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ECONOMIC RESEARCH TRADE-OFFS BETWEEN
EFFICIENCY AND EQUITY

Quentin M. West

U.S. agricultural economic research has traditionally focused on farm production and marketing efficiency. In the future it must give more attention to equity.

Americans will certainly maintain their interest in producing things more efficiently. But, it is a healthy sign that they are also becoming more interested in making sure that changes are made fairly, justly, and impartially.

While there has been an increasing amount of agricultural economic research directed toward the problems of equity, there has not been enough. While I could present a paper documenting this research, I think it more useful at this point to consider seriously our overall research policy and try to reach some conclusion about whether it has adequately come to grips with the economic and social issues pressing upon us today.

In the long-run, society will generally cease to support investments which they believe do not serve the broad interests of the public. They will be concerned more and more with those issues which go beyond "efficiency." Some say our production-oriented research, supported by public monies, has been way off base. The author of the report, *Hard Tomatoes, Hard Times* says:

"...this focus on scientific and business efficiency has led to production (and overproduction) of a bounty of food and fiber products, and, not incidentally, it certainly has contributed to the enrichment of an agri-business few.

On the other hand, there have been far-reaching side effects of the land grant colleges' preoccupation with the 'green

revolution.' As statistics indicate and as visits to the countryside make clear, rural America is crumbling. Not just the family farm, but every aspect of rural America is crumbling – schools, communities, churches, business, and way of life."¹

While we may quarrel with some conclusions of *Hard Tomatoes*, these writers present some points like this one that should arrest our attention. In total, the report indicates that our research policy has been wrong – it gave too much to the wrong people. Yet, it is not a black and white question. The evidence does not warrant the conclusion that the publicly supported research objective was wrong. It does show our research to be too narrow -- because it largely ignored a very large set of consequences – the human cost and returns. I submit that we should not abandon what has been good and productive research but we should broaden our area of concern to include all the consequences of change.

For example, development of cotton varieties adapted to the Southwest, along with the development of irrigation there, led to lower cost of producing better cotton. This also led to the wholesale displacement of people in the Southeast as cotton production moved westward. Whole communities in the Southeast were left with unemployed and underemployed farmers and farm workers. Many of the displaced migrated to the cities in search of jobs that were nonexistent or for which they were not prepared. Yet we did not study this impact as soon as we should have.

There are many examples where our attempts to increase the output of food and fiber have generated environmental problems and socio-economic

Dr. West is administrator of the U.S. Department of Agriculture's Economic Research Service. The author appreciates the assistance of ERS' Lon Cesal and James R. Sayre.

¹ Jim Hightower, *Hard Tomatoes, Hard Times -- The Failure of the Land Grant College Complex*, Agribusiness Accountability Project, Washington, D.C., 1972, p. 3.

inequities. The point is that we must focus more attention on who gains and who loses, by when, how, and by how much. We must be able to anticipate and possibly forestall the "inconveniences" associated with change.

We have largely avoided these problems because they are controversial and therefore dangerous to our programs. Too, we have not sufficiently developed our economic theory, conceptual bases, analytical techniques, and our data base to accommodate these problems. But conflicts can be resolved only if adequate information about alternatives exists and is available equally to all those concerned. Research has the important responsibility in making these alternatives known.

We can expect the interdependencies of our economy to grow in step with economic progress. This will increase the likelihood that the gains and losses of new technological developments will not be shared equally by all members of our society. If we do not shift with the times, and begin addressing more fully this problem of equity, we will face a mounting backlog of problems which can overwhelm our best efforts to build a strong rural economy in America.

It is, of course, unfair to single out our agricultural economics research system as being inadequate in its attention to modern issues of equity. A recent ERS study showed that federal spending on human resource development disproportionately favors metropolitan areas over non-metro areas. For example, non-metro counties account for 66 percent of all substandard housing units but receive only 16 percent of all federal housing assistance. A similar situation exists in the areas of education, health, manpower training, and others.²

TODAY'S RESEARCH PRIORITIES

The formation of public policy is highly dependent on the quantity and quality of knowledge available. It is our research institutions that add to this stock of knowledge. So, if we are to have the knowledge required to make appropriate public policy, our research institutions must better meet this challenge.

Returns to the commercial agriculture sector are as important today as ever. But, we must now look beyond farm gate questions and do a better job in representing the entire society.

On one hand, we need to accelerate our efforts

to measure the impact of public decisions on commercial agriculture. This includes a wide range of issues including those on the use of pesticides relating to the preservation of our environment. These decisions impact substantially on the ability of our food and fiber system to produce efficiently.

But, we must also be concerned about the impact of agricultural decisions on the general public. For instance, if we were appraising the prospects of adopting the mechanical cotton harvester today, or any other of the many important technological developments of the past 30 years, we would certainly be forced to examine its impact on employment, community services, and other factors. Whether the questions involve mechanization or other commercial agriculture developments, we need to trace through the impacts of alternative development programs and be able to identify clearly just who gains and who loses.

HOW TO MEET TODAY'S RESEARCH NEEDS

Our intellectual and institutional capital for dealing with many of the problems I have cited is seriously lacking. We lack adequate theoretical constructs, methodologies, and organizational know-how to deal with many of the problems we will face in the next decade. The theoretical foundation for dealing with equity issues is especially weak. We have modern welfare economics, but this is not very satisfactory for many of the dynamic problems associated with who gains and who loses.

We also have serious organizational deficiencies. We have organized in terms of professions rather than in terms of problems. We have created artificial research boxes which look neat on organization tables but which fail to come to grips with real problems.

For example, the traditional research boxes in ERS in the form of divisions of Farm Production Economics and Marketing Economics often created stumbling blocks to dealing effectively with problems cutting across the entire beef industry, feed grain industry, and soybean industry.

Likewise, people with a need for public assistance are normally faced by a complex of problems rather than a single problem. Yet, we find a multitude of public programs, each dealing with a single problem. As we move toward a consideration of people and their problems, we must also move to a multi-problem approach in our research. Such team research is very difficult to organize within the constraints of our current research organizations.

²Freddy K. Hines and Lynn M. Daft, *The Economic and Social Condition of Rural America in the 1970's: the Distribution of Federal Outlays Among U.S. Counties*, prepared by ERS for the U.S. Senate Committee on Government Operations, Government Printing Office, Washington, D.C., Dec. 1971.

The Economic Research Service is aware of the problem and we are taking what I believe are significant steps. Last month we altered our research program away from the discipline-oriented research organization to one which is issue-oriented.

We have grouped three divisions -- National Economic Analysis, Commodity Economics, and Foreign Demand and Competition -- under a deputy administrator for food and fiber economics. This research area will focus on society-wide demands for sufficient supplies of agricultural commodities at reasonable prices.

Further, we have grouped three other divisions -- Natural Resource Economics, Community and Human Resources, and Foreign Development -- under a deputy administrator for resource and development economics. This area will focus on society-wide demand for equitable development of human and natural resources.

Too, we have eliminated the highly structured organizational lines in ERS; more specifically, the branches dealing with separate research areas. We will move toward a matrix type of organization. This means that we will bring several disciplines together on special issues. This helps streamline many of the administrative functions of the agency. But, more importantly, we hope this type of organization will equip us with the means to trace through all the consequences of a given development factor.

We will concern ourselves with the efficiency of our production and marketing system; but, we will also be concerned with what happens to people and their communities. Perhaps I can best illustrate our new approach by discussing our current research program in the flue-cured tobacco region.

THE ERS RESEARCH PROGRAM ON FLUE-CURED TOBACCO

Our flue-cured tobacco research strategy is a team approach designed to understand the interactions between the commercial and human development aspects of the problem. The general study objectives relating to human resource development are to:

1. Determine the existing quantities and characteristics of human and capital resources employment in the production, marketing, and processing of flue-cured tobacco, and how these quantities and characteristics are likely to change during the next decade.
2. Develop a detailed profile of the human resources which are likely to be displaced,

and analyze the access these resources are likely to have to nonfarm employment opportunities in the region.

3. Evaluate programs and policies designed to assist the displaced human resources to obtain employment outside of agriculture, either within or outside the flue-cured tobacco area.

We now have ten researchers addressing this issue and we expect this to increase to about 15 soon. We are using a matrix organization or coordinated team approach where various types of expertise are brought to bear on a common problem. All research resources are under the direction of a project manager. Within 2 years, we expect to have the necessary understanding of this overall problem to advise policy makers on items ranging from on-farm mechanization to incentives for rural industrialization.

The expected mechanization of flue-cured tobacco harvesting and processing will almost certainly result in a series of interdependent adjustment problems in the flue-cured tobacco region. Moreover, reduced domestic or foreign demand for tobacco could further compound the seriousness of these problems.

The likely adjustment problems are both an industry and a regional problem. Mechanization of tobacco harvesting will result in substantial on-farm adjustments, and the adoption of new technologies in tobacco processing will bring about substantial adjustments in the tobacco processing plants. These adjustments will primarily substitute capital for labor.

Accompanying these problems will be regional adjustments associated with human resources. The initial adjustment involves a decrease in employment opportunities, and a need to expand employment opportunities in other industries in the region or prepare and assist the displaced workers to migrate to obtain employment in other regions.

The task of expanding nonfarm employment opportunities for the displaced workers is complex. Consideration must be given to the characteristics of the displaced workers and the characteristics of the manpower needs of industries which can profitably expand in the flue-cured region.

Many industries have specialized needs which must be met before they can profitably locate in a given region. What are these special needs and what capabilities does the flue-cured tobacco region have for meeting these needs? If it is possible to expand nonfarm employment in a region, the industrial and occupational mix of the region will normally be altered. New public and private services must be

added and in some cases old services substantially modified.

What do the displaced human resources do if there are no employment opportunities for them in the region? One alternative is to migrate to another region. This raises a number of equity related questions. Should relocation assistance be provided? If so, to whom? Only displaced workers, or anyone in the region who wants to leave? Who are the gainers, and consequently who should be taxed to finance the relocation of the displaced?

What type of intelligence on employment opportunities in other regions should be provided? Should this be restricted to only the displaced workers (the losers)?

If the displaced labor resources are young and retrainable, the opportunity cost of retraining would probably be very low. On the other hand, if they are old or nonretrainable, it may be best to retire them on welfare. In either case, the services offered by the public sector would have to be expanded and probably modified substantially.

Alternative means of livelihood, employment, or welfare for the displaced workers must be analyzed before programs and policies can be designed to deal effectively with the regional adjustment problems.

Perhaps the most important provision in the Rural Development Act of 1972 is the authority for government guaranteed loans, with no upper limit set, for rural industrialization. This gives us added

impetus to pull together the research already done on rural industrialization and to propose new areas of needed research focusing on employment, income, population, housing, and community service goals for rural development.³

SUMMARY

The essence of our discussion can be summed up in terms of efficiency versus equity. In light of modern day America's concern over poverty, environment, and the general quality of life, it appears that equity is as important as efficiency, or possibly even more important. Frankly, our research program has emphasized efficiency -- efficiency of commercial agricultural production and marketing. This concern must be continued but it must be tempered with an equal or greater concern over the side effects of efforts to achieve this efficiency.

There are trade-offs between efficiency and equity. But, unfortunately, in the past we have made these trade-offs in light of raw power -- economic power, political power, the power naturally accruing to those privileged enough to have an effective voice. The poor and disadvantaged do not have this kind of power. Yet, we are publicly supported research organizations. We have the public responsibility to represent all segments of the society as we measure the trade-offs between efficiency and equity.

³ Further discussion of the Act is contained in an ERS paper by Lynn M. Daft: *The Rural Development Act of 1972: What Is It?* presented at the Conference on Manpower Planning for Jobs in Rural America, Sponsored by Michigan State University and the U.S. Department of Labor, Austin, Texas, Dec. 1972.