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Regional Adjustment Costs: A Failure of National Analysis

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ABSTRACT

The use of national aggregate measures for the purpose of analyzing the impacts of agricultural policies often hides the impact of national policies on the distribution of benefits and costs between and within regions, size, and types of businesses. While economists can use national aggregate measures to indicate changes in overall efficiency due to policies, the tradeoff between efficiency and equity should be measured and the results provided to policymakers. These tradeoffs were not presented during the 1995–96 Farm Bill debate.

Key Words: agricultural policy, equity, farm bill.

For his presidential address at the Southern Agricultural Economics Association meetings in January 1995, William Boggess discussed the need for agricultural economists engaged in policy analysis to recognize the limits of static efficiency arguments and the need to systematically address equity issues (among other items). Boggess rightly pointed out that "static efficiency analysis is inadequate as a policy tool [because] not only is efficiency not unique and nonseparable from equity considerations, generally efficiency isn't the key policy issue" (p. 2). Citing Bromley (1994), Boggess (p. 3) noted, "Public policy is about the incidence of impacts; redistribution of wealth or economic opportunity is generally the objective, not efficiency." Skees puts the same idea in more straightforward terms: "Policymakers do not want to hear that their pet program will lead to inefficiencies—they are generally more interested in transferring benefits with their program" (p. 47). The presidential address by Boggess was timely, as 1995 was the year to discuss new omnibus farm legislation.

The 1995 Farm Bill debate began in earnest towards the end of February with the first hearing by the Senate Committee on Agriculture, Nutrition, and Forestry. Testifying at the hearing, Tweeten (1995a) sought a total phase-out to the commodity programs because they "are neither equitable (they transfer income from low to high wealth families) nor efficient (they reduce the national income)." In previous writings, Tweeten (1989) also supports a vigorous analysis of both equity and efficiency impacts:

> The efficiency criterion alone is inadequate for public policy. It is argued that the economist must be concerned about who benefits and who loses. In many basic policy issues such as rural poverty or urban slums, efficiency questions may be dwarfed by equity considerations. Economics is concerned with well-being of people which in turn depends on the level, distribution, and variability of income and on other variables. Economists inform; the political process makes decisions (p. 69).

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By the end of the first Senate farm bill hearing, a clear distinction was made between those who believed the commodity programs were "not plausible either as welfare policy or as a provider of other public goods" (Gardner 1995, p. 1), and those who maintained that government involvement in agriculture has contributed to the development of a sector which produces the greatest variety and most abundant supply of the cheapest, highest quality, and safest food in the world (stated at some time during the farm bill hearings by nearly every Senate and House agriculture committee member, farm and commodity group representative, and other proponents of production agriculture).

While both proponents and opponents of the current farm policy argued about the general welfare implications of life without farm policy, very little information pertaining to equity issues was offered, and static efficiency arguments were abundant (without discussion of their limitations). Equity issues—especially the regional implications of various policy choices—were for the most part absent from the debate. Boggess' call to the agricultural economics profession to reconsider current policy analysis methods went largely unheeded.

The focus of this paper is the equity implications of ignoring regional adjustment costs in developing national policy. I define equity loosely to indicate the differences between and within regions, income levels, type of operation, or business structure. The paper begins with a survey of past welfare measurements of agricultural policies and a discussion of what may be required for a more complete general welfare analysis of agricultural policy. Several regional issues which are obscured by national aggregate measures are discussed next. Finally, I will identify how regional and other equity concerns may assist in providing a more objective view of agricultural policy.

Review of Welfare Analysis

Welfare concepts of consumer and producer surplus were developed by Marshall and form the basis of current day welfare analysis. The Marshallian concept of welfare analysis is based upon partial equilibrium which considers only the impacts of a policy change on the market for which the policy is directed, assuming the effects on all other vertically and horizontally related markets are negligible.

Just, Hueth, and Schmitz point out that while a particular Pareto optimum can be achieved by competitive markets given a particular initial distribution of factor ownership, this is only one of many potential Pareto optimums associated with different factor endowments. They state, "This is why one cannot solve the problem of efficiency and distribution in two stages by first maximizing the value of the social product by correctly allocating resources and then distributing the product equitably" (p. 29). Because the relative value of products depends on income distribution, which in turn depends on factor ownership, equity and efficiency can only be delivered through a simultaneous solution.

Chavas notes, however, that the market can generate both an efficient and equitable (fair) allocation if a complete set of competitive and risk markets exists. But because risk markets are seldom complete, market allocations may be efficient but not equitable. While the efficient market allocation may be desirable, Chavas points out that advocating a market allocation on the grounds of efficiency alone can have adverse distributional impacts leading to unfair allocations. When distortions occur in one market or economic sector, distortions must also exist in other markets or sectors in order to reach a Pareto optimum. Since other countries distort agricultural markets through government involvement, and since the U.S. is hardly free of government involvement in a plethora of markets and sectors, partial welfare analysis would appear to be inappropriate for policy analysis.

The need to include equity considerations with efficiency measures in policy analysis stems from the fact that increased sector performance may hide losses to specific regions or industries. Most analysis of agricultural policy uses models which fail to include a complete set of linkages between the markets which are vertically and horizontally linked to the markets directly affected by the changes in policy, and fail to include or measure the dynamic impacts of a set of policies.

Lee observes that because of technological progress (policy towards research) and structural change in agriculture, consumers have been provided an ever greater abundance and quality of goods at a declining real cost for a declining share

of national resources. While agricultural policy has certainly been successful in this light, it has failed to adjust sector assistance policies to present day realities and to match investments in technological improvements that provide a net benefit to society with investments in easing the burden on those who bear the brunt of the economic and social adjustments to the technological changes.

With regard to the latter point, Lee suggests that most of the rural-based rhetoric today about problems attributed to "low farm prices" is really a reflection of the pain of those who lose in the adjustment process that accompanies technological progress—dying small towns, erosion of rural public services (health, education, etc.), youth leaving rural areas in search of jobs elsewhere, elderly left behind, nostalgia, loss of the familiar, etc., etc.—all part of the economic, social, and psychological cost of change and progress. The response should not be to stop change and progress, but to have those who benefit from the progress (society in general) share some of that benefit to ease the pain of adjustment, especially for those least able to afford it (Lee, p. 48).

This call by Lee to approach agricultural policy as a transfer of benefits from those who have gained to those who have lost as a result of public policy in agriculture provides a unique insight following the comments by both Chavas and Boggess about the nonseparability of equity and efficiency. First, a change in the allocation of resources (e.g., public expenditures on agricultural research) has led to increased total welfare at the expense of a small group (farm-dependent rural economies). Second, the static analysis of agricultural policies separate from the set of agricultural policies may not give a true measure of the total change in welfare resulting from a change in agricultural policy. For instance, measuring the impact of an acreage reduction program in a with-versus-without welfare analysis will provide a different estimate of welfare impacts than if the acreage reduction program is analyzed in combination with the supply shift associated with technological improvements.

Analyzing the joint impact of agricultural research and subsidies, de Gorter, Nielson, and Rausser reported:

> Production subsidies in situations thought to characterize U.S. agriculture may not be as detrimental to welfare as commonly argued. Rather, by providing a vehicle for compensating producers for losses incurred from research expenditures, production subsidies may be a component of a portfolio of policy instruments that increase social welfare (p. 35).

In the March 1995 opening Senate hearing—"Farm Programs: Are Americans Getting What They Pay For?"—John Miller (representing the Coalition for a Competitive Food and Agricultural System) made this very point, but it went unnoticed. He stated:

> The coalition's six policy principles provide a guide for new farm policy for the United States. They are hardly revolutionary. . . . At the heart of those principles is our support for a comprehensive agricultural policy. . . . We state that food and agricultural policies need to reflect the interests and needs of the entire food system.

This would imply the need to analyze commodity programs, food assistance programs, public research, and all other agricultural policies together, as a single package.

Certainly, there is little hope for policy analysis which contains all market linkages, efficiency, and equity considerations. There simply are not enough resources or man-hours available in a given location to provide a "complete" analysis.

Lindblom arrived at the same conclusion about policy analysis and policy. He identifies the ideal policy analysis using synoptic analysis—analysis which accounts for all variables and interactions. Attempting to perform synoptic analysis does not help the analyst resolve social problems, but neither does performing analysis on simple alternatives to those problems. Pointing out the shortcomings of *simple incremental analysis,*[1] Lindblom notes that *strategic analysis,*[2] which focuses on a few issues or variables critical to policy choices, can make the kind of contribution to which professional research is well suited. Thus, the partial or incremental analyses of commodity program alternatives, which

[1] Simple incremental analysis is limited to consideration of alternative policies which are only incrementally different from current policy.

[2] Strategic analysis is limited to a chosen set of variables to simplify complex policy questions.

provide only the change in national average price, net farm income, and government outlays, may do little to assist policymakers in understanding the critical issues (e.g., welfare transfer, change in asset values, rural/urban pressures) associated with policy changes.

What information has the profession provided about farm policy that may be useful in the debate? Most of the investigations fall under Lindblom's *simple incremental analysis,* while few represent *strategic analysis.* A review of economic literature (but by no means complete) is provided for the reader to acquire a "flavor" for the type of policy analysis performed. I submit that this is not by any means a comprehensive review, but neither is it slanted to emphasize a particular point of view; rather, the literature was selected based on availability.

Analysis of Specific Commodity Policies

Based on my brief review of the policy analysis literature, federal dairy programs have certainly received the greatest attention. The effects of the milk marketing orders, support price, and supply management programs on producers and consumers have been well studied. Ippolito and Masson; Dahlgran; the AAEA Policy Task Force on Dairy Marketing Orders; Dobson and Knapp; Kaiser, Streeter, and Liu; and Helmberger and Chen are but a few of the recent studies concluding that milk orders are not needed to forestall market failure in fluid milk distribution and that milk marketing orders must be viewed as income redistribution devices.

While there is slight variation in the magnitude of the impacts, all authors agree that under competitive markets, milk producers' and manufacturers' income would decline while that of milk consumers would gain. However, several of these studies concede the absence in their analysis of estimated impacts on domestic or foreign persons receiving food aid and the *ceteris paribus* approach for foreign government milk intervention policy. Others lack connectivity to crop (feed), land, and other factor markets. Certainly, the purchase of excess output by the government, which is later distributed through foreign and domestic food aid, would change under a competitive market system. Further, no research on the interregional effects of changes in dairy policy was located, with the exception of Helmberger and Chen who mentioned that Minnesota–Wisconsin milk producers were losers under current policy, while "milk producers who happen to live close to big cities distant from Eau Claire" were winners under current policy (p. 236).

Would the location and structure of the dairy industry change under competitive markets? Weersink and Howard argue that a drop in the milk price would not result in equal cuts of milk production across all regions. Regions with a relatively elastic supply, such as the Corn Belt, Mountain, and Pacific areas, would experience the largest percentage reduction in herd size and output. The authors point out that since dairy farming is important to certain regions of the country, information on regional production changes may be important because of the likely economic consequences. However, no estimates of these consequences were provided in their study.

Studies on other specific commodity programs have been scarce. Whipple and Menkhaus measured the impact of the Wool Act and found that it had a "substantial impact on the size and output of the U.S. sheep industry" (p. 40). Lamb and wool consumers were found to be major beneficiaries of this program, while exporters and taxpayers were the major losers. Similar results were found in an earlier study by Gardner (1982).

The effects of alternative policies on the oats market were examined by Brandt, Kruse, and Todd. The authors demonstrated that the changes in dairy or corn policies associated with the Food Security Act of 1985 may have considerable impacts on the oats industry, which are regional in nature.

Thompson, Knight, and Boren analyzed the effect of the 0/92 program on farm decisions in central Texas. They found that risk-averse commodity program participants would gain from using the program, while profit-maximizing producers would not. However, no positive yield effects were associated with the use of 0/92, and the impacts on factor or product prices of all risk-averse farmers using 0/92 were not considered.

Duffy and Taylor measured the effects of increasing flex acres from 15% to 35% on two separate farms, and found that in both cases the policy change would lead to an increase in soybean acreage. Again, like research on representative farms already presented, the work suffers from the fallacy of composition. If all farms reacted as indicated by

Duffy and Taylor, factor and product prices would change, thereby causing a change in the allocation of acreage.

Thayer et al. found that removing the cap on corn program yields would generate greater benefits to larger operators and operators in counties with higher than average yields during the late 1980s.

Analysis of Other Related Policy Issues

With respect to rural development policy, Deaton and Nelson argue that the lack of attention given to the economically diverse needs of rural America is a result of our failure to: (*a*) organize our research into a cohesive package of decision-relevant information, (*b*) validate research findings across diverse political and geographic regions of the country based on different types of communities, and (*c*) synthesize existing knowledge and implement new research efforts on a multi-disciplinary basis that will provide a more comprehensive and cohesive knowledge base for understanding important dimensions of rural development.

Lichtenberg and Zilberman stressed the importance of considering "prior" regulations when assessing the effects of new regulatory impacts. In this case, the authors demonstrated the effect on welfare measures of using simple incremental analysis to examine the impact of a pesticide ban. The preferred method would be to consider the effects of price support programs on product markets prior to measuring the impact of pesticide regulation. Norris suggests, however, that measuring the impact of policies to reduce pesticides may be more affected by the initial allocation of property rights between pesticide users and nonusers than by other factors.

Land price volatility was studied by Benirschka and Binkley. The authors found that land prices were more volatile the farther the land was from central markets. A critique by Doll, Widdows, and Velde in 1983 reviewed the previous analyses measuring the factors which influence farmland values. Their findings indicated that there was as yet no model which adequately measured the relative importance of factors which may contribute to a market price for land. More importantly, the simple asset theory that has been repeatedly used (especially during the 1995 Farm Bill debate) to estimate the effect of farm subsidies on land values has been shown to be inadequate in predicting or explaining land values (Clark, Fulton, and Scott). Thus, the estimates by policy analysts indicating the sharp decline of land values in response to the reduction in net farm income as commodity program payments are cut were not supported by the literature.

Leathers approached the land value issue from a different perspective, analyzing the effect of commodity programs on farmers, given the supply of land is inelastic. He notes that the impact of alternative programs on the structure of agriculture depends on the relative magnitude of the cross-price effect of output price on the supply of land and the own-price effect. Leathers' findings imply that commodity programs tend to reduce the number of farmers when the cross-price effect is larger than the own-price effect—i.e., when the value of land is determined more by net returns than by supply and demand characteristics.

Spacial equilibrium and computable general equilibrium (CGE) models have been used (although infrequently) to measure the impact of agricultural policies on economic sectors, trade flows, and geographic distribution of income. Kilkenny measured the effects of terminating farm programs on rural and urban employment and income. Dicks and Quiros estimated the impact of various commodity program alternatives on regional employment and income. Fisher and de Gorter measured the impact of farm subsidies on world prices.

The review of recent policy analysis literature provides little support for the contention of Gardner, Tweeten, and others that commodity programs are not plausible either as welfare policy or as a provider of other public goods. The summary of past applied policy analysis is sufficient to provide for several conclusions. First, the analyses of policy impacts are vastly incomplete, both in measuring the impact of specific policy tools and in measuring the markets affected by the policies. Second, the methods used to analyze the various policies vary from the simple incremental analyses (one equation to several) to complex strategic analyses. Third, applied policy analyses found in the principal agricultural economics journals are heavily weighted to issues of efficiency and the use of simple incremental analyses, with equity issues and strategic analyses getting very little attention. In all, recent literature does not support the position that commodity policy is "not plausible as welfare policy."

Finally, an observation not obvious to nonpracticing applied policy analysts is that there is a great deal of applied policy analysis literature that exists outside the main body of literature for the profession. While many reasons for this could be postulated, one explanation provided by Keith Collins (before a Senate hearing on the 1995 Farm Bill) was that "the topics may not have been considered sexy enough to be included" in the journals. In my own case, I suppose the reason is that the requests by policymakers for analysis of specific policies normally do not allow for sufficient time to prepare a journal article, and the applied analyses typically have only a short life of relevance.

The absence of thorough strategic analysis of agricultural policies in the literature is a clear indication of a need being unfulfilled. Because "distributional equity" is important to policymakers, the analysis of the critical policy issues should be accomplished on a regional (multi-county) basis. In the following section, I discuss several issues which probably have more relevance at the regional level than at the national level.

Regional Issues

National analysis provides a general measure of the benefits and costs to society and to the sector as a whole, but does little to describe the impacts to the wide variation of industries within a sector, businesses within specific industries, and individuals, or impacts to different geographic regions. Too often, national averages are used to describe a sector. Such a description may not accurately characterize the majority of the businesses in that sector, but rather, reflect a description of the majority of production. Agriculture is an extremely diverse sector in the U.S. economy that does not lend itself easily to description by national averages. In 1992, roughly 19% (400,000) of U.S. agriculture producers accounted for 75% of commodity sales, held 48% of production agriculture's assets, received 66% of government payments, had annual sales which exceeded $100,000, and had an average net income of $125,000. The remaining 81% of U.S. agriculture producers had net incomes which averaged less than $5,000.

The majority of the agricultural production industry is tied to less than 400 million acres of land. Less than 8% of this land accounts for more than 30% of the value of agriculture and produces more than 80 crops. On the other hand, corn and wheat each use roughly 20% of the land and generate about 8% and 4% of the value of agriculture output, respectively. Size of farm, value of assets, net income, debt, age, government payments, and type of production activity vary considerably from region to region. Just as important, the percentage of total economic activity derived from agriculture differs by region, by states within regions, and for business regions within states. Production agriculture remains the single most important industry in 10–15% of all U.S. counties, and for some counties, the only industry.

The state and regional diversity and economic importance of production agriculture provide support to the need to analyze the equity issues associated with policy changes. Several economic indicators of the health of the farm sector have often been calculated at the national level for use in the policy debate which could better serve the public interest if calculated by sales class, type of operation, major commodity, and/or state and county location. These include, but are not limited to, capacity utilization, income and production costs, land use changes, land and asset values, and rural economic activity.

Capacity Utilization

Capacity management has been a focal point of farm legislation debate. Most businesses maintain excess production capacity and inventory to meet long- and short-run changes in demand. These businesses pass the cost of operating at less than full capacity and carrying inventory on to consumers through the price of the product purchased. There is little economic incentive for farmers to operate at less than full capacity (plant all cropland) unless all farmers operate at the same less-than-full level. We use land retirement programs and stocks to maintain capacity in excess of annual needs.

A recent study by Smith indicates that the annual level of excess capacity has fluctuated between 0 and 30% over the last 40 years for various bulk commodities. Certainly all high levels of excess capacity are not equal. Maintaining excess capacity through land retirement (excess production capacity) adversely affects agribusinesses supplying input and output services, rural communities, and consumers, but may aid producers through higher

prices and taxpayers through lower program costs. Maintaining commodity inventories adversely affects producers and taxpayers by lowering prices and increasing commodity program costs while aiding consumers, elevator operators, and taxpayers through increased quantity and lower food and food program costs. Thus, in attempting to maintain an adequate level of excess capacity to stabilize agricultural prices and incomes or to assure a continuous supply of cheap food, a tradeoff in benefits and costs exists among agricultural industries, rural residents, consumers, and taxpayers. Furthermore, these effects may not be equal for different geographical regions.

Public policy should identify the optimum level of production capacity and inventories, and a balanced public policy should assure that the losers of such a policy are adequately compensated by gainers of these policies. This equity issue—who pays to maintain a relatively stable priced, cheap, and abundant food supply—should be at the very heart of any farm bill debate and should include the entire package of food and agricultural policies, from price supports to research to food and nutrition programs.

Income

Certainly one of the more provocative equity considerations of agricultural policy is the transfer of income from taxpayers to producers. Many news stories have focused public attention on "wealthy" agricultural producers receiving large "subsidies." In the past, the average net farm income was considered to be below the average income of nonfarm families. Tweeten (1995b) reports that income per farm household equals or exceeds that per nonfarm household, and that the wealth of farmers averages several times that of consumers and taxpayers. For these reasons, he argues, there exists no justification for commodity programs based upon equity and fairness.

Browne et al. adjust net cash farm income to exclude farms with sales of less than $10,000 and arrive at an average net cash income of $46,734 (1985–89). The authors point out that this provides a different perspective of the "farm problem" as described by net farm income. However, Johnson, Perry, and Morehart note:

> Traditionally, per-farm estimates of income were derived simply by dividing net farm income by the number of farms. . . . [Today,] larger farms may involve a number of participants that include management, labor, contractors, and other input providers from both farm and non-farm entities (p. 2).

In an earlier time, when farms were more homogeneous in size and organization, data users could reasonably assume that farm sector net income reflected farm household income. Now, however, net farm income includes both farm business income and farm operator household income. Thus, comparing national average net income per farm with average U.S. nonfarm income is meaningless, as income reported for any farm may be divided among more than one family. Comparing average farm wealth (assets) with nonfarm wealth has similar problems. Many large farmers combine their capital with that from partnerships, corporations, pooled funds, joint ventures, or co-ownership. In fact, according to Johnson, Perry, and Morehart, 67% of production was produced on farms which had an income-sharing arrangement in 1993.

Tweeten (1995b), Browne et al., and Gardner (1995) all make the case that commodity programs can no longer be justified based on the lack of equality between farmers and nonfarmers. However, comparing farm and nonfarm households makes little sense. Examining any federal policy based upon national averages would certainly change the perceived need for the policy. For instance, could food stamps be justified if average U.S. family income (which exceeds $30,000) were used as the determining factor?

Farming is a business and should be compared to other businesses, not households. A relevant comparison would be to compare the returns to equity and assets of farms and other businesses by sales class. Are there specific types and sizes of farms whose returns to equity and assets are less than the average for other like businesses? Do these farms exist in a particular geographic area? Does the existence of farms with low returns warrant public support? Finally, the fact that current commodity programs assuredly transfer income from taxpayers to some farmers with large incomes should not detract from the debate on a need for

government involvement in the sector for social objectives (e.g., stability, meeting basic food, shelter, and clothing requirements).

Land Use

The most misunderstood concept during the 1995 debate was that farms and farmers are different. We often use these terms interchangeably, as if homogeneity of farmers and farms exists. Opponents of agricultural policy argue that the majority of the commodity program benefits are received by less than a quarter of the producers. What they fail to note is that these same farmers operate the majority of the cropland and produce the majority of the crops. An average farmer does not equal an average farm. Policies that are designed to affect acreage will naturally direct benefits and costs to those farmers with the greatest land resources. Land use policies have provided the base for U.S. agricultural policy since the beginning of the nation. Thus, the larger operators have had to shoulder the greatest burden from land use policies, but have also received the largest share of commodity program benefits in return.

Several land use issues became critical during the analysis of farm policy alternatives. First, how would land use change in response to increased or complete planting flexibility? Second, at what return per acre do farmers abandon a production activity? Third, what is the effect on the value of land from declining government support? Finally, what are the natural resource implications of land use changes?

Shifts between crop production activities have been constrained by government programs for more than 60 years. While land use shifts following a reduction in government support can be determined theoretically as a shift from supported commodities to unsupported commodities, the magnitude and time required for the shift and the total amount of acreage remaining in production are less certain.

Key to determining the timing and magnitude of the land use shifts is what happens to the per acre net returns. Each producer will choose from among the set of potential crops the crop which offers the largest per acre net return. But suppose that all crop options produce a per acre net return of $10, or $5, or $.50 over total variable costs. Will the producer continue to farm, idle the cropland, or lease to another producer?

The fate of the land farmed by high-cost producers will have major price implications that also affect land use shifts. Theoretically, reduced government support for a crop will have the effect of removing resources from production. High-cost producers may depart production agriculture while their land moves to a lower cost producer. In most of the highly productive areas of the country, land may simply be transferred from less efficient to more efficient farmers. However, in less productive areas, per acre returns may be so low that even the best producers will abandon crop production activities. The land use shifts may appear to be small nationally, but may be very large in specific areas of the country. Further, this regional abandonment may have severe implications for total production capacity. Nearly 10 years were needed for land use to adjust to the extreme prices of the early 1970s—an adjustment period far too slow to meet the demands of the early 1970s.

Because the value of land and land rents will also affect land use over the long run, the impact of reduced government supports on land values will also be an important factor. Estimates of land price changes provided during the 1995 Farm Bill debate were based on the simple asset theory of land—a theory that the literature holds as inadequate. The value of land is a function of both the economic rent and supply and demand for land. Policies which lower land values and/or rents will adversely affect the land owner but aid the non-owner operator. Measures of national changes in land values are inadequate. Some areas may find significant decreases in the value of land, while other areas may post increases.

Rural Economies

The decline in the number of counties dependent on agriculture was pointed out repeatedly during the farm bill debate, along with the fact that only 25% of the rural counties are farm dependent. What wasn't discussed was the relative proximity of all of these farm-dependent counties—i.e., being highly concentrated in the Great Plains.

The amount of economic activity generated as a result of agriculture is a function of both the level

of output and the number of people employed to provide input and output services and produce the output. One person receiving $100,000 net income will not produce as much economic activity in a rural economy as 10 people receiving $10,000 net income each. The larger producer obtains pecuniary economies through direct factory purchases and travels greater distances to shop for consumer items. However, there is very little distinction between income levels and expenditure patterns in the spacial equilibrium models (e.g., IMPLAN) used to analyze these very effects. Further, fewer services (e.g., food, government, school, church, health) are required to support one person than to support 10. Thus, research which has attempted to increase labor productivity has indirectly targeted small communities for elimination. This is an important implicit social object which is rarely discussed. Land use policies which require land to be idled in order to receive government commodity benefits encourage the retention of marginal acreage in production, but also provide an incentive to farm more acres.

Most rural economies depend on one or more of three major economic sectors: military, mining, and agriculture. Each policy affecting one of the sectors will affect the rural economies, and hence will affect the other two sectors. Certainly the intersectorial impacts of agricultural and other policies affecting major rural economic sectors should be examined when considering any major policy changes.

Using Regional Information to Alter Policy

Public policy by its very nature must contend with second-best solutions. The actions by government in any market reduce the possibility of any other market optimally allocating resources. Because Congress is composed of many members representing different regions of the country, equity (more specifically, the regional distribution of federal expenditures) is clearly a major concern. The relative importance placed on equity and efficiency probably depends on the issues and the congressman. However, each of us can surely point to an example where equity (real or imagined) certainly outweighed efficiency. No doubt Kenneth Cook (representing the Environmental Working Group Organization before a Senate hearing in August 1995) was emphasizing this point during the farm bill debate by making public the total deficiency payments and deficiency payments per recipient by congressional district for each congressional agriculture committee member for the period from 1985 through 1994.

While Cook and others presented the facts on the distribution of farm program benefits by region or by crop, very little information was presented about the distribution of costs of the farm programs. Land retirement programs, conservation and environmental restrictions, trade restrictions, public investment in research, and other policies which directly or indirectly affect agricultural markets may provide consumer benefits but may also present a cost to the agricultural sector.

An important component of policy analysis is the identification and comparison of those suffering a loss or obtaining gains in welfare from both "productive" and "predatory" policies.[3] Agricultural economists have focused mostly on predatory policies, developing measures such as producer subsidy equivalents (PSEs), and have often included in the group of predatory policies subsidies such as conservation cost-share which may be provided for the sole purpose of attaining social objectives. Few have discussed the productive policies or the equity of either policy type. The agricultural community has done a poor job at laying out the costs and benefits of government involvement in agriculture. At the root of that poor performance is the misuse of simple incremental analysis and a focus on efficiency.

In a lecture to graduates at the University of California–Berkeley, Schelling suggested that the role of the economist is to locate "free lunches." That is, market failures and inefficiencies exist, and correcting these will provide increased welfare. Schelling points out that how the lunches get distributed matters, but the lunches are there and need to be recognized. Equity is important, but the economist is best trained to determine efficiency. Nevertheless, the economist should also realize that to be relevant, economic information should provide the information sought after by the policymaker. And,

[3] De Gorter, Nielson, and Rausser define predatory policies as those designed primarily to redistribute income between groups in society, while productive policies are those policies that correct for market failures.

more importantly, the tradeoff between equity and efficiency changes should be explicitly provided.

Politicians are concerned about their electorates. The federal government spends nearly $1.7 trillion per year. These funds come from a source and flow to a source. The change in this flow (change in equity) is of great concern to politicians, and economists should spend more effort in measuring both the efficiency and equity of these transfers. Further, these transfers should be directed to increase production and consumption efficiency, equity, or both—and the tradeoffs between efficiency and equity should be measured and described.

Summary

Many of the statements made by agricultural economists during the 1995 farm debate had little support in the agricultural economics literature. More importantly, most of the statements relied on simple incremental analysis rather than strategic analysis. Of those policy analyses that followed a more strategic approach, few included measures of both efficiency and equity.

The efficiency of agricultural programs depends on which starting point and over what period of time one selects. Several key issues, such as changes in net income, land use, and rural economic activity, were dealt with by assumption rather than through analysis. More importantly, the debate in 1995 focused almost exclusively on the merits of commodity programs.

The objectives of farm policy are a political decision and should be debated in a political arena. Once known, economists can determine alternative paths of attaining those objectives at least cost or with maximum benefit to society. But providing the maximizing solution is only half the answer, and is the half of least interest to policymakers. Equity, particularly the regional distribution of income, is the problem of politicians, and economists delude themselves if they believe national aggregate measures of efficiency alone will draw the interest of politicians.

Agricultural economists should begin to analyze the welfare implications of all components of farm policy, with specific attention on regional differences. Each policy will offer efficiency and equity tradeoffs, both of which need close examination. The need for government involvement in agricultural markets to assure that Americans have sufficient food, clothing, and shelter can then be addressed against the need for public education, infrastructure, and health care.

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