy delivery scheme more costly than alternatives. Because many states do not offer such programs, distribution of benefits would be uneven across the country.

### **Issue: Enhancing Agricultural Credit Market Performance**

New technologies, regulatory reforms, and other factors are reshaping the financial services industry. These changes are reducing economic barriers, increasing market integration, enhancing liquidity, and, therefore, minimizing the need for government intervention in rural credit markets. Despite structural change within the financial services industry and within agriculture itself, concerns linger that some rural financial markets might still face a shortage of reasonably priced loan funds. For example, bank consolidations and mergers raise fears that the commitment of local institutions to agriculture will be lessened.

USDA's report, titled *Credit in Rural America*, concluded that rural financial markets work reasonably well in serving the financial needs of most sectors of the rural economy. The report went on to state "policies that provide untargeted subsidies to a broad range of rural lenders or borrowers, such as examined in this report, are unlikely to be cost effective." Nonetheless, legislative and regulatory policy changes continue to address concerns about credit market liquidity, competitiveness, and efficiency.

### **Credit Policy Options and Consequences**

**Reevaluate Farm Credit System and Farmer Mac Charters.** A 1997 USDA credit study concluded that the farm sector is currently well served by the existing lending system and that there is little evidence to support the need for additional broad

based federal credit subsidies. Bank legislation in 1999 gave small banks greater access to the funding of the Federal Home Loan Bank System by permitting them to use small business loans and farm loans as collateral when borrowing. Competitively priced farm credit for creditworthy borrowers can be obtained from a range of private sources, such as banks, input suppliers, and life insurance companies. Research has shown that rural GSEs largely serve the same clientele, as do private sector lenders. Also, because the FCS and Farmer Mac are single sector lenders, their ability to provide liquidity and stability to rural credit markets is hampered during periods of high farm financial stress.

Given the relatively unfettered charters the FCS and Farmer Mac enjoy and structural changes in agriculture and financial markets, policymakers may consider rethinking the basic role of these rural GSEs. One option might be privatization. Another option would be to give them a more specific mission. If a mission change reduced the value of their charters, it could result in downsizing and structural change for these two lenders. Other lenders may continue to meet most of the creditworthy loan demand if the federal charters of these competitors were more restrictive. Conversely, interest in helping farmers develop value-added enterprises remains high, and expanding the mission of either GSE to facilitate this and other policy objectives could enhance the value of their charters and provide greater subsidies to the rural economy.

**Create a Rural Equity Fund for Agriculture and Rural Business Development.** Some argue that rural areas are disadvantaged in attracting equity capital (as opposed to debt capital) for rural businesses, and that farmers would benefit financially if they were better able to capture value-added components of the food and fiber they produce. Ownership in value-added businesses might make farmers less dependent on financial support from government programs. One recent proposal (Senate Bill 3242) would create a public/private partnership to establish a rural equity fund to support projects that provide off-farm income opportunities, additional markets for agricultural products, and new businesses in rural communities. Under this proposal, USDA

would match private investment dollars for a period of time and could provide guarantees for debt financing associated with projects being financed. While potentially benefiting particular business development, such a policy would impose costs upon the government and require it to make private sector investing decisions.

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# Public Choices Affecting Human Resource Management

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## Introduction

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The amount and types of labor needed in agriculture vary seasonally and across commodities, but human work is critical to the production of all food and fiber. While not historically part of the farm bill, labor issues are treated by many public policies in which the USDA has interest and could help develop, and the resulting legislation is important to agricultural interest groups.

Although technological advances have dramatically reduced the numbers, and more so the proportion, of the U.S. population needed to generate our agricultural products, an average of nearly three million people now work on farms (down from some fourteen million in 1900). A still growing share of farm jobs, roughly one-third overall — much more in high-value/acre crops — are filled by hired workers, as opposed to self-employed farmers or unpaid family. Costs for hired labor range up to one-quarter of total agricultural production expenses in states with relatively large fruit, vegetable, and horticultural specialty sectors, and harvest labor alone accounts for two-thirds of all operating cost in some crops.

American agriculture has long depended on workers born elsewhere. For more than a century,

people from immigrant groups — Africans, Chinese, Japanese, Filipinos, and Mexicans — have performed most of the arduous work in labor-intensive specialty crops. Large portions of the people who now make these crop systems run are Mexican-born, males, recent arrivals, employed seasonally, and poor.

How can we sustain and minimize harmful externalities from an agricultural production system that gives us ample, high-quality food and fiber at reasonable cost and serves as an economic engine, but which currently depends to a large extent on a unauthorized workforce? One can hardly make it through a newscast, editorial page, congressional session, or friendly chat between heads of state in North America anymore without bumping into a facet of this complex agricultural labor issue that reaches into farm management, immigration policy, employment law, industrial (not only agricultural) economics, international relations, community development, family well-being, and electoral politics.

Both further raising its profile and complicating its resolution is that this issue has become joined at the hip to a second. How shall we deal with the large presence of people in the U.S. who have entered or stayed without authorization? Should accommodations be made for people who, despite their illegal status, have contributed to our economy and community social fabric?

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## Background

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The situation and components of pending proposals to deal with the agricultural labor supply are not entirely novel. Our government has responded in the past to ebbs and flows of concern about this issue. One of the reasons that all farm jobs have not gone south lately, and made the loud sucking sound that Mr. Perot warned us about, is that people have been coming north in droves. The migration today continues a tradition that we have at times encouraged, and at others times tried to block — or even reverse. In May 1917, the U.S. Department of Labor issued an order allowing farmers to bring Mexicans here exempt from the usual head tax, literacy test, and other restrictions as long as they were to perform agricultural work. A dozen years later, the great depression put a big chill on immigration from Mexico. Prospective entrants were discouraged from coming, and immigrants already here were encouraged, socially as well as economically to go home, as U.S.-born refugees from dust bowl and industrial states displaced them in farm jobs.

The rug was again rolled out to Mexican workers during World War II when U.S. citizens were drawn away from agriculture, and it stayed there for more than two decades. The Bracero program ran from 1942 through 1964, and brought some five million workers here with temporary work visas under an evolving set of rules (initially established as the Bracero Agreement of 1942, continued after the war emergency through interim provisos of the Immigration Act, and was further codified as Public Law 78 in 1951, during the Korean conflict that was again absorbing U.S. manpower). The program was subsequently extended by each Congress, usually with refining amendments, till 1965.

Rules during the 1950s put pieces into the program structure that have persisted into the present H-2A agricultural work visa program. One such provision limited the use of farm work visas to times when 1) the Department of Labor certified that U.S. domestic workers were not sufficiently available, 2) employment of Mexican workers would not adversely

affect the wages and working conditions of U.S. workers similarly employed, and 3) employers had made reasonable efforts to attract enough U.S. workers.

Congressional authorization for the program expired without further extension in December 1964, amid growing public outcry about the exploitation of many Braceros, insufficient enforcement of supposed protections, and undercutting of U.S. resident workers — there was a widespread belief that it was interfering with the market for people here. To many people, the Bracero program remains a symbol of all that was, and is, wrong on the farm labor scene. Whether right or not, it is important to recognize that strong feelings still exist about this program and others that resemble it.

The Immigration Reform and Control Act (IRCA) was enacted in 1986. The explicit purpose of the IRCA was to control illegal entry to the U.S. However, other dubiously compatible purposes became annexed to this main one, including averting economic disruptions in agriculture, to recognize the contributions and stakes of people already here, protecting terms of employment for legal residents, and reducing the relative isolation of the farm labor market. So, the Act emerged as a compromise mix of provisions that required a new type of worker screening by employers (prohibition against hiring people not authorized to work in the U.S.), offered legal resident status to many people who had lived or worked in the U.S., and anticipated potential needs to supplement the legal farm labor supply in the future.

Although not an agricultural law, the IRCA treated agriculture specially in ways designed to help the industry adjust to a changed labor market. It deferred for 18 months the application of sanctions for either hiring ineligible workers or not documenting eligibility of workers. It provided means for specifically expanding the farm labor supply with legal immigrants or guestworkers. The Special Agricultural Worker (SAW) program granted legal resident status to a large number of people who had worked on farms between May 1985 and May 1986. The Replenishment Agricultural Worker (RAW) program could have supplemented the agricultural workforce with more legal immigrants, if needed, in fiscal years 1990-93. A third labor supply provision

adapted H-2 visa rules to codify a new H-2A visa program specific to agriculture, enabling farm employers to legally recruit and hire temporary guestworkers from abroad if 1) they can show that insufficient labor is available for a specific type of job during a given period in a defined market, and 2) they offer terms of employment that meet given standards.

Things have not quite worked out as the designers of the IRCA had expected. Some 2.7 million people obtained legal resident status, about 1 million as SAWs, but by no means has illegal entry to the U.S. been controlled. Though immediately entitled to seek employment anywhere, most SAWs did remain in agricultural work for years, and the RAW program was never activated. However, gradual attrition has reduced SAWs' ranks in the workforce, and the new entrants replacing them have been overwhelmingly unauthorized. The chief provision of the law has proven ineffective in reducing the draw of jobs here to the newcomers. All employers are to examine documents to assure that all new hires are eligible for employment in the U.S., but, for many, that merely means the paper chase has come to the farm, and not all good-looking papers are genuine.

## **The Regulatory Environment**

Agricultural employers and workers are continually challenged to keep up with an evolving array of mandates, restrictions, and rights. In 1994, the U.S. Commission on the Future of Worker-Management Relations noted the rapid expansion since 1960 of generally applicable employment laws that promise assorted benefits to workers throughout the American economy. Additional legislation has reduced differences that long prevailed between employee protections in the farm and nonfarm sectors. Moreover, the creation of new obligations specific to agriculture has placed this sector among the most heavily regulated of industries.

Farmers typically devote several personal or staff hours each month to completing employment-related reports, and spend untold time trying to fathom rules prescribing what they must, may, and may not do when managing people. Mostly designed to protect workers by controlling employers, labor laws have

been enacted also to serve public interests in curbing unfair competition among producers, and to reduce demands on the public treasury that ripple out from the labor market. The rules embody various definitions and coverages, differ somewhat from state to state, and are administered by a plethora of federal and state agencies with various levels of enforcement capability and orientations to the industry.

Controversy over the administrative costs, operational burdens, and true benefits of laws has been as pronounced in the realm of farm employment as in any other area. There is much more consensus around the goals than the legal tools of public policy regarding agricultural labor management. Regardless of how undertaken or received, regulatory efforts signify that agricultural personnel are important to the nation's economy and society.

As in other regulated domains, realities in the workplace and marketplace often fall short of standards set by public policy. The employment in agriculture of many people not truly eligible to work in the United States is only one type of incongruity between public policy myth and field-level reality.

Employers, workers, and third parties alike have expressed frustration with both the dictates and the impacts of laws, contending that they are onerous, inequitable, and improperly administered. Economic incentives, principled objections, and irregular enforcement may all breed willful disregard of the law. However, if the actual effects of regulation do not measure up to the intents, it is also in part because the people who are supposed to abide by the rules do not understand their obligations. The very volume and complexity of laws augur for uneven compliance with them. In addition, partly responsible for some of the misunderstanding as well as the disregard are state-to-state regulatory differences (e.g., in minimum wages, union organizing protections, or workers' compensation and unemployment insurances) that confer competitive advantages and disadvantages.

Should Congress reduce differences between state environments by removing some agricultural exceptions that remain in federal labor law (e.g., the Fair Labor Standards Act, the National Labor Relations Act), or by new federal legislation? Conversely, should Congress leave more to state discretion? Even within a national patchwork of laws,

should enforcement resources be increased to better assist in compliance, protect workers, and remove competitive disadvantages for farm employers who play by the rules? More modestly, should the USDA endeavor to make regulatory guidance more easily accessible to agricultural employers and workers, possibly by channeling up-to-date information from a myriad of authorities through an integrated web portal?

### **Locating the Onus of Employer Responsibilities**

Given all the regulatory and technical challenges of managing labor, many growers contract with an external entity for services on their land. Engagement of workers through farm labor contractors (FLCs, also referred to as crew leaders in some places) has increased as farm operators have sought more organizational flexibility, time for other management functions, and relief from legal obligations and exposures to liability. Growers often find that FLCs relieve them of various difficulties, uncertainties, and costs associated with direct employment. Though dealing with contractors may involve other complications that farmers weigh against the burdens of hiring and managing their own employees, about three of five growers in California, for example, purchase services from at least one contractor.

Common functions of FLCs include negotiating terms of service with growers; recruiting, hiring and directing workers to the work site; supervising their work and inspecting results; paying wages and benefits; providing field sanitation facilities and drinking water; furnishing work tools; and filing reports and maintaining records.

Society has responded to reports of some FLCs' abusing employees and neglecting their public obligations by establishing laws to govern relationships between contractors, their employees, and growers. Farm labor contractors are now more intensely regulated than are other agricultural employers. They must register with the U.S. Department of Labor and, in many states, they must obtain licenses. Over the past several years, contractors have been specially targeted by worker advocates, enforcement agencies, and lawmakers, and new legislation in some states

has raised license standards (e.g., a continuing education requirement, higher surety bond, etc.) as well as administrative scrutiny.

FLCs who meet all their legal obligations and operate truly as independent businesses serve to lessen the risks for both growers and workers. Yet, not all do. Growers are required to confirm that any contractor they do business with is duly certified at the federal and (usually) state levels. Among the penalties for failing to do so is the imposition on the grower of joint liability for any violations of other labor laws committed by the contractor while working for the grower.

Even in cases where FLCs are licensed, however, growers may find themselves held liable for contractor misdeeds by way of the joint employment doctrine under the Migrant and Seasonal Agricultural Worker Protection Act (MSAWPA) — the prime federal law designed to protect migrant and seasonal farm workers. Congress included the concept of joint employer in the original MSAWPA of 1982, and in a 1997 regulation, the Department of Labor (DOL) more fully discussed circumstances under which a contractor's customer (i.e., typically a grower, association, or packing house) is to be considered a joint employer of the FLC's employees. Attached to joint employer status is liability for compliance with wage and hour laws and all requirements of MSAWPA, such as to provide accurate and timely disclosure of the terms and conditions of employment, to maintain written payroll records, and to pay wages when due. Joint employment also affects responsibility for work-incurred injuries, discriminatory acts, and company benefits.

Although the regulation says that joint employment is not presumed to exist in agriculture and that no one fact or set of facts will necessarily result in a joint employment determination, DOL's own fact sheet about applicability of the Fair Labor Standards Act states, "Agricultural employers who utilize the services of a farm labor contractor are almost always in a situation of joint employment with the contractor in regard to the employees." The 1997 rule does appear to expand the range of circumstances in which joint employment is to be found, and the very increased chance of litigation to clarify status, even if not resulting in a finding of joint



employment, raises costs and liabilities for grower-customers of labor contractors.

Much uncertainty prevails about the meaning and implications of joint employment. Congress adopted the concept as a device to connect responsible parties to the breach of duties to protect migrant and seasonal workers. Could lawmakers save years of controversy, litigation, and untold expense by writing legislation to define the concept within MSAWPA?

How critical is an expansive joint employer doctrine to the effective protection of farm workers? Can the establishment of higher federal standards for FLC professionalism serve its purpose at least as well at lower cost to all? Would separating grower-customers from the employment responsibilities of the labor contractors who serve them as fully competent operators be a recipe for the vile, blatant exploitation of workers? To what reasonable limits should growers be held accountable for the farm labor contractors from whom they purchase service?

### **Is It Time to Enlarge the Supply of Legal Workers?**

From a producer's perspective, employing personnel carries various risks that translate into higher costs, lower revenues, or both. The most classic, perpetually lurking risk to growers of labor intensive crops is not having sufficient help from people capable and willing to perform production tasks when needed.

Since the mid-1990s, growers have reported greater difficulty recruiting and retaining employees, exacerbated by the economic boom, keen competition in product and labor markets, more vigorous enforcement of the ban on hiring people not eligible for employment in the U.S., and recognition that a majority of hired farm workers now are unauthorized. Observing that few legal U.S. residents with other options can, or will, perform seasonal field jobs, they acknowledge heavy reliance on ineligible employees and look upon the situation as disconcerting — at best — to all parties. Their concerns have found expression in a series of bills in Congress to reform the existing H-2A work visa (guestworker) program, or create a new one that would more easily allow workers from abroad to legally come and go, on a

non-immigrant basis, for specific temporary employment.

Farm worker advocates, in contrast, maintain that many people already here are available for agricultural jobs, and that more would be if market forces were allowed to operate and induce employers to offer better job terms. Labor and immigrant rights groups have joined in vigorous opposition to the guestwork expansion plans. They have mounted support for proposals along a different line — to grant legal resident status to currently unauthorized immigrants. The AFL-CIO Executive Council planted a milestone on this path and added significant momentum for the concept in February 2000, when it reversed a longstanding policy and called for extending a blanket amnesty to people in the U.S. illegally, plus ending sanctions against employers who hire unauthorized workers. Organized labor had strongly opposed any bow to illegal immigration on grounds that undocumented workers take jobs from legal workers, depress wages, weaken the union movement, and create a black market work force. A bill proposing a broad legalization program was brought to the House of Representatives in February 2001.

An employer-supported bill in 1998, the Agricultural Job Opportunity and Benefits Security Act (AgJOBS), was adopted by the Senate but was dropped in late budget conference negotiations. Key elements of this bill were 1) a national system of voluntary registries of legally authorized workers, 2) streamlined procedures for granting H-2A visas for nonimmigrant workers to fill temporary agricultural jobs left open after use of the registries; 3) easing of existing visa requirements for employer-paid housing and for determination of permissible wages, 4) coverage of visa holders under protections of all U.S. labor laws, and 5) selective qualification of unauthorized workers for adjustment to a new legal status. Similar bills were in play during the 1999-2000 session, tempered with provisions that earned worker advocacy support, and a major compromise fell just short of adoption in December 2000. Another version of AgJOBS, S.1611 was introduced to the Senate in July 2001 and, in August, companion bills favored by worker advocates went to both houses of Congress.

Meanwhile, new presidents in Washington and Mexico City have clearly signalled their intent to address interrelated immigration and labor force issues. Especially in light of the near miss last year, the current Congress appears likely to enact some kind of law that significantly affects agricultural labor supply. Despite a few differences between the bills they have respectively sponsored, many employer and worker group leaders have come to agree that an acceptable package will include elements of H-2A reform, legalization, and worker protections.

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## Concluding Comments

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There is something to dislike about virtually every idea that has been proposed to address the large scale employment of ineligible workers — including leaving the status quo as is. Perhaps the central objection to work visa programs from labor organizations is that they allow bad actors to bully vulnerable workers from abroad while also undermining standards for, and the bargaining power of, U.S. resident workers. From another perspective, some people intent on cutting illegal immigration oppose guestwork programs on the grounds that many workers overstay their visa terms and, thus, swell the numbers of unauthorized residents. However, studies have concluded that legalization under the IRCA has also spawned a surge of illegal immigration in its wake. Critics of amnesty note that each special legalization sends powerful messages of disrespect for the rule of law and of incentives to those contemplating illegal entry.

So, what shall we do this time around? With more industries now recognizing dependence on ineligible workers and as many as ten million people living and working here without authorization, should new legislation give any special consideration to agriculture? What is a fair balance of stakeholder group interests, and how can it be achieved?

Ultimately, is it in the long-term national interest to fashion policy measures that would replace the illegal immigrant work force that now sustains the industry with a supply of legal agricultural labor? Would a program granting legal status to currently

ineligible workers, providing for the temporary admission and employment of foreign workers — or both — be worth more than their trouble to design, establish, and administer? Or, should we try to end large-scale employment of immigrant and guest labor in American agriculture in deference to other social goals and values?

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# Underserved and Small Farmers

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## Introduction

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America's small and underserved farmers have received increased attention in recent years. Former U.S. Secretary of Agriculture, Dan Glickman, appointed a commission to examine the unique problems of small farms and charged the group to "look at ways small farms could compete in a large economy." The Commission issued its findings in the 1998 report, *A Time to Act*, which outlined several actions that could be taken to help small farmers.

The move to help small farmers is not without its critics and detractors. Some say that the demise of the small farm is part of a natural economic progression, and that anxiety over the fate of small farms is misplaced. Others argue that because the small farms represent such a tiny fraction of the total U.S. output, it is not the role of the U.S. Department of Agriculture to be concerned with them. Finally, there are those who say that the small farms are merely hobby farms and, thus, they should not receive any special attention.

It is true that the small farms, as measured by sales volume, represent only a fraction of the total value of U.S. production. According to the 1997 Census of Agriculture, farms with sales over

\$250,000 represented only 8.2 percent of the farms and yet, they accounted for 72.1 percent of sales. Farms with sales between \$20,000 and \$250,000 represented 30.3 percent of the farms and 24.9 percent of sales. The remaining farms with sales of less than \$20,000 made up 61.5 percent of the total, yet they garnered only 3 percent of the sales. The \$250,000 sales cutoff for being classed as a small farm is the definition chosen by the Small Farm Commission.

Currently, any operation that sells, or would normally sell, just \$1,000 worth of agricultural products is considered a farm. The 1997 Census revealed that 14 percent of U.S. "farms" had sales less than \$1,000. These were classified as farms because they had an inventory worth at least \$1,000. The Census showed that 26 percent of all U.S. farmers recorded sales less than \$2,500. It may be hard to deal with the issue of small farms until a more realistic definition of what constitutes a farm is employed.

In addition to the problems of definition, simply looking at sales raises other issues. Small farms (those with sales of less than \$250,000) occupy 66 percent of the farmland in the United States. Because they control such a large proportion of the land, programs geared towards more efficient land use need to be developed specifically for small farms.

Another important characteristic of small farmers is that, on a percentage basis, they are as likely to live on their farms as the large farmers. With so many farms and farm families falling into this small farm category, the economies of many rural communities may be directly tied to the future of small farms.

Throughout most of the 20<sup>th</sup> Century, U.S. policy has been geared toward increasing labor efficiency and cheap, reliable food and fiber sources. Several presidential commissions and other studies have reached the general conclusion that too many resources (especially human) were devoted to agriculture, and that the country should pursue policies to increase efficiency and output as a means of increasing profitability. The result was to move people off the farm and into other endeavors. Research, technological support, and even direct government payments all have been geared toward maintaining a cheap food policy, which means not directing benefits per unit of volume to the farmer.

At the close of the 20<sup>th</sup> Century and the dawn of the 21<sup>st</sup> Century, changes are occurring in the attitude toward small farms. There is an increasing recognition that small farms contribute to the vitality of rural communities; they have a significant influence on the use of our land resource base; and they have a key role to play in assuring our food security.

This paper presents proposals related to small farms that may be considered in formulating the 2002 Farm Bill.

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## Small Farm Issues

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### Identification

Any legislation targeting small and underserved farms must clearly define the target. This differentiated issue is difficult in dealing with small and underserved farms. Critics often say that small farms are inefficient, and that their demise is due to economic forces. Others say taxpayer monies should not be used to support someone's choice of lifestyle. However, these problems arise because we continue

to use a farm definition that may not be appropriate in today's economy.

Economies of size and scale are often used as a rationale for the growth in farm size. Most agricultural products exhibit what is called an L shaped average cost curve. Iowa Farm Business Association records indicate that, with current technologies and practices, the efficient point — in terms of costs of production — is achieved at a level that does not sustain a modest standard of living. Farms may be getting bigger for the income — not the efficiency. It is also worth noting that many of the so-called economies of size exist because the farm does not have to absorb the external costs associated with production.

The USDA Economic Research Service (ERS) offers a definition of small farms. Their classification starts with the Small Farms Commission definition of yearly sales of less than \$250,000, and delineates these farms into 5 categories.

One set of small farms identified by the ERS is the limited-resource farms that includes any farm with sales less than \$100,000, with farm assets less than \$150,000, and with a total operator household income of less than \$20,000. These limited-resource farmers may report farming, a non-farm occupation, or retirement as their major occupation. By definition, these farms are poor, and their operators probably have lower education levels with minimal training.

Another set of small farms is classified as residential/lifestyle farms, operated by individuals who report a major occupation other than farming. This group does not include farms possessing the additional restrictions required to be classified as limited-resource. Many who criticize small farm assistance programs assume that these farms make up a majority of small farms. As noted, a change in the definition of what constitutes a farm could eliminate many of these farms from consideration.

The third set of small farms classified by the ERS includes so-called retirement farms. These are the farms where the operators report that they are retired, yet they do not meet the additional restrictions of the limited-resource farms. The data available do not reveal whether these people are retired from farming or from another occupation.

The final two categories of farms are those that report farming as their major occupation, but are further divided based on their level of sales. Farming occupation/low sales would be those with sales less than \$100,000. Farming occupation/high sales would be those with sales between \$100,000 and \$250,000.

Other categories of small and underserved farmers are not addressed in the ERS definitions. One of these groups would be a farm with sales of less than \$250,000 that lists something other than farming as their principal occupation. Young or beginning farmers who aspire to become full-time farmers at a later time operate many of these farms. Some may classify these as the residential/lifestyle farms, but they are farming this way only as a means to move into commercial categories.

An additional issue with small farms, not captured in the census data, concerns multiple family farms. In many cases, these may be a parent and offspring farming together. The offspring would also have some sales of their own. This situation would be classified as two farms — one large and one small. However, in reality, this would only be one farm. A 1997 study in Iowa shows that 26 percent of all farms would be considered multiple family, and 35 percent of farms with sales over \$250,000 would be classified as multiple family.

There are two other groups that may not be considered full time farmers by the sales figure definition, but they control significant agricultural assets; especially farmland. A group that is greatly underserved is the farm widows. These are typically older women who may or may not be familiar with modern farming techniques. They often rent their land, but they do so without a firm understanding of the options, alternatives, and programs available.

A second underserved group is the farm heirs. These are most often absentee landowners who left the farm many years earlier. They want to maintain ownership of the farm, but they are not familiar with what can be done with their land; especially with respect to conservation options.

If legislation is to benefit the small and underserved farms, it is critical that there be a clear understanding of who will benefit from that help. Due to inadequate definitions, many of the currently defined “small farms” are not really farms at all, but

just happen to be home to someone who has chosen to live on acreage. A clear definition of the group requiring assistance will increase the probability that those for whom the help is intended will be the ones actually receiving it.

Assuming that the issues of definition can be clarified, there are three major activities that could be used to address the needs of small and underserved farms. There is some overlap in these areas, but making this distinction shows that there are many alternative approaches that could be employed.

## **Legislation**

Special standardized legislation is a tool that can be used to help the small and underserved farmer. The majority of government payments go to the large farms because the payments are based on production rather than on some other criteria. It is conceivable that the payments could be based on mechanisms that would tilt resources toward the small and underserved farms. The Conservation Security Act, which bases payments on using conservation measures, is one way to allow small farmers access to payments in relation to their contribution to some national goal. Another proposal could establish a minimum wage for farmers that varies depending upon the amount of family labor used for their farming operation.

Tax policies are another area where lawmakers could target small or underserved farms. For example, farms with some fixed cutoff in terms of total family income could have a certain amount of that income exempted from federal taxes. This would ensure that the help was given only to the targeted recipients. The tax benefits would end when the household income surpassed a certain amount, or when the farm exceeded a certain size.

New tax policies could benefit those who help a small or underserved farm by offering lower rent, use of machinery, or some other accommodation. In exchange for this help, the person would receive a tax credit. This would aid existing farms and assist in transitioning farm ownership to members of the next generation who lack the wherewithal to enter agriculture.

Legislation can also be used to help small and underserved farmers find the credit they need at

reasonable rates. Current Farm Service Agency rules require financial management training. Added oversight provisions could be added to assist the small and underserved farmers.

Existing programs designed to help small farmers are laudable, but too often they offer farmers very little oversight or advice. Capital is a necessary ingredient to a successful farming operation, but if that capital is misapplied or is available only through injudicious borrowing, it may not be possible to ever pay off the loan.

## **Research**

Research is another area where substantial changes could be made to target small and underserved farms. Currently, most research is being conducted without regard to its impact on different sizes of farms.

Research to aid small farms could take several forms. One form is to study the capital requirements necessary to produce agricultural commodities. Currently, the research is almost entirely geared towards increasing the capital requirements in agriculture.

The increasing technology costs include larger, high-cost equipment. Recent studies have shown that the cost of machinery is a significant factor in the difference between both small and large profitable farms and small profitable and unprofitable farms. Continued refinements in low-cost, smaller-scale machinery would provide small farms with more appropriate, low-cost options.

Another area where research could help small farms is in the development of new and alternative crops, as well as alternative uses for existing crops, such as biomass energy crops. The amount of funds spent on the development of different varieties, pest management practices, and fertility recommendations is almost nonexistent for alternative crops when compared to the amount being spent on existing crops. New crops could be developed that require less total inputs and, thus, could benefit small, limited resource farmers.

Additional research could focus on development of markets and market access for small farms. Agriculture is experiencing a substantial consolidation,

the bulk of which could be detrimental to the small farmer. Research is needed into how these mega-mergers impact the price of food, small farmers, and the environment. Research is necessary to examine the effects of agricultural consolidations from a systems perspective, not from the more narrow view currently being used by the U.S. Department of Justice when examining antitrust cases.

Given the current trends in agriculture, there appears to be considerable movement toward large-scale, industrialized-type production. There also is a movement towards more localized, farmer's market-type agriculture, fueled by the recent increase in community supported agriculture programs. These two types of systems now receiving attention represent the extreme ends of the farming spectrum.

Research is sorely lacking for those who occupy the middle ground; namely a considerable number of small farms. These in-between farms are what usually have been considered "family farms" where most of the income comes from the farm and farming is considered the principal occupation. These are the farms where the family provides the majority of the labor and capital used in the farming operation. How these farms can fit into a more regionalized market needs further investigation. Meat packers, lockers, distribution, production, and other factors are all areas requiring further investigation.

Research is also needed into the most appropriate way to reach the limited-resource farms and the underserved. There are a variety of ways that can be employed, but some will be more cost effective than others.

The U.S. Department of Agriculture and the individual states spend large sums on agricultural research. How these monies are spent has, and will have, an impact on which farms benefit the most. Developing more appropriate technologies and researching issues affecting small-sized farms will greatly enhance their prospects for the future.

## **Education**

Education is another area where special programs could be developed to assist the small or underserved farmers. Currently, there are programs

being offered, but more attention and resources could be committed to them.

One way to augment the educational efforts would be to clearly segregate the intended audiences. This would reflect the setting of new priorities, and it would help to determine the appropriate educational responses and needs of the target audiences. For example, limited resource farmers will have different needs than widowed landowners. Specifically targeting the audiences will improve the educational experience.

Method of delivery is one of the issues that needs to be addressed in meeting small and underserved farmers' education needs. The new farm bill could provide funding to help educators offer a variety of delivery methods. Small farmers are more likely to have off-farm employment, and are less likely to be available for a traditional meeting held during the day. There will need to be more offerings on weekends and at times when these audiences are most likely to be available. Additionally, alternative methods for advertising and promoting programs need to be considered.

Delivery methods must include nontraditional methods such as web-based programming, videos, and so forth. There needs to be adequate funding to ensure that these programs can be developed and disseminated.

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## Conclusion

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Small farms make up the majority of U.S. farming operations. Much of the criticism that these farms are merely hobby farms could be allayed if the definition of a farm was changed. Similarly, if one adopts the goals of creating healthy rural communities, protecting the natural resource base (small farmers control the bulk of U.S. farmland), and guaranteeing food security (ensuring that food production is not concentrated in too few hands), then programs and special assistance for small farms may be justified.

Besides having a more realistic definition of what constitutes a farm, it is important to recognize that there are several different types of small and underserved farms. Each category has unique

attributes and special problems. If we carefully gear programs to selected groups, we will be more likely to achieve the desired outcome.

In many instances, what small farms need are not new programs, but adequate funding for the programs now in place. The small and underserved farmers of the United States need to know that there is a real desire to work with them and serve them.

The 20<sup>th</sup> Century was marked by the drive to increase agricultural output, increase labor efficiency, and move people off the farm so they could be employed in other occupations. Society is realizing that the small farm occupies a unique niche in the American landscape, and that it deserves special attention. Even if one does not feel that the small farms deserve special consideration, government policies, research, and legislation should not penalize them.

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# Programs for Nontraditional Commodities

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## Introduction

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Traditionally, farm program payments/subsidies have been directed toward a set of basic commodities that account for about 54 percent of acres on which crops are grown. These basic commodities included corn, sorghum, barley, oats, wheat, rice, and upland cotton. Soybeans and associated minor oilseeds accounting for another 23 percent of total crop acres had a loan rate/marketing loan program. In 1998, soybeans and minor oilseeds were added to the list of commodities eligible for direct payments.

Direct payments were generally not made for livestock or for fruits, vegetables, or nuts until 1999. In 1999 and 2000, direct payments were provided for hogs and milk producers as a result of low prices. In the past, payments have been made for specified activities; for example, the dairy buyout and pseudo rabies in hogs.

However, subsidized crop insurance benefits have been provided to an increasing number of fruits and vegetables, as well as protection afforded the flexibility provisions of the 1996 Farm Bill. In addition, fruit, vegetables, nut, and milk producers have been eligible for marketing orders. In 2000,

direct payments were added for apples, onions, cranberries, honey, peanuts, and tobacco. Payments for nontraditional crops in FY2000 totaled about \$256 million. When livestock and dairy are added, the additional spending amounted to around \$1.2 billion. The bulk of these payments were added by the appropriations process rather than through traditional farm bill authorization procedures.

In its 2001 annual meeting, the resolutions of the American Farm Bureau Federation called for continued extension and even further expansion of program benefits to nontraditional crops. In House Agriculture Committee hearings, commodity groups, including dairy and fruit and vegetable industry representatives, asked to be included in farm programs.

The purpose of the remainder of this paper is to describe the options and consequences of extending direct payment provisions to nontraditional program crop commodities.

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## Options and Consequences

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This section discusses the options and consequences for handling direct payments to nontraditional commodities. Each of these options assumes that subsidized crop insurance would continue to be expanded to nontraditional commodities.

### Status Quo

This option provides direct payment subsidies on an ad hoc or as needed basis. The decision regarding need continues to be made primarily by the Agriculture Appropriation Subcommittees of the House and Senate Appropriations Committees.

Rather than institutionalizing nontraditional commodity payments, this option reflects need through the political process. Who gets payments and how much they receive is a function of the effectiveness of individual commodity groups in lobbying. The result can be argued to be a relatively unlevel playing field in terms of the incidence of direct payments. That is, those in the greatest need may not get payments by virtue of their lack of effective political organization and representation.

From an economic perspective, ad hoc payments have both stabilizing and destabilizing elements. They are destabilizing in that they cannot be a part of a farmer's planning process. They are stabilizing when given to those commodities/farmers in the greatest need. However, if given to farmers where the need is not as great, they become destabilizing in that unwarranted production is encouraged.

### No Payments for Nontraditional Commodities

This option would end payments for nontraditional commodities. The rationale for this option lies in the reasons why many of these nontraditional commodities did not have direct payment subsidies for

much of the period since the 1930s when farm programs were first initiated, including:

- Many of the nontraditional commodities have other programs available that are designed to provide stability. These include state or federal marketing orders for dairy, fruits, and vegetables. Such programs have been sharply criticized because they restrict supplies and/or practice price discrimination. However, those criticisms/consequences now need to be weighed against the potential cost of the alternative programs discussed in this article.
- In other instances, such as dairy, the case for ad hoc payments was questionable because both marketing order and price support programs remained in effect.
- Nontraditional commodities benefit from programs on the basic commodities. For livestock, including hogs and dairy, these benefits are in the form of low purchased feed prices. In the case of fruits, vegetables, and nuts, basic commodity programs attract acreage from nontraditional crops and, thereby, raise their prices. Flexibility provisions of the 1996 Farm Bill and its predecessors prohibited AMTA producers from using the flexibility provisions to grow fruits, vegetables, and nuts unless there was a production history.
- A consequence of this option includes, in some instances, a reversion to programs such as marketing orders that have been the subject of substantial criticism. Alternatively, producers of these commodities would be required to live with the higher level of risk that is inherent in the production of fruits, vegetables, nuts, or even livestock. Risk management options including contracts, forward pricing, and cooperatives that are commonly used in these sectors could be expected to receive even greater emphasis if this option were pursued.

## **Institutionalize into the Farm Bill**

This option involves writing the conditions for direct payments for nontraditional commodities into the 2002 Farm Bill. At a minimum, such provisions would need to specify the eligible commodities; the types of payments; the triggering mechanism for payments; the payment levels or the formula for determining payment levels; and any payment limitation provisions. Since the commodities involved are quite different, these provisions would likely need to be decided upon and spelled out for each commodity. For the basic commodities, this task has been assumed by the authorizing Agriculture Committees. Alternatively, it could be deferred to the Secretary of Agriculture with general guidelines being specified.

The consequences of this option involve considerably higher levels of government involvement in agriculture, the potential for increased production, and resulting lower market prices. While returns to producers might be more stable, there is no assurance that they would be any higher overall. The potential government costs associated with this option will be discussed in the final section

## **Whole Farm Revenue Insurance**

This option is discussed in greater detail in the Counter-Cyclical Whole Farm Safety Net paper in this series. In essence, it involves the government offering all farmers a whole farm revenue safety net. This safety net would insure whole farm gross revenue from agricultural commodities at some percentage of historical revenue — say, 90 percent of the five year olympic average. The percentage could differ between types of farms. The federal government could share the cost of the safety net.

The reasons for considering such a program include:

- The potential for greatly simplifying farm programs in the face of commodity proliferation. In essence, all subsidy programs could be consolidated into a single safety net.

- The reality that revenue variation is less for a whole farm than for individual crops, unless, of course, the farm produces only one commodity. As a result, the risk of payment by the government could be reduced, depending on the percentage of revenue coverage.
- The potential for transferring some of the risk to the non-farm sector through insurance underwriting by the government.

Aside from the reality that whole farm safety net arrangements would be new, any government program that reduces risk and is subsidized has the potential for increasing production and reducing market prices. However, if the goal of government policy toward agriculture is to give all commodities safety net protection, this may be the most simple and equitable way to do it.

## **Quantifying Potential Costs**

The potential magnitude of government costs for nontraditional commodities may be thought of in terms of the size of these commodities relative to currently supported crops. Table 1 contains acres and values of the current program crops, other field crops, and fruits and vegetables for the 1998-2000 crop years. Direct government payments averaged \$13.6 billion over the 1998-2000 period, or 27.5 percent of the average program crop value over the period.

Applying the 27.5 percent to the non-program crop values results in an additional \$12.5 billion in spending to match the level of spending on the program crops. In other words, to support the rest of crop agriculture at the same level relative to program crop values would have required an additional \$12.5 billion in spending annually over the last three years.

This does not include livestock agriculture. Livestock, poultry, and milk generated a value of \$80 billion annually over the 1997-1999 period. Direct payments relative to value of production, as in the crops above, would result in an additional \$22 billion of spending. Even if supported at a level equivalent to the \$4 billion base, spending would result in a significant amount of additional government cost.

**Table 1. Acreage and Value of U.S. Crops and Direct Government Payments, 1998-2000.**

Year	Acreage Planted (1,000)			Value (\$1,000,000)		
	1998	1999	2000	1998	1999	2000
Program Crops (2)	255,604	251,390	254,688	46,795	43,092	45,138
Other Field Crops	74,380	78,167	73,762	23,778	22,480	21,790
Vegetables	1,974	2,053	2,253 (1)	9,426	9,208	10,755
Fruits and Nuts	1,880	1,884	NA	11,212	12,293	12,366
Direct Government Payments				8,000	12,200	20,600

(1) 2000 data includes six new crops added to statistics.

(2) Corn, Sorghum, Barley, Oats, Rice, Cotton, Wheat, and Soybeans

Source: USDA, NASS, Crop Production, Various Issues, Crop Values, Various Issues.

Another method of looking at potential level of support is to look at the current level of support provided by the loan rate relative to variable production costs. The level of loan rate support as a percent of variable production costs ranged from approximately 1.06 for cotton to 2.2 for soybeans based on year 2000 data. Typically, fruits and vegetables have very high per acre production costs relative to field crops. That would indicate that support at the same relative level of support as current commodities could be an expensive proposition.

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## References and Suggested Readings

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USDA, National Agricultural Statistics Service. Crop Values. Various Issues.

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## Summary

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Nontraditional program supported crop and livestock agriculture generates values in excess of current program crops. Non-program crop value was about equal to program crop value in 1999 and less in earlier years. Livestock, poultry, and milk value exceeds that of crop agriculture. In order to achieve specific objectives, potential policy options will have to carefully weigh the relative costs among these crops.

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