SOUTHERN FARMS AND RURAL COMMUNITIES: DEVELOPING DIRECTIONS FOR ECONOMIC DEVELOPMENT RESEARCH AND POLICY

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The objective of this paper is to give an overview of research policy issues and conceptual analyses for the South for the following economic development questions:

1. What are the relationships of southern agriculture to rural areas and communities?
2. What trends and adjustments are underway and having an impact on economic development in the region?
3. What directions should economic development research take to analyze and understand the current situation?

The paper concludes that for much of the rural South:

1. Agriculture is not the key to rural economic development;
2. Economic restructuring underway is likely to widen the rural-urban economic gap; and
3. Policy intervention will be needed to reduce the size of the gap. Rural development policy will be primarily a state and local responsibility with very limited aid from the Federal government. State experiment stations can and should provide the expertise needed by state and local agencies to evaluate the effectiveness of alternative rural economic development strategies and programs.

At the outset it should be noted that generalization about rural areas in the southern states is fraught with pitfalls. Indeed, one of the suggestions in the paper is that effective rural development policy must be designed with the region in mind. This will require a careful accounting of the economic structure in the particular rural region of interest, estimation of its linkages with urban centers, and determination of the sensitivity of the region to external economic forces.

HOW DOES AGRICULTURE AFFECT THE RURAL COMMUNITIES OF THESE REGIONS?

The answer for most rural areas of the South is probably very little. Using the Economic Research Service (ERS) designations of nonmetro county types, Table 1 lists the share of income and population in farm-dependent counties of the southern regions described above. Agriculturally dependent counties do not have a plurality of the income or population in any of these regions (or individual states for that matter). Manufacturing is the dominant rural economic base in the South. In addition, the share of southern state personal income from farming is typically less than 2 percent (Henry). More refined estimates of the role of agriculture in rural economic activity can be made and are likely to reveal a stronger set of links between the food and fiber system and rural places than is evident from the broader measures of dominant economic base or state income shares.

Consider the basic linkages between the farm sector and the farm system depicted in Figure 1 (Tamblyn and Powell). Research is needed to estimate these basic links for rural areas of the South to understand how agriculture affects the economic vitality of rural areas. Tamblyn and Powell have estimated the size of these linkages for rural areas of Australia. They find that up to 30 percent of the Gross Regional Product (GRP) is attributable to farm-system activities. Noting the decline both in farm numbers and farm output as a share of GRP, they make the important point that the farm sector itself has declined in relative importance partly because many "old" farm activities are now largely hidden in economic activity in the input supply and food processing/marketing activities (i.e., what our

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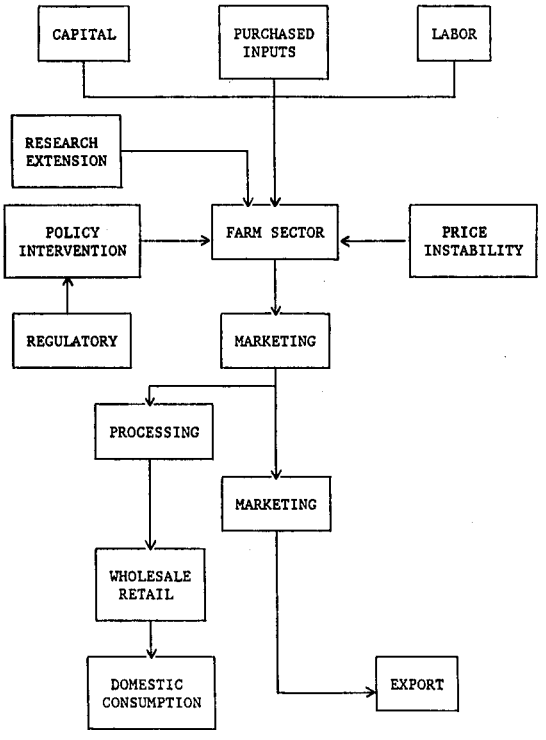

Figure 1. Schematic Representation of the Farm System.

SIC manuals define to be manufacturing and service activities).[1]

To what extent are the linkages—backward to inputs and forward to processing and marketing—located in the same rural areas of the South as the farm sector itself? What are the linkages between rural regions and urban growth centers in the South? Basic regional accounts of the interindustry and interregional flows in the southern states are needed to provide answers to the linkage questions. Without such information, it is not possible to know how agriculture affects rural communities and places. While there have been several research efforts in the past to provide low cost (secondary data), computer-intensive methods for constructing regional economic accounts for southern states, these efforts have failed to produce the accounts needed to understand the role that farming plays in the rural South.

The fundamental reason for this failure is the lack of needed support from state experiment stations to construct such accounts on an on-going and timely basis using primary data. Reasons for this situation range from a "what difference does it make?" attitude to the perceived need to support "cutting edge" research in hard sciences and engineering (i.e., to fight the battle for support from commodity interests).

Beyond merely describing farm/community linkages, good regional accounting can make a difference in understanding how a rural economy works by providing the data base for modelling rural economies. In turn, these models are needed if a goal of the experiment station is to understand how exogenous events or public policy affects farming, other basic sectors, and the vitality of rural areas.

One recent effort illustrates how models of rural regions might be used for policy evaluation. De Janvry et al. have constructed a Social Accounting Matrix (SAM) for a rural county in the western United States. They used this model to estimate the change in county farm production, household income, and employment in response to three types of "rural development" programs—export promotion, price supports, and direct income transfers. In an era of increasingly scarce resources for rural development activities, evaluation of the effects of alternative policies to promote rural income growth and stability is needed.

In sum, the relationship between southern farms and rural communities or, more broadly, rural economic development is not well understood. More importantly, it is probably the wrong focus for understanding the dynamics of southern rural economies. In most southern rural areas, the farm sector in Figure 1 should be replaced by manufacturing as the key economic sector. Moreover, government, retirement, and mining activities are bases of economic activity that are more important than farming to many southern rural economies.

The myth of the rural South as farm dependent needs to be exposed. In a refreshing

[1]Indeed, it is interesting to note that Hines et al. find that about 30 percent of employment in all nonmetro counties is in agriculturally related sectors. However, the rural South is much more dependent on nonfarm activities (especially manufacturing) than rural America in total. Moreover, the Hines et al. analysis includes all trade and processing activities related to food products. Tamblyn and Powell argue that only the processing and marketing activities that depend on the *local* supplies of farm goods (e.g., the first stage of processing like sugar cane crushing) should be counted as agriculturally dependent for that region. Activities that could obtain raw goods for processing from sources other than the local farm sector are not truly dependent on the local farm sector and should not be considered as such in their view.

breath of intellectual honesty, a high-level administrator of a leading southern university recently spoke of the need to expose this myth and to get on with the business of new coalition building to assure the vitality of the southern colleges of agriculture:

> The basic issue is one of finding a solution to the dilemma of the metro South and the non-metro or rural South growing farther apart. . . . The place to start in getting on with this awesome task is recognizing the reality of the situation. I want to suggest the best way of doing this is coming to grips with a number of myths that weight us down, shorten our vision, and blind us to our opportunities. . . . The second myth may sound strange coming from one who carries a heavy agricultural responsibility. It is the myth that says the rural South is still dominated by the Agrarian Creed. Not so! Society has until recent times viewed agriculture as the base on which society rests. As much as we would like for this to be true, we must see the reality of its falsehood (Duvall, p. 2).

TRENDS AND ADJUSTMENTS IMPACTING SOUTHERN RURAL ECONOMIC DEVELOPMENT

"Not being listened to is not an excuse for not giving a warning" (Thurow, p. 217).

Trends in the national and international economy and the adjustment implications for rural America are analyzed in several excellent recent monographs. A major effort by the Agriculture and Rural Economy Division, (ERS), *Rural Economic Development in the 1980's: Preparing for the Future*, provides a comprehensive overview of the recent trends in rural America as well as some broad policy analysis. De Janvry et al. summarize this report as follows:

> ERS amply documents that the rural areas of the United States are going through a period of protracted economic crisis with serious welfare costs for a significant fraction of the rural population. The 1980's have so far been characterized by downturns in agricultural incomes and by falling employment opportunities for the rural labor force in mining, energy, and manufacturing. The result has been a rising unemployment, net out-

TABLE 1. POPULATION, PERSONAL INCOME, AND PER CAPITA INCOME, SOUTHERN METROPOLITAN AND NONMETRO COUNTIES, 1984[a]

County		Population		Income		Per Capita
Type	Number	Number	Percent	($1,000)	Percent	Income
All	1,304	71,394,847	100.0	820,830,976	100.0	11,497
Metro	254	44,654,049	62.5	567,594,003	69.1	12,711
Nonmet	1,050	26,740,798	37.5	253,236,973	30.9	9,470
Man	342	10,830,150	40.5	103,101,774	40.7	9,520
Min	80	1,698,344	6.4	16,299,480	6.4	9,597
Ag	188	2,394,628	9.0	21,195,380	8.4	8,851
Ret	113	3,514,985	13.1	36,201,944	14.3	10,299
Gov	87	2,791,368	10.4	25,841,432	10.2	9,258
Mix	68	1,165,169	4.4	10,125,150	4.0	8,690
Trd	131	3,566,376	13.3	34,830,993	13.8	9,766
Oth	41	779,778	2.9	5,640,820	2.2	7,234

[a]Source: Calculated by the author from unpublished data, Bureau of Economic Analysis, U.S. Department of Commerce. The 13 southern states are VA, NC, KY, TN, SC, GA, AL, MS, OK, AR, TX, and LA. County type designations are defined in Economic Research Service and Henry by the dominant economic base in the county. These are: Manufacturing (Man) counties with at least 30 percent of total labor and proprietor's income from manufacturing in 1979; Mining (Min) counties received at least 20 percent of this income from mining im 1979; Agricultural (Ag) counties realized at least 20 percent of their labor and proprietor's income from farming over the 1975–1979 period; Government (Gov) counties received at least 25 percent of this income from government payrolls; Retirement (Ret) counties are identified by 1970–1980 inmigration patterns—more than 15 percent of inmigrants in 1980 over the age of 60 defined the county to be retirement-based; Mixed (Mix) counties met more than one of the economic base criteria; Diverse or Trade (Trd) counties do not fall into any of the categories; and Other (Oth) counties do not meet any of the base categories but are either persistent poverty or federal land counties.

migration, and a higher relative incidence of poverty in the rural areas. The prospects of sharply curtailed farm commodity programs in response to pressures to reduce the national budget deficit and the possibility of decoupling farm income from price support programs add considerable uncertainty to the economic prospects for rural areas (de Janvry et al., p. 1).

Not to be outdone, the Resources and Technology Division of ERS has published the *Social Science Agricultural Agenda Project: Proceedings of Phase I Workshop* held in June of 1987. This monograph takes a more conceptual view of the role of social science in solving rural problems. The chapters by Hite and Thurow are especially helpful in understanding the adjustments likely to take place in rural America. Drabenstott and Gibson at the Kansas City Federal Reserve Bank have also published a booklet identifying some urban/rural trends and policy options for rural America. The Center for Agriculture and Rural Development of the Council of State Governments published working papers on *Rural Economic Development: The States Agenda* in 1987. Taking a more international perspective, the Aspen Institute under sponsorship of the Ford Foundation held a conference in November, 1987, at Wye Island, Maryland, on "Policy Options for Rural Development in a Restructured Global Economy: An International Seminar." Importantly, the topic was rural development in the United States and Western Europe—not Third World countries.

The South and its rural development problems have been the subject of three recent monographs. The most prominent was done outside the USDA-land grant system—the series of reports by the Commission on the Future of the South under the guidance of Rosenfeld and Bergman was published by the Southern Growth Policies Board in 1986. Trends and prospects for rural areas of the South are well documented in this series. More recently, the land grant universities through the Southern Rural Development Center (SRDC) held a conference, "The Rural South in Crisis," and published selected papers. Finally, the Southern Natural Resource Economics Committee (SNERC) published proceedings from its 1987 meeting, "Agriculture and Rural Development Issues in the South" (Mulkey and Clouser).

Summarizing all the findings of how trends and adjustments are affecting the rural South in this paper is not possible. Yet there are two fundamental themes that are evident in most of these documents. First, there is a focus on rural economic development problems as distinct from farm problems. Problems of the farm sector are secondary to a host of other economic development issues in evaluating the potential for rural growth and development. Second, the gap between the economic well-being of metro and nonmetro residents of the South is likely to widen as metro areas absorb the most productive rural resources.

The Decline of Farming in Southern Rural Development

Data reflecting the decline in number of farms and farm income as a share of rural South income are well known. The results reported in Table 1 suggest that only a small share of southern rural counties are dominated by farming activities. One may quibble about the interpretation of a given set of data indicating a decline in the importance of farming to southern rural development. However, the long-run adjustment to fewer farms will continue. Paraphrasing Thurow, the simple analytics of farm decline are evident: the overriding trend since World War II has been reallocation of farm resources, especially labor, to other sectors. The reasons are simple—farm products are characterized by low income and price elasticities of demand. Current efforts by the land grant universities to increase farm productivity suffer from the fallacy of composition. The faster that individual productivity grows taken in tandem with inelastic demands, the more rapid the decline in farm numbers. Using more labor-intensive farming techniques (i.e., fewer chemicals and capital) will lead to lower farm numbers also because this leads to decreasing per-farm income and off-farm employment becomes even more attractive. As Thurow indicates:

> The number of farmers can only stabilize if farm productivity grows at a rate that is substantially less than the rate at which real incomes are growing in the consuming sector. With output per hour of farm work growing at 5 percent per year in the 1980's and real personal income growing at less than 3 percent per year, simple arithmetic guarantees fewer farmers. With large productivity

gains from biotechnology looming on the horizon there is also little reason to believe that any slowdown in the growth of farm productivity is about to occur (Thurow, p. 200).

Addressing the "technological-fix" myth for farm problems, Thurow states:

> Unfortunately the biotechnology revolution that is now upon us is apt to bias our vision toward the traditional goals of increasing the production of our traditional products even more. It will be seen as the new miracle cure—a chance to once again get ahead of the foreigners in productivity. It won't happen. The rest of the world can keep pace with our agricultural research just as it keeps pace with our industrial research (Thurow, pp. 207–08).

Will the recent dramatic depreciation of the dollar act as a stimulus to farm exports and a revitalization of the rural southern economies? Thurow is pessimistic because of world gluts of many farm commodities associated with dramatic increases in productivity worldwide. Duvall is pessimistic for similar reasons. De Janvry et al. offer a more optimistic outlook for selected farming regions:

> While the response of exports to adjustment of the real exchange rate remains highly conditional upon future policy interventions to restrict supply and/or subsidize exports in a situation of massive excess capacity, this is not the case for imports which are less dependent upon political forces and more subject to real exchange rate adjustments. Economic reactivation of rural areas in the years to come should thus be based on the possibilities of import substitution in agriculture (ISA) and on the associated linkage effects in addition to whatever new export opportunities may also come about (de Janvry et al., pp. 13–14).

What are these ISA options? Considering the adjustments of the U.S. real exchange rate relative to major farm trading partners both in developing countries and Western Europe, de Janvry et al. conclude:

> The dominant products for which incentives to import substitute exist are wines . . . malt beverages . . . pork . . . cheese . . . fruit juices (excluding orange) . . . biscuits and wafers . . . furs . . . and olives . . . Most of these products are not competitive with imports from LDC's and have a high value added content. In addition to the boost from exports eventually provided by real exchange rate depreciation, it is in these commodities that a serious effort should be made to reactivate the corresponding sectors of agricultural production and the activities linked forward and backward with the production of these commodities (de Janvry et al., p. 14).

Given the current composition of farm products in the South, it appears that little farm sector revitalization will be associated with ISA. Duvall summarizes the "foreign trade as farm saviour" view as follows:

> There are many who preach the inevitable return to a Southern agriculture as we saw in the booming and profitable days of the early 70's. Their thesis says that someway, somehow the combination of factors resulting in the brightness of those days will be put back together again. Who among us believe the restoration of that combination of very profitable commodity prices, rapidly expanding world markets, favorable dollar exchange rates, a booming world economy, escalating land values and cheap, easily obtainable credit will ever return? Certainly, I don't, and I believe it's a myth that needs putting behind us (Duvall, p. 3).

In sum, expansion of southern farm activity will be most unlikely to provide the stimulus needed to spur development of the rural South for two reasons. First, farming dominates a small share of rural southern counties as a source of income. Most of the rural South is dominated by manufacturing or some other economic base. Thus if one wants to look at the long-run relationship between southern farming and southern rural communities, a focus on the off-farm employment opportunities is needed. The relevant research question is: can rural communities support more part-time farming or farmers who exit farming altogether? Second, the long-term prospects are for fewer southern farms. The income that accrues to southern farms that remain will grow slowly relative to other sectors of the rural South because of low income and price elasticities for farm products. On a more optimistic note, there are substantial growth

possibilities from the food and farming system in the rural South (i.e., the linkages illustrated in Figure 1).

What is likely to happen to the development of the rural South if farming is not going to be the major player it once was? The second theme of recent writing in this area addresses the prospects for closing the rural-urban economic gap in the South.

The Rural/Urban Economic Gap in the South

Since the late 1970's and up until very recently, the rate of growth in real income and population has favored metro (urban) areas of the South (Mulkey and Henry) with the exception of a group of rural counties that depend on transfer payments from retirees and government activities. Rural (nonmetro) counties have a narrow economic base when compared to metro counties. Unfortunately for much of the rural South, the manufacturing and natural resource economic bases have been weakened through much of the 1980's by adverse movements in foreign exchange markets, gluts of export commodities, and low-cost, foreign competition in the manufacturing sector. As Castle argues, labor-intensive manufacturing and natural resource industries respond to depressed markets by cutting output and labor use. In cases where technical progress is important, less labor is reemployed as markets rebound. Manufacturers attempt to regain markets by implementing labor-saving and cost-reducing strategies, especially in markets where rural U.S. manufacturers go head-to-head in competition with "cheap" labor overseas.

While these adjustments are no doubt important for the efficiency of the U.S. economy, there are potentially profound effects on the spatial distribution of employment and income between rural and urban areas. Rural areas that lack the ability to counter declines in one basic sector with growth in another are on a downward spiral of economic adjustment to a new equilibrium with lower relative (to metro areas) economic and social well-being. The most able and mobile resources leave the rural area. Physical deterioration of infrastructure and declining commercial activity and property tax bases are likely. No doubt many southern rural communities will play out this scenario during the next recession and will find it even harder to rebound than during the early 1980's recession. The emerging metro centers of the South will continue to pull resources from the rural areas.

While many rural southern communities have been "hanging-in-there" during the five year expansion of the U.S. economy, the metro/nonmetro gap has widened in the 1980's. It is likely to widen further in the 1990's with the exception of the amenity-based and government-dominated areas. There is, however, reason to think rural manufacturing that dominates much of the rural South may find renewed prosperity with the recent depreciation of the dollar (see Figure 2). Using Branson and Love's estimates of the

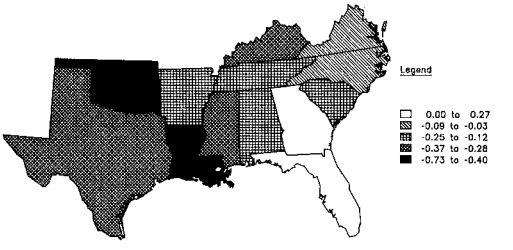

Figure 2. Exchange Rate Coefficient by Southern States, Elasticity of Manufacturing Employment with Respect to Changes in Real Exchange Rate.

elasticity of state manufacturing employment with respect to changes in the real exchange rate (energy prices held constant), Oklahoma and Louisiana will benefit most from recent dollar depreciation. Georgia and Florida will benefit the least. For South Carolina, Mississippi, and Arkansas, Branson and Love found little difference between metro and nonmetro exchange rate elasticities. Metro elasticities exceed those in nonmetro counties in Alabama and West Virginia (see Figure 3).

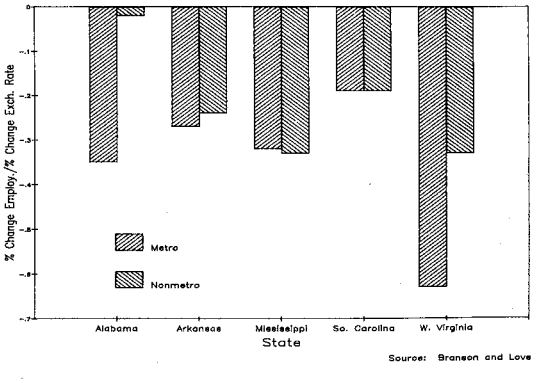

Figure 3. Real Exchange Rate Elasticity.

Yet employment is likely to grow more slowly than output because of the technological change that rural southern manufacturers have adopted in their drive to compete with low cost labor overseas.

Moreover, service sectors are the growth leaders now. And most of the surging growth in the service sectors will accrue to areas with the requisite population densities. Rural places that can sell environmental amenities to potential *residents* may be able to close the gap with metro places. Castle has noted that the "economic cost of geographic distance" may decline, thus making remote areas more attractive as residential centers. Places that avoid congestion and urban problems and maintain a high quality environment have the potential to prosper. He also argues that for these rural places the choice of part-time farm households to stay on farms should be viewed as a residential choice rather than an occupational choice. Thus, keeping resources in farming is dependent on alternative residential choice, not best use of farm resources in alternative occupations. This implies a way of looking at farm resource allocation questions that is substantially different from standard production economics.

In sum, for most rural counties in the South, the economic gap between rural and urban places is likely to grow. Short-run boosts to the rural economy of the South from dollar depreciation may come from increases in manufactured exports and reduction in competitive imports. But these boosts may favor southern urban areas or be neutral on the urban/rural employment distribution. The coming recession will again shake out the weak manufacturing links in the rural South. Service sector growth is likely to be tied to population and business agglomeration forces (i.e., mainly in metro areas). This is especially relevant for the South since "large places"—outside of the obvious metro giants—are not congested and suffering the localized price pressures on real estate evident in the Northeast. Small growth centers in the South probably will attract most of the new service sector investment in business and professional areas as well as in trade and personal service activities.

One development implication is the need to tie rural growth to regional growth centers. High-tech parks and other R&D based development efforts will tend to concentrate most new activity of this kind in urban complexes like the Research Triangle. Anticipated spinoffs of production jobs to low-cost, southern rural areas have not been realized yet (Lugar). For the nonmetro West, Barkley et al. conclude that "the number of high tech plants and jobs is not large, and the plants in this sector have a definite urban location bias." In the short-run, spread effects from these growth centers to more remote rural places will be less than backwash effects (i.e., there will be a net transfer of economic activity to the growth centers). Yet rural areas that maintain quality infrastructure will be in position to develop from spread effects of growth centers. Short-run commuter assistance and targeting infrastructure aid such that it serves to provide the missing key for rural regional development will help to avoid deteriorating tax bases and commercial activity in rural areas. Policymakers need to think "regionally" rather than about the county or community in isolation. Rural/urban linkages in rural development policy and multicounty cooperative efforts are likely to be increasingly important to the growth of the rural South.

How can USDA and the land grant institutions and more particularly agricultural economists help to bring about a more robust rural economy in the South? Part of our challenge as economists is to estimate the social returns to intellectual resources devoted to production agriculture in the South vis-à-vis alternative uses of these increasingly scarce resources. In the final section of this paper, some suggestions are made on directions that rural economic development research might take and some institutional changes that may be prerequisites for moving ahead with meaningful study of the economic development of the rural South.

DIRECTIONS FOR RURAL ECONOMIC DEVELOPMENT RESEARCH IN THE SOUTH

Rural economic development research needs to go much beyond the comfortable notion that new technology in production agriculture and innovative use of the technology are the vehicles by which agricultural colleges in the South promote rural economic development. As argued in earlier sections of this paper, this focus ignores most of the activities in the food and fiber system and is likely to hasten the decline in the number of farmers in the South. More importantly, it also misses the opportunity to assist the vast majority of rural residents in the South who have little connection to farming.

Land grant research and extension activities have proven track records for improving farm productivity, and these efforts have resulted in substantial benefits to society (i.e., cost-efficient production resulting in low consumer food prices and food "security"). Public and political support for production agriculture research will no doubt continue because of this track record regardless of the demise of the family farm. These benefits accrue to all of society so that the more densely populated urban areas are where most of the beneficiaries are located while the social and economic adjustments have been made primarily in rural communities in the past decade or so.[2] A case can be made on these grounds that the colleges of agriculture are, in effect, dominated by urban interests that want to maintain low food prices while rural areas make the requisite social and economic adjustments with very limited assistance from the land grant system or USDA. This assertion may seem less aberrant upon review of reports of past rural development efforts like that by de Janvry et al.. A few summary observations on their findings of the efficacy of past rural development efforts support the urban (commercial farm) bias notion of land grant research:

> In the 1960's, renewed attention was focused on the poor in American society. Growing unemployment and unrest in the cities were seen partly as linked to rural development and rural-urban migration. The President's National Advisory Committee on Rural Poverty was created in 1966 to address these issues, and it is interesting to examine the proposals in its famous report, *The People Left Behind*, because in many ways they revived the ideas of the New Deal which had been largely abandoned under postwar growthmanship. . . . Some of the important ideas were:
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> Redirect the efforts of Cooperative Extension toward helping small farmers and the poor . . .
>
> Shift resources in the land-grant universities away from technological development toward helping rural people adapt to changes wrought by technology, including an alternative extension system . . .
>
> Make a massive attempt to improve manpower services, including job training and retraining, skill development, information networking to help labor markets function, and relocation assistance . . .
>
> Promote regional development through temporary federal subsidies to industry. The Commission had many proposals for regional planning, again, echoing the Tennessee Valley Authority and other New Deal programs . . .
>
> Some of these ideas were marginally implemented . . . The striking similarity between programs of the 1930's and the 1967 proposals suggests a rural agenda which has never been given sustained support. . . . In part it is due to the redistributive nature of the proposals which strike at subsidies to dominant rural interests: farm payments, water, extension, university research, credit, labor—in effect, all the policies of commercial agriculture . . .
>
> The policies implemented in the 1970s as 'rural development' were essentially rural industrialization policies, attempts to induce private capital to contribute to local development in certain rural areas—a trickle down approach to the poor. . . . While rural industrialization did employ many more than researchers expected, it seldom employed the poor or chronically unemployed, . . . it was distributed unevenly in rural areas, . . . and it was fundamentally composed of branch plants seeking lower wage environments. . . . There was a brief resurgence of interest in alternative rural strategies in the Carter administration exemplified by a focus on the effects of farm structural change and an attempt to redirect FmHA resources toward the poor and disadvantaged.

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[2]Of course, much of the displaced southern farm labor prior to the Civil Rights movement of the 1960s migrated to urban areas of the North where social and economic adjustment costs were also made. Since then, there are simply fewer farmers to displace, and the metro areas of the South have become more likely destinations for the displaced. These southern metro areas seem to have absorbed the displaced rural workers of the past two decades with lower adjustment costs than the more congested urban complexes of the North. See Thurow for some estimates of the change in number of farm outmigrants since World War II.

> . . . However, this has been followed in the 1980s by a shift back toward trickle down policies (de Janvry et al., pp. 9-10).

In sum, cheap labor for urban industry (initially for northern based branch plants) along with cheap food for urban populations seems to be the focus of much of the recent "rural development" efforts. Moving beyond the idea that southern rural development policy is "selling low wage labor" will be difficult at best.[3]

Some Institutional Issues

Several leading analysts of rural America (Deavers; de Janvry et al.; Bonnen) have noted the need to fill an emerging "policy space" in the late 1980s with some innovation in rural development efforts. For the rural South, there are two institutional directions that need serious consideration. First, state and, to a lesser extent, local government focus on their rural areas is critical. Federal support will simply not be available on a large scale. And perhaps this is a blessing in disguise. State institutions in the South are much better equipped and motivated to address rural development problems than they were prior to the 1960s. Being closer and perhaps more committed to problems unique to their own rural areas gives these institutions a much better chance to succeed than the federal programs of the 1960s and 1970s. It is not hard to conceptualize state-level versions of the Appalachian Regional Commission which could undertake very active research activities to evaluate alternatives for rural development in their states.

Second, which state and local institutions will play a key role in rural development? Given the various rural development legislative initiatives over the past few decades, it would appear that the colleges of agriculture are mandated to be involved. The problem is that the lip service paid to non-commercial farm activities provides enough "in-name" effort for rural development that the colleges may indeed be hindering the effective use of state resources to help solve the real problems of the rural South. Others hold a similar view:

> Many people, myself included, have been highly impressed by the land grant and USDA performance in education and research in agriculture. We have argued that this same approach should be applied to a broader range of social problems and that the land grants should take the lead in doing so. However, an important consideration may have been neglected in these arguments. Even though there is no obvious reason why the land grants cannot provide superior leadership in addressing the problems of rural America, I now believe they will do so only if the traditional tie to agriculture is severed or at least severely weakened. The traditional emphasis on commercial agriculture is given priority both internally and externally when schools and colleges of agriculture within the land grants come under stress. The external political ties of these schools and colleges to commercial agriculture interests often preclude their adopting a broader approach. Thus, I conclude reluctantly that even though a land grant commitment to the rural area is highly commendable, such efforts may not be effective when they are under the control of the schools and colleges of agriculture within those institutions (Castle, p. 23).[4]

Even if colleges of agriculture are committed to rural economic development, another fundamental question arises. Can colleges of agriculture compete with business schools or other institutions in analyzing economic development problems in the South? As argued in the preceding pages, there is much more to the rural South than farming. Even taking the view that the farm itself should be the center of attention in Figure 1, it is not clear that colleges of agriculture are well positioned to undertake the needed research to analyze the non-farm linkages—much less problems of the general (vast majority) rural non-farm population. As Thurow puts it:

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[3]Smith and Anschel note that one plausible explanation for persistent low levels of achievement in remote Kentucky counties is not insufficient school funding but rather a local socioeconomic milieu that fosters low-level aspirations for educational achievement. This in turn may be associated with the dominance of local labor markets by low-wage, seniority-driven advancement ladders.

[4]Ed Bergman—author of "Urban Might/Rural Flight" in the Commission on the Future of the South report—recently suggested that rural development needs to be separated from the USDA. USDA should be renamed the U.S. Farm Commodities Department and the functions for rural development taken up by an expanded HUD, a Department of Urban and Community Development, for example.

> One can of course point out that the food sector is much bigger than farming alone and that the rural population is far greater than the farm population, but if the food sector or the rural population is to be the focus of attention then one must judge colleges of agriculture on how much they have done to help the food sector or the rural population to be more successful. Only small amounts of attention have been focused on the non-farm rural population and aid to the food sector is spotty. The farther one gets away from the farm in the food chain the less attention has been paid. Looking forward one must also ask whether colleges of agriculture and the extension service have any comparative advantage in helping food businesses or the non-farm rural population vis-à-vis general schools of business (Thurow, p. 200).

Assuming that colleges of agriculture develop the leadership role in rural economic development as traditional farm clientele dwindle in number, what directions are they likely to take to address the problems of the rural South? Two broad areas that should capture increasing shares of the research and extension pie are discussed in the final section. The area to be emphasized depends on the fundamental choice made by policymakers: whether to let rural areas in decline wither away or to establish new growth centers and development strategies that will bring declining rural areas into the economic mainstream of the future.

Should Lagging Rural Areas be Allowed to Languish?

Of course, private sector locational choices will dominate the spatial investment decision process. Accordingly, what new research is needed in this context to assist the private sector in making choices that will help to reduce the rural/urban economic gap? Some researchers (Castle) hold little hope that government can have sector specific policies for rural development. They simply believe that market forces will cause some rural places to be losers while others may prosper. Loser communities should be allowed to wither away and government should provide "adaptability capital"—both human and physical infrastructure—to ease the transition or demise of the loser places. They emphasize the role of government as a provider of high quality infrastructure and attractive residential communities in terms of public services for residents. The business development role for state and local government should be downgraded since this is something that governments simply do not know how to do well.

A possible flaw in this reasoning is that the withering away of some places may entail substantial losses of private and public sector capital that is site specific. And as noted earlier, loser places are not likely to have the resources to provide "adaptability capital." Furthermore, for some regions there may be added costs of urban congestion and new capital investment in urban areas to accommodate rural inmigrants at the same time that rural capital is underutilized and allowed to deteriorate. Finally, the cost to individuals who lose the sense of belonging to a community has been noted by Thurow:

> Miners protest at being driven out of mining. Why? Let me give you an answer based on my growing up in a mining community. When the mines close miners are forced to leave their community and these communities are very close knit communities given their usual geographic isolation and the shared dangers of working underground. Miners don't love their job, but they love their community and don't want to be forced to leave. *If feelings of community are really at the heart of the issue, then one can think of how communities can be maintained, but this would not necessarily lead to the conclusion that mining should be subsidized. There might be much better techniques for keeping these communities alive* (Thurow, p. 213).

Here is the crux of the matter for future rural economic development research: if policymakers decide that rural losers in farming, manufacturing, or mining communities of the South should be allowed to wither away, then the major research questions are how to best use scarce public resources to ease the flow of people and capital out of the rural South. But if keeping declining communities alive is the issue, the question is how best to achieve that goal. If the decline scenario is adopted, then the emphasis will turn to education and training programs and temporary subsidies for maintenance of basic physical infrastructure.

This presumes that research on the social benefits and costs of such a policy decision have been made and that no important externalities of a widening rural/urban economic growth gap will result from market forces. Economic efficiency in regional resource reallocation—assumed to result from market forces—may have unanticipated effects in addition to potential social costs already mentioned. Wright summarizes the issue:

> The broader set of implications is for the scope of our domain as economists in considering the development process. Factor prices and per capita incomes may well tend to converge among regions and nations. But there is a big difference between convergence via absorption into another economy, with massive flow of labor and capital in both directions, and convergence via the establishment of new growth centers with distinct technologies and organizations adapted to local circumstances. Japan is an example of a new growth center, as was the United States in the 19th century; the postwar U.S. South is an example of absorption. Southern history is not a case study in economic development; it is a case of a region being forced from one growth trajectory to another. The new growth path has largely destroyed the South's regionhood. But this effect was not an inevitable by-product of growth itself, but a result of the particular path taken; in effect, a policy decision (Wright, p. 176).

The Proactive Path

What if the second path is considered by policymakers? Will attempts to establish growth centers that adapt new technology to rural regional circumstances succeed in bringing rural growth paths up to par with those of urban centers? Will such a path to rural/urban convergence be preferred to the massive labor and capital flows implied in the alternative choice? Will southern urban places have a stake in eliminating southern rural poverty (i.e., avoid transfer of the problems to an increasingly congested set of southern metro centers)? If these are the issues to be considered, a much broader research agenda is implied. A brief summary of some of these topics concludes the paper.

"Value-Added" with a Regional Twist

One can argue that the recent wave of new institutes on "value-added" activities that are springing up at land grants indicates that the colleges of agriculture are going after the non-farm linkages in a more high-profile manner. Given that Lee et al. estimated that for 1985, 15.7 percent of GNP was non-farm but "food and fiber sector" related while only 1.8 percent of GNP was from Gross Farm Product, the non-farm part of the food and fiber system is clearly worthy of added attention by the land grants. There are a host of research issues that arise in the context of economic development for the rural South. The most important twist to this notion is that food and fiber system activities most often will not occupy the center stage of activities illustrated in Figure 1 in the rural South. The backward and forward linkages with a wide array of manufacturing or tourism activities or retirement centers or rural trade centers all could occupy the center stage that farming has in Figure 1.

Still, food processing and farm input industries offer good examples of the potential for rural areas where costs of transporting raw farm commodities exceed the cost of transporting finished products, *ceteris paribus*. How would the traditional agricultural economist evaluate these possibilities? Ferris makes the following case for state level activity in "value-added" research so that imperfections of the purely competitive market structure are addressed:

> 1. Typically, a food industry may have a few large processors and many small processors. Public policy announcements indicate general support for assisting small business to maintain competition. Small firms have limited resources for research and development. State government has a proper role in assisting these firms to compete.
>
> 2. A state may be the ideal location for a new food processor, but the hurdles of getting started are difficult to surmount. The state government can properly facilitate the process by providing certain services such as furnishing information on sites, regulations, quality of the labor force, etc.
>
> 3. One of the strongest drives of food processors is to make their product

different, real or imagined. . . . The success of these firms can result in a net social benefit if they provide a wider variety of choices and improved quality. The total market may be enlarged and other firms may later follow suit. Providing assistance to small food processing firms which the state identifies as having a quality product and/or innovative marketing ideas, may be justified even though the state is not the optimum location for the firm from the operational efficient standpoint.

4. Even with extensive data bases and analytical resources, firms may make many mistakes in deciding on location. The state has a proper role in providing information which can help private firms in making the correct decisions. This may be in the form of state support for agricultural statistics services, market news and land grant universities (Ferris, pp. 3-4).

Of course, non-food processing firms may need state assistance on many of the same grounds that Ferris argues justify state assistance for food processing activities. A comprehensive view of how this assistance might be packaged is Integrated Rural Development (IRD) or one-stop shopping for state assistance in rural development.

Integrated Rural Development for Southern States

The diversity of economic base and geographic characteristics in the rural South argues for a flexible set of rural development policies. Further, as rural development policy finds its own political space it will be increasingly divorced from agricultural policy. As Newby has argued, the policy trick is to take diverse pieces of development policy and form them into a package that local policymakers can find understandable and doable with their resources. Bryden and Fuller emphasize that under the new research agenda associated with localized integrated rural development:

> . . . one will also be looking for research agenda which inform the prospects for locally based integrated development as opposed to vast infrastructure projects and externally oriented initiatives; . . . e.g., how to achieve external and internal economies of scale in diffused production systems, appropriate transport and communications networks, marketing and support structures and organization, and supporting services in general including education, training and research (Bryden and Fuller, p. 11).

Integrated rural development also implies the need to understand how the household and government sectors interact with the regional rural economy. Social accounting matrices (SAM) like those developed by de Janvry et al. are good candidates for providing the conceptual and empirical framework within which to understand the rural regional economy and how it will respond to policy initiatives at the local level. Importantly, such research efforts should allow *ex ante* evaluation of alternative policy directions. Logical extensions of these efforts might be computable general equilibrium models (CGE) for rural regional economies. SAMs and eco-demographic extensions of interindustry models have been used most in Europe and formulated by regional scientists. In the South, beginning efforts have been made to construct such models. However, these models need full-time commitments of resources on a long-run basis to maintain the data base requirements of the models. Moreover, more local data are needed to reflect the changes taking place at the local level. Regions need more careful delineation, and the household and governmental sectors need more conceptual and empirical attention as key actors in the rural regional models. Rural regions within each state should be the focus of each state group with a regional project to provide commonality of data bases and methodological procedures.

What is in the Box?

A general view of how the rural regional economy works and how it interacts with urban growth centers is needed to evaluate the potential effects of alternative economic development policies. Yet the accuracy and utility of these results will depend on knowledge of the behavior of the major actors in the boxes of Figure 1. Research needs to specify and measure urban-rural linkages in the interindustry and household sectors in detail. Commuter patterns, migration behavior, human capital formation processes, household expenditure behavior, and income distribution consequences of alternative policy scenarios are all important determinants of how the rural regional economy works and how it will respond to new development policy initia-

tives. Much of the work of traditional marketing economics fits into the boxes in Figure 1. But the farm focus of the agricultural marketing work may need to be recast in more general terms for most rural regional economies of the South. The same tools of analysis are needed but should be applied to different subject matter. The general view will also improve the accuracy and utility of micro studies of migration behavior, commuter patterns, and other rural labor market issues by providing information on the constraints and opportunities for households in regional labor markets from the supply side.

Uses of the Rural Regional Framework for Economic Development of the Rural South

A research area that can be assessed with well-appointed rural-regional models is benefit/cost and rate of return on public policy initiatives. What are the rates of return to land grant investment in research for rural development versus production agriculture? What are the household and urban/rural distributions of the benefits and costs of such research efforts. What are the long-run rates of return to rural areas of investments in physical and human capital? Identifying the most efficient ways to preserve southern rural communities is to answer the question posed by Thurow.

A second basic research area that can be addressed is locational analysis—can everyone have a new aquaculture industry? Can rural counties cooperate on a regional concept for pooling infrastructure investment to compete with larger metro counties for new investment? If so, for what kind of industry? Can they be tied to existing growth centers to provide satellite goods and services. Saturn located in Spring Hill, Tennessee, not because of low wages for GM employees (national contract) but because labor costs for supporting industry (and thus lower input costs for intermediate goods) were lower than in the competing areas of the country—and because of good transportation characteristics in the Nashville area (Fox and Neel). Can nearby counties identify goods and services that will be needed by Saturn for which the region has an advantage over other suppliers?

A third basic area of research and extension is in infrastructure planning and evaluation. Fox envisages a broad research agenda for evaluating the role of infrastructure investment in development. He finds a fragmented structure of uncoordinated state agencies each with some niche in the economic development arena. Often decisions on investment are based on noneconomic development considerations (e.g., traffic counts for new highways). The relevant question to ask is: will added infrastructure cause added economic growth? Not, is there an association between the two—which there is. On the supply side, (a) does new infrastructure investment make other investments inputs more productive, and/or (b) is it a direct input into the firm's production function? See Eberts on this issue. On the demand side, there is Keynesian stimulation (short-run) and quality of life enhancement to promote demand for rural residential choices.

Fox finds that, for Tennessee, there are a variety of ways in which infrastructure investment can play a role in economic development. Public physical capital (water, sewer, roads, etc.) is necessary but not sufficient at the margin to stimulate development. Transportation projects—except for basic maintenance—are likely to redistribute economic activity rather than enhance the total. Are the new development highway schemes in many southern states likely to promote rural development? Many programs that are not supposed to have a rural development impact may in fact unwittingly bypass rural areas. New highways to speed tourists to the beach may make rural communities along the old routes even more isolated despite the presence of new highway links. State research parks may concentrate new investment that would have come to the state anyway in selected urban centers.

Water and sewer quality suffer when local authorities are reluctant to cover costs with rate increases (Ulbrich et al.). Enhanced telecommunications are needed in rural areas to compete with urban areas (Dillman). Quality and diversity of public physical capital are needed in rural areas without doubt. Again the relevant question is how much added investment is justifiable given alternative uses of the resources for development. (See Johnson et al. for some recent work in this area.)

Fox also suggests that human capital investment overemphasizes primary and secondary schools relative to higher education and management training needed to attract potential management in-migrants. And there is a need to focus more on the retraining of existing workers, especially in the retooling of those who are exiting declining sectors. Smith

and Anschel hypothesize that added investment in primary and secondary education will have little payoff for many low achieving counties. Why? Because the socioeconomic environment in which the young of these places make decisions on human capital investment rewards minimum education and longevity in low-skill job opportunities.

Private capital that might substitute for public investment will dominate most regions. The public role is to fill gaps in the market—small business, minority, and rural seed capital. An array of programs has sprung up to fill these niches, and a need exists to evaluate the relative effectiveness of these programs.

The effects of deregulated financial and transportation industries on rural areas has many impacts on the ability of rural areas to grow. Given the diversity of the rural South, these effects and effects of any reregulation will need to be evaluated for impacts on regional rural growth strategies.

Finally, a variety of state and local tax and subsidy schemes to spread "development" to distressed rural counties exists. What effects are they likely to have? Who benefits and who pays the costs of these programs?

CONCLUSION

The key question to be answered is what will work in rural economic development of the South. It seems likely that answers will vary state by state and region by region within states. The need to target infrastructure investments to geographical areas and by type of investment according to some kind of social marginal productivity criteria is critical for making best use of scarce rural development efforts. To make such choices, analysts will need to understand how alternative rural development policies and tools will affect the growth of their rural region. Colleges of agriculture may choose not to undertake this "awesome task" that Duvall described. If they don't, pressure will build on government from the non-farm rural constituents and farmers seeking part-time work for others to perform this task. Several eminent analysts (Castle; Bergman) feel that the traditional land grant-USDA problem solving apparatus will not be effective in solving rural problems. If the southern colleges of agriculture—states with the most severe rural development problems—will not take on this task, then the policy choice by agricultural colleges has been made to let declining places wither away. Other institutions—on and off campus—will fill the void. Advances in production agriculture for the South will be the focus for state experiment stations. Some advances will be made. However, it seems that much effort will be extended in attempts to keep southern agriculture competitive with that in other states despite environmental advantages outside the South and projections of gluts in basic commodities. As Clouser and Libby note:

> Should row crop production be encouraged in the South based on our knowledge of the comparative advantage that exists in the Midwest and current excess supplies? Although this paper will not address that problem, it is issues such as this that land-grant institutions have been sidestepping (Clouser and Libby, p. 51).

It's time to stop the sidestepping and to analyze these issues and their implications for resource allocation within the land grants. Production research in southern agricultural experiment stations should be shown to be as important as the non-farm rural development issues mentioned in this paper. Societal benefits may justify its continuation at an even greater scale. Of course the converse also is possible. Rural development research should not be bound by agricultural shackles. Castle may be right. Rural development activities may be most likely to prosper outside the colleges of agriculture. With the seemingly unavoidable arithmetic of declining farm numbers in the United States, it might also be prudent to ask if colleges of agriculture in the South can prosper without increased rural development activity. Some colleges have made substantial efforts in rural development, but most have not. All need to look at their decisions on where to direct new resources in the context of where rural economies are headed. Substantial opportunity exists for these colleges to take the lead in southern rural development. However, traditional ties to commercial agriculture will not be the main path to influencing the vitality of the rural South. New coalitions between colleges of agriculture and state and local government, rural households, and non-farm business can be built. This process has been underway for years in some states. The time has come to push these efforts to the forefront. Active research and extension programs to assist the growing rural clientele of non-commercial farms will be needed. The benign neglect of southern rural development by colleges of

agriculture is a policy choice. It is likely to be a choice with paradoxical consequences for institutions that want to lead the biotech revolution. Success in biotech may accelerate the exit of traditional clientele. Without new coalitions that will support the colleges of agriculture, resources will be directed toward other institutions that serve the needs of the rural South.

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