

Policy Issues Meriting Discussion in Connection with the 2007 Farm Bill*

by Neil E. Harl**

The end of the 2002 Farm Bill marks 75 years under a national food and agriculture policy, which was a radical idea in 1933. Although the farm policy legislation during much of this period was shaped by the Agricultural Adjustment Act of 1938, the entire period has been characterized by legislation designed to bring a modicum of stability to the agricultural sector by focusing heavily on the so-called program crops.

During the last dozen years, under the 1996 and 2002 farm bills, stability was sought by drawing upon the U.S. Treasury to replace part of the lost income from low prices, which proved to be costly. Indeed, the cost is now widely viewed as politically and fiscally unacceptable against a backdrop of \$425 to \$500 billion deficits and a serious WTO challenge.

For the period of more than half a century before that dramatic shift, stability was sought by commissioning the Secretary of Agriculture, within statutory authority, to be the surrogate CEO of the agricultural sector with powers to seek a balance in demand and supply of program crops by idling land, administering on-farm and commercial commodity storage programs and participating in various commodity disposal programs.

First, I want to examine the shortcomings of the 1996 and 2002 farm bills and how the upcoming legislation could be shaped. Second, I want to examine the politically sensitive issue of whether federal farm program payments should be capped. Third, I want to shift our sights slightly and look ahead a few decades and attempt to make the case for a global food and agriculture policy for the next century.

I. Fine-Tuning the 1996 and 2002 Farm Bills

Although the last two farm bills have been popular among producers participating in the program, the legislation has been less popular among U.S. taxpayers, Third World producers and the World Trade Organization. While it is unrealistic to expect any law to be universally popular, the shortcomings of the 1996 and 2002 farm bills appear likely to lead to significant changes in the 2007 legislation.

Budgetary impact

It has been painfully obvious that farmers, acting individually, do not adjust to low commodity prices as neoclassical economics would suggest. This was clear in the 1920s, when the prevailing view was that there was no room in the pantheon of federal policies for a national food and agriculture policy. It was also clear in the late 1990s and the early years of the twenty-first century under farm bills that assumed exports would boost demand sufficiently so that there

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was no need for downside protection. We learned a very important lesson in 1998 and 1999 – in Congress, low commodity prices trump ideology every time. The result was ad hoc funding to replace part of the lost income, boosting federal spending for agriculture to record levels.

If an objective is to replace part or all of the lost income of producers when commodity prices fall to low levels, it is exceedingly expensive for commodities with an inelastic demand, where an increase in supply rewards the producers with a disproportionate drop in price and in profitability.

The cost of federal farm programs would be notable in any era, but it is especially jarring at a time of record-setting federal budget deficits from tax cuts, fighting a war in Iraq and Afghanistan, repairing the damage caused by 9/11 and rebuilding the Gulf Region after the hurricanes this year. The current and projected deficits are not sustainable economically or politically. Agriculture is expected to make a significant contribution to closing the deficit. Moreover, the agricultural sector has a substantial stake in rational fiscal (and monetary) policies which are at risk if current deficit levels continue.

Distortions in resource allocation

Any attempt to stabilize the sector runs the risk of distorting resource allocation, but stabilizing the sector through replacement of part of the lost income is massively distortive as the outcome in some years is production and sale of commodities well below the cost of production. That has been the case for much of the period since 1997.

The result is a taxpayer subsidy for firms using below-cost agricultural commodities as inputs and artificially low prices for the resulting products in the hands of consumers. Moreover, it results in overproduction for subsidized products.

Farm commodity legislation has been criticized for decades for causing distortions, but no farm bills have managed to achieve the level of economic distortion reached in the 1996 and 2002 legislation.

Impact on Third World producers

A policy of all-out production in the United States has had negative effects on producers in Third World countries, which has contributed to a breakdown of trade negotiations and has fueled WTO pressures to reform commodity programs.

Production of program crops in the United States, boosted by a robust stream of technology, has driven down prices for program commodities worldwide. In the U.S., part of the lost income is made up by generous subsidies from the U.S. Treasury. But in countries that cannot or will not make up lost producer income in those countries, low commodity prices pressure land values and drive down returns to producer labor and management. Workers then leave the land, exacerbating social problems in large cities, and often stunting economic development which frequently begins with improved agricultural productivity. The U.S. market share increases, but partly at the expense of Third World economic development.

Impact on U.S. land values

The evidence is convincing that a significant portion of the subsidies is being bid into cash rents and capitalized into land values. It is not possible to justify present land values on

the basis of commodity prices existing from 1997 to 2003. If investors were to expect less federal funding—or none at all—land values would likely decline, perhaps by as much as 25 percent. The drop would be severe if withdrawal of subsidies were abrupt. After all, land values are based heavily on expected profitability of the dominant crops in the area plus expected government payments and non-farm development pressures.

Some have argued for a deliberate withdrawal of all subsidies with land values falling to a new lower level in the interest of competitiveness with other countries. Equilibrium would eventually be reestablished near present levels for returns to labor and capital. But returns to land would almost certainly be reestablished at lower levels on a more or less permanent basis. While that might be appealing to some, the ride down would be rough, with some areas experiencing a decline rivaling that from 1981 to 1986.

Yet, the awesome part of this is the growing vulnerability of the sector to just such an adjustment.

Even with the sharp declines in land values, the pressure on prices would continue as supply fluctuates. Technology likely will push the supply curve to the right faster than demand is likely to increase.

Those who point to high land values as a factor in international competitiveness are wide of the mark, however. It's been clear since repeal of the Corn Laws in Britain more than a century and a half ago that land values are price determined, not price determining. Land values are not properly viewed as a cost of production but as the result of expected profitability.¹ Producers in every country are expected to bid profitability into cash rents and capitalize the amounts into land values. Land values in the United States are influenced by (1) expected crop profitability, (2) the anticipated level of government payments and (3) other factors including development pressure. Thus, the presence of higher land values in the United States than in Brazil should not be viewed as a problem. What will drive down land values is a decline in expected profitability or a decline in government payments or both.

II. Shaping the 2007 Farm Bill

U.S. agriculture has a huge capacity to produce, indeed to overproduce. Agriculture is one of the few sectors that does not and cannot control all of the variables affecting output. For the agricultural sector, a major uncontrolled variable is weather. We have been very clever in developing new, higher-yielding seed varieties; building ever more efficient machinery and equipment; and even improving management capabilities. But we haven't been able to extend our cleverness to influencing the weather. That factor has assured significant yearly fluctuations in the supply of farm commodities.

Those fluctuations aggravate agriculture's systematic tendency to overproduce. Public and private investments in technology and other output-increasing factors often expand agriculture's ability to produce faster than new demand markets can be created.

In addition, land as a fixed resource plays a central role in encouraging production even when commodity prices decline. Not until commodity prices fall below variable costs is land likely to be left idle.

¹ See Baumel, C. Phillip, Kelvin Leibold, Robert N. Wisner, Neil E. Harl and Marty McVey, "Midwest Soybean Producers Can Compete with Brazil," *Feedstuffs* 74(2), January 14, 2002.

Finally, producers are so numerous that no single producer can affect price with his or her output decisions. That sets agriculture well apart from those areas of production such as steel, automobiles or oil where the number of producers is sufficiently small that one producer's output does affect price, so adjustment to overproduction typically leads to the idling of production facilities.

The Secretary of Agriculture as surrogate CEO

Through the 1920s, a difficult decade for U.S. agriculture, these arguments were made repeatedly, with many calling for a national food and agriculture policy to deal with the unique character of agricultural production. However, until the 1930s there was not sufficient consensus to adopt a national food and agriculture policy. Under the legislation enacted in the 1930s, the Secretary of Agriculture was to function as the surrogate CEO of the agricultural sector with respect to the major program crops (corn, soybeans, wheat, cotton, rice, peanuts and tobacco), milk (through various program initiatives), and fruits and vegetables (through marketing orders).

The architecture of farm policy from 1933 through 1996 (as written into the Agricultural Adjustment Act of 1938)² featured authority granted to the Secretary of Agriculture to attempt to balance demand and supply. The Secretary was given specific authority to idle land, implement commodity storage programs, establish marketing quotas for some crops and to encourage exports of commodities including food relief programs and sales of farm commodities for soft currencies.

Therefore, from 1938 to 1996, the Secretary's authority to act as the surrogate CEO of agriculture was supported by permanent legislation (the 1938 and the 1949 Acts). After 1996, the Secretary's authorities were suspended (but not repealed) in the 1996 and 2002 farm bills.

In the years when the Secretary of Agriculture had surrogate CEO authority, price swings were moderated through the use of storage programs and land idling. The costs for the stabilization program were relatively modest compared with the costs incurred after 1997.

The shift back to the 1938-1996 pattern of stabilization for the agricultural sector would be much less costly, less distortive and less disruptive of Third World economic development.

Strict limits on program payments

The experience with massive subsidies under the 1996 and 2002 farm bills indicates that the benefits of federal farm programs (to the extent such programs continue) should be shaped to eliminate the advantage of the largest operations in using their economies of scale to bid up cash rents and land values, to the detriment of midsize and smaller operators. Gains from efficiency from the largest operations are not passed along to consumers. Gains from bigness go heavily to acquire additional land. Thus, federal funds are being used to help the largest operators become even larger, and there's little public interest in supporting that result.

The farm program should not be an entitlement for all producers and for all production, regardless of farm size. Payments should be maintained as far as possible for family-size operations. At a time of low margins in agriculture, a modest population of large, lower-cost operators in a regional land market can (and apparently does) affect farmland values and rental rates. It is not in the public interest to allow large operators to influence farmland values and rental rates with the use of government payments. There is evidence in economic theory that the gains from efficiency of the larger operations are used to bid up the most limiting factor of

² Pub. L. No. 75-430, 52 Stat. 31 (1938), now codified as 7 U.S.C. § 1281 et seq. 1358(a)-(j).

production, which is usually land. This is accomplished by bidding up rental rates, some of which are then capitalized into land values.

Research by the Food and Agricultural Policy Research Institute (FAPRI) of the University of Missouri and Iowa State University on the effects of further payment limitations demonstrates that even the effects on acreage for rice and cotton would likely be modest under baseline price projections.³ There could be a small decline in national farmland values. If producers affected by the marketing loan limits have substantial economies of scale, then further limits could be absorbed with little restructuring. Because some affected producers may not have substantial economies of scale, a three- to five-year phase-in could be utilized. Producers also could mitigate risks by using hedging and other risk management tools to protect against the effects of periodically low prices, such as those that have occurred in recent years.

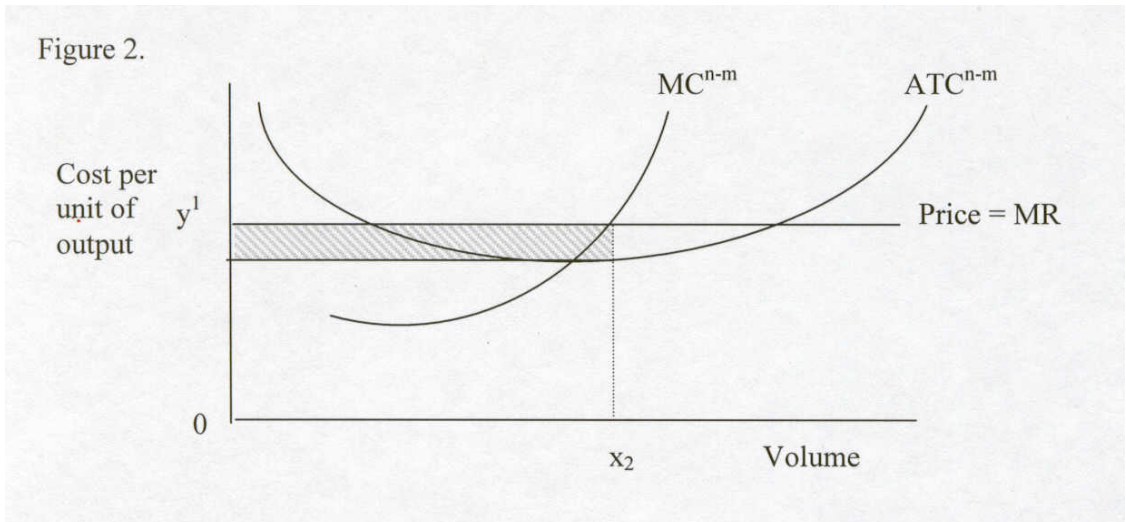
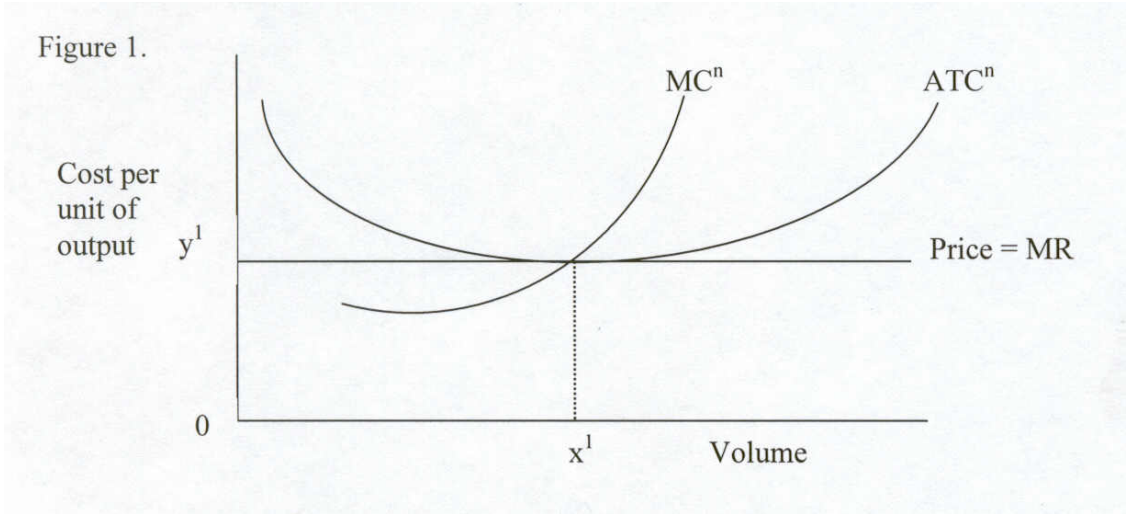
To the extent that farm consolidation is slowed with further payment limits, that should be beneficial to rural communities. Effective payment limits have little effect on overall farm efficiency.

As shown in Figure 1, it is conventional wisdom that firms in perfect competition face a price/marginal revenue curve that does not change as firm output increases. There is mounting evidence that larger firms may receive a higher price for their products, partly related to scale of production, and lower costs for inputs. Nonetheless, the long run average total cost curve for the least efficient firm in production is positioned such that normal profits are earned for its inputs. The price of commodities, for firms in perfect competition, is determined by the price required to induce the output demanded.

Assume first, a subsector of agricultural production where all n firms have identical cost curves, as shown in Figure 1. The firms would all produce at output x_1 where $MC^n = MR$ with price y^1 . All factors of production (land, labor, capital and management) would earn ordinary profits.

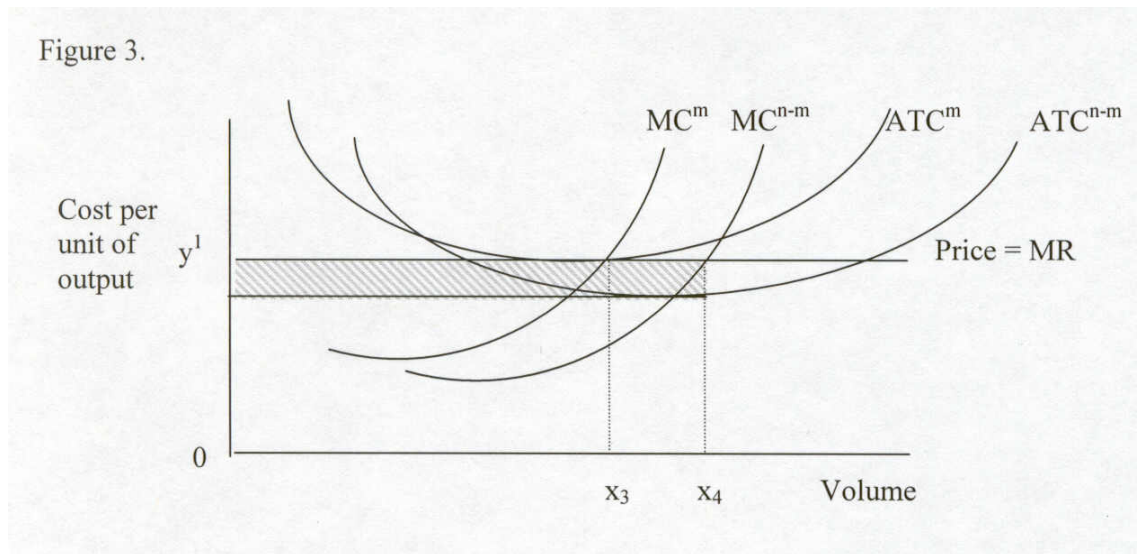
However, the lower cost producers, whether because of scale or more efficient production, with lower costs, earn producer surplus or "superprofits" as shown in Figures 2 and 3. Assume $n-m$ firms have lower costs from economies of scale (from internal firm efficiencies, lower cost for inputs or a premium price for the sale of commodities). Those lower cost firms would produce at $MC^{n-m} = MR$, at price y^1 , and would produce x_2 output as shown in Figure 2. That would produce "superprofits" represented by the shaded area. Those superprofits would be bid into the price of whichever factor of production is most limiting—usually land. However, at various times and circumstances it has been water, management, labor, capital (in eras of severe capital rationing) and even technology (for early adopters). This means the producer surplus or superprofit tends to be bid into cash rents and, ultimately, capitalized into land values. This process tends to put access to land beyond the reach of mid-size and smaller operations.

³ Food and Agricultural Policy Research Institute, University of Missouri, "FAPRI Analysis of Stricter Payment Limitations: Additional Information," June 2003; Food and Agricultural Policy Research Institute, University of Missouri, "FAPRI Analysis of Stricter Payment Limitations," Testimony to the Commission on the Application of Payment Limitations, FAPRI-UMC Report #05-05, June 2003.



Unless all demanded output can be satisfied by the lowest cost firms ($n-m$), the price (and the presence of superprofit) induce other firms, some with higher costs, to enter production until, at the margin, there are no superprofits. Therefore, in a stylized manner, the lowest cost firms would be represented by average total cost curve $n-m$ and the last firm to enter production (with ATC tangent to the price line) would have an average total cost curve of ATC^m (for the n firms in production that not least cost firms). The lowest cost firms ($n-m$) would still be earning superprofits, as before, and the highest cost firms would just be covering their costs as shown in Figure 3. Those firms would be producing at $MC^m = MR$ and producing at output level x_3 with each factor of production earning normal returns to the factor with no superprofits.

Figure 3.

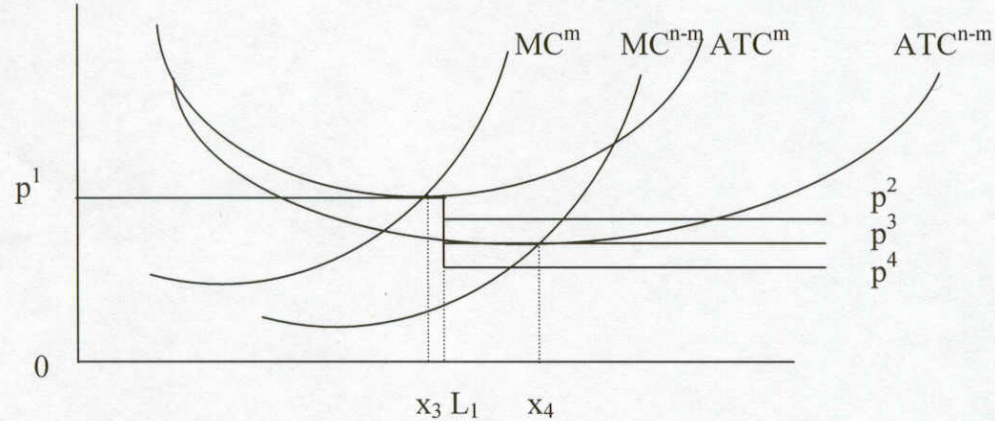


The lowest cost firms would be producing at $MC^{n-m} = MR$ at output level x_4 . Those firms would be generating superprofits shown by the shaded area.

Thus, price generally rises to the level needed to induce marginal firms into production. The economies of scale of the low cost firms are relevant in determining the level of superprofits. That is why strict payment limits would tend to reduce the value of whatever factor of production (usually land) into which superprofits have been bid. The economies of scale are not relevant for purposes of determining the price of food (unless all firms that can and do enter production have the same cost curves).

After imposition of strict payment limitations (at L_1 in Figure 4), there would be some change in costs, but the major impact would be on the effective "price" received for program commodities by the larger, presumably lower cost, firms. As shown in Figure 4, the effective price line could be above, tangent with or below the minimum point on the long run average total cost curve for the lower cost firms.

Figure 4.



If the effective price line (p^3) were tangent with ATC^{n-m} , no structure adjustment would be necessary. Factors of production would earn normal returns but no superprofits would be generated. If the effective price line (p^2) were above the point of tangency with ATC^{n-m} , some superprofits would be generated. In the event the effective price line (p^4) were below the point of tangency with ATC^{n-m} , some structural adjustment would be expected, long-term. That would depend heavily upon the expected probability that p^4 would lie below the point of tangency with ATC^{n-m} and for how long a period. Utilization of risk management strategies could reduce or eliminate the need for structural adjustment unless the period of price adversity is prolonged.

Thus, strict payment limits will reduce the producer surplus or superprofit, as shown in Figure 4. The effects shown in Figure 4 by the curves p^2 , p^3 and p^4 illustrate the impacts of a phase-in of strict payment limits. Essentially, the importance of strict payment limitations would eliminate some of the superprofit or producer surplus for larger lower cost producers which is currently being used to bid up cash rents and farmland values.

Philosophically, the issue comes down to whether federal farm program payments should be viewed as welfare (in which case the payments would be capped) or as an entitlement program (in which case payments would be made regardless of size or scale of the producer or the eligible "person.")

Federal farm program payments have been limited since 1973 but the Congress (statutorily) and the U.S. Department of Agriculture (administratively) have tacitly or otherwise specifically provided for or condoned "escape hatches" for those impacted by payment limitations. Those limits currently are \$40,000 per person for direct payments, \$65,000 per person for countercyclic payments and \$75,000 per person for marketing loan gains.

Eliminating the opportunity to create persons. Current law on "person" determinations is confusing, complex and fairly easily circumvented. Indeed, a cottage industry has been formed to advise producers of ways to create "persons."

The Commission on the Application of Payment Limits for Agriculture, in 2003, stated that "attributing payments directly to individuals (human beings) could improve program transparency, program administration, and farm business efficiency."⁴

⁴ Report of the Commission on the Application of Payment Limits for Agriculture, August, 2003, p. 12.

Strengthening the current criteria for determining eligibility of persons. The Commission also pointed out that the difficulty in measuring management and determining compliance has resulted in a "very low threshold for qualifying for payments."

The Commission noted that this concern could be addressed "by combining the active personal labor or management criterion into a single criterion: active labor and management."

Marketing loan benefits. The Commission was divided on the issue of reforming the marketing loan benefit rates.⁵ In my view, those rules should be changed to provide for parallel treatment for all four types of marketing loan benefits.

Currently, loan deficiency payments (based on direct cash payments to the producer of the difference between the commodity loan rate and the posted county price or the adjusted world price) and marketing loan gains (based upon repayment of Commodity Credit Corporation loans at the county posted price or the adjusted world price) are both subject to the \$75,000 payment limitation for that type of benefit. However, gains from repayment of CCC loans with commodity certificates and gains from forfeiting commodities to CCC in integration of the CCC loan do not count against the payment limitations. In 2001, the gains from using commodity certificates to pay off CCC loans totaled \$1,974,000,000, 98 percent of which went to cotton and rice producers.

This result could be accomplished by making marketing loans nonrecourse up to the payment limit and recourse above the limit.⁶

It should also be noted that income tax reporting of the gains from marketing loan repayment is also asymmetric. Gains from loan deficiency payments, marketing loans repaid without the use of certificates and gains from forfeitures are reported to the Internal Revenue Service and the taxpayer on an information return.⁷ Gains from repaying CCC loans with commodity certificates are not reported to the IRS or the taxpayers.⁸ IRS agrees that all four options produce taxable gain but is unwilling to order Form 1099 reporting to IRS and the taxpayer from paying off CCC loans with commodity certificates.⁹ That response has been criticized.¹⁰

Clearly, Congress should intervene and legislate to the effect that all four options, representing equivalent ways to obtain marketing loan benefits, should be treated comparably. That is not the case at present.

Consequences of shifting to conservation-based payments

A great deal of attention is being given to shifting from commodity-based programs to conservation-based programs. While such a move would have considerable appeal by reducing the impacts on trade, a shift of this nature would have profound economic consequences.

As noted, commodity program payments have, over time, come to be capitalized into land values. The effect of government payments on land values varies by region of the country.

⁵ Id. at 13.

⁶ Id. at 14.

⁷ See Harl, Neil E. and Roger A. McEowen, "Inconsistency in Handling Farm Income?" 99 Tax Notes 923 (2003).

⁸ Id.

⁹ IR 2004-38, March 18, 2004.

¹⁰ Harl and McEowen, "Inconsistency in Handling Farm Income: One More Time," 103 Tax Notes 476 (2004).

It is now widely believed that as much as 25 percent or more of land values is attributable to government payments.

To illustrate the shift, assume two sections of land (640 acres each). One we'll assume is a non highly erodible, highly productive, flat tract with a high level of commodity payments. The other section is characterized by rough terrain, steep slopes, and thinner soils. The first tract is receiving \$40 per year of payments; the second tract has been averaging \$15 per year in payments.

If an abrupt shift were to occur in payments, away from being commodity-based and to a conservation-based approach, it would be expected that the value of the most productive section would decline and the value of the least productive section would rise. Nationally, the outlays could well be the same, but the micro effects would be substantial.

This is why, so long as a substantial part of commodity revenue is derived from federal farm programs, and so long as land values are affected significantly by federal farm program payments, any shift toward a conservation-based policy should, if possible, be phased in over a period of years.

III. A Global Food and Agriculture Policy¹¹

Eighty years ago, the Congress and the country were locked in a rancorous debate; is there a place for a national food and agriculture policy in this country? It was a pressing matter at the time—the prosperity of the pre-World War I era had given way to sharply lower commodity prices, leading to the 1919 crash in land values. Congress in 1921 had moved cautiously to enact legislation cracking down on futures trading abuses; to pass the Packers and Stockyards Act in 1921 which addressed anti-competitive practices in meat packing and processing; and to adopt the Capper-Volstead Act in 1922 which, for the first time, provided a framework for farmers to bargain collectively in producing and marketing their products.

But efforts to raise commodity prices and stabilize the sector were fruitless until the 1930s. By that time, the well-known head of the Bureau of Agricultural Economics, H.C. Taylor, had been fired for speaking out on the need for a new farm policy and the country had been through lengthy and boisterous debates about the McNary-Haugen bill and other proposals to raise commodity prices domestically.¹²

The 1930s brought a sea change in thinking about farm policy. The desperate economic state of the country (as well as the decade-old economic problems of the agricultural sector) generated enough political support for a bold shift in farm policy. The Secretary of Agriculture, Henry A. Wallace, was given unprecedented power to attempt to balance demand and supply, soil conservation legislation was passed, bills to provide credit for agriculture were enacted and rural electrification was given a huge boost.

U.S. agriculture was at a crossroads in 1933 and the country chose to move aggressively toward a national food and agriculture policy.

Need for a global food and agriculture policy

¹¹ See Task Force Report, Leopold Center for Sustainable Agriculture, *Toward a Global Food and Agriculture Policy*, Iowa State University, available at <http://www.leopold.iastate.edu/pubs/staff/policy/globalag.htm>.

¹² See Taylor, H.C., *A Farm Economist in Washington: 1919-1925* (1992).

Today, U.S. agriculture and the agricultural sector around the world stand at a different crossroads. The pressing question now is whether there is a place for a global food and agriculture policy. It is our firm belief that the answer to that question must be yes. The most pressing reason is that the United States (and the world), have grown much wealthier over the past century, and now have the means at hand to move toward ending the biggest problem facing the human family since the beginning of time—death from starvation and malnutrition. To achieve that goal, which has eluded every generation since the dawn of civilization, will require an enormous effort.¹³ The place to begin is with adoption and implementation of a global food and agriculture policy. The Seattle, Doha and Cancun World Trade Organization (WTO) meetings are markers in what can be a long march toward an era of adequate diets for everyone on the planet.

Also, not only has the world become wealthier in the past half century, it has become dramatically more integrated through trade, the emergence of transnational firms involved with input supply and output handling and processing and a burgeoning capital market that tends to knit the world together through a myriad of commercial transactions on a daily basis.

Components of a global food and agriculture policy

To be assured of any measure of success, a global food and agriculture policy should address several key policy problems.

Third World economic development. The three greatest barriers to eliminating starvation in the world are income, income and income. Inadequate food production has not been a problem for several decades. The problem now is that food, understandably, is produced and distributed almost universally in a market economy and those without an adequate income cannot access the market for available food. If food production were doubled, there would be substantial numbers of poor families that still could not afford an adequate diet.

In a *New York Times* article examining the causes of hunger, "Why Famine Persists" (July 13, 2003), Barry Bearak noted that "Families starve because families lack money. In most cases, it is that simple."

Studies have shown that, in Third World countries, as much as 70 to 75 percent of additional income is spent on food. It is truly the last frontier for increasing food demand. That's why boosting Third World development makes sense for the major food producing countries as well as for the low-income peoples of the world.

For these reasons, strong support for Third World economic development is viewed as the most critical of the components for a global food and agriculture policy. It is in the interests of First World countries, as well as Third World developing economies, for global attention to be focused on Third World economic development. Unfortunately, some countries, notably those in Central Africa, are unable to position themselves in the development queue that has allowed several other countries to make better use of their scarce resources, particularly labor, to boost incomes and move to a higher level of nutritional adequacy.

Food safety. Even though food supplies have probably never been safer, there is more concern today about food safety than at any time in the modern era. Much of the concern in

¹³International Policy Council on Agriculture Food and Trade, *Attaining Global Food Security by 2025*. Position Paper No. 3, November 1996.

the United States relates to imported food.

But, globally, concerns about mad cow disease (BSE), hoof and mouth disease, *E. coli*, dioxin, pesticide and herbicide residues and feed additives for livestock have all registered with consumers. In countries where there is a high level of confidence in regulatory agencies, the concerns have been relatively less. It is in the global interest for food production and handling practices to be consistent with a policy of providing a safe and nutritious food supply for everyone. Clearly, we need a global reach to assure that foodstuffs are safe regardless of where they are produced.

Food security. The United States has not suffered periods of food inadequacy for a very long time. The nation's food producing potential and the presence of rational food distribution policies have allowed us to sidestep the food security issue.

But other parts of the world have not been as fortunate. Many areas have known food shortages, sometimes exacerbated by interruptions in food imports at times of reduced production. Indeed, there are numerous countries in the world that have faced food shortages within the memories of the living. An even greater number of countries have experienced periods of food scarcity to the point of widespread hunger within the past century and a half.

Clearly, political and economic instabilities have caused many countries (including some that have not experienced serious hunger problems in recent decades) to pursue food and agriculture policies with food security in mind.

Sharing germ plasm. Some countries, mostly in the tropics, are concerned about loss of germ plasm to the rest of the world. That problem is complicated and amplified by the concentration occurring among firms producing improved varieties of genetically modified seed. Moreover, the concerns also relate to the ability of aggressive commercializing firms to seek and obtain intellectual property rights protection which may have the effect of denying access to germ plasm except on a licensing basis.

Conservation and the environment. Concerns are voiced regularly over the impacts of industrial food production on the environment. The effects of the use of commercial fertilizers on water supplies (such as hypoxia in the Gulf of Mexico) are a highly visible example of that problem. The consequences often spread well beyond the country in which the farming practices in question are carried on. Farming practices are helping to drive deforestation, air and water pollution, ocean degradation and species loss which some characterize as a serious long-term environmental threat.

International trade. The gradual demolition of trade barriers, which is far from complete, has contributed to the "globalization" of economic activity on the planet. There are sound, widely accepted reasons for encouraging the reduction of trade barriers with each country pursuing the production of foodstuff and fiber products for which that country has the greatest comparative advantage. While there are unquestioned economic gains from freer trade, there are pressing issues relating to the economic adjustments necessitated by freer trade, compensation for those displaced in the process and the question of whether the gains are absorbed disproportionately by firms that dominate commodity trading worldwide.

An economic theorem holds that if capital can flow freely across national boundaries, if

goods can pass without limitation or restriction across national boundaries and if technology is equally available everywhere, the returns to labor and land (of the same quality) should be the same everywhere. This "leveling" in terms of returns to labor and land is profoundly disturbing, particularly to countries seeking to maintain a premium standard of living. Many concede that a premium standard of living is only possible by (1) generating a steady stream of technology that is "milked" for its income-boosting features (which is becoming increasingly difficult as commercializing firms seek to maximize their worldwide revenues from new technologies as soon as possible); and (2) investing in education for their population such that the quality of the labor force justifies premium compensation.

Coping with excess supply. Occasionally, production worldwide exceeds the market demand for food products. The predictable result is low world prices. Part of the problem contributing to the breakdown of discussions in Cancun was that all-out production in the United States, coupled with a robust stream of technology, boosted production and dropped commodity prices well below the cost of production not only in the United States but worldwide. Generous subsidies replaced part of the lost income for U.S. producers but in food producing countries where the government is unwilling or unable to provide such subsidies, land values decline and returns to farm workers drop to the point where farm families cannot subsist. Workers then leave the land and exacerbate social problems in the large cities, often stunting the economic development which frequently begins with improved agricultural productivity. The U.S. market share increases, but partly at the expense of Third World development, as noted above.

Other reasons. There are numerous other reasons for a global food, agriculture and energy policy. Much of modern agriculture is dependent on fossil fuels, yet these fuels are in limited (even dwindling) supply and their use has been linked to environmental problems, including global climate change. Agriculture in many areas relies on water supplies that could be threatened with rationing or restrictions. Many countries have trouble not only with the quantity, but also the quality of existing water supplies. Finally, recently there have been disturbing signs of an increase in infectious diseases. This includes an increase in the incidence of such diseases as well as a rise in resistance to common treatment methods and added examples of the transfer of diseases from animals to humans.

Summing up

Food is clearly the most basic need for survival and social stability. Assuring an opportunity for access to an adequate diet is in everyone's interest and should be a win-win for food producers as well as those who would benefit through better diets. Moreover, it is a critically important security issue. Peace and stability rarely coexist in areas of chronic food shortage. The level of disharmony now seen in the world is unlikely to be reduced so long as significant numbers of individuals are suffering malnutrition and starvation.

The surest way to success in addressing food availability, food safety and stability in the world is a global food and agriculture policy. It generally has been believed that a country that is well fed, prosperous and populated with individuals who see a brighter future in the decades ahead is far less likely to be a mischief maker in the world.

The challenge of this generation, perhaps the first generation to have the means and the inclination in terms of political support to implement such a global food and agriculture policy, is

to begin now by laying a foundation for international support for a global food and agriculture policy.