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Rural Development: A Review of Conceptual and Empirical Studies

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Rural development means different things to different people.[1] The perceptions each of us has about the meaning and content of rural development are strongly influenced by our own set of values and beliefs, which in turn are a product of our training, work experience, and background.

Rural development is defined, generally, to mean an overall improvement in the economic and social well-being of rural residents and the institutional and physical environment in which they live.[2] This approach to rural development requires trade-offs among the separate factors that determine well-being. However, if on balance a majority of rural residents believe that over time their well-being is improving, for whatever reason or reasons, then some degree of rural development is being achieved.

Finding a generally acceptable definition of rural development is difficult, but it is infinitely more difficult to integrate the economic, social, psychological, institutional, political, and environmental variables into an operational framework which can be used to measure the influence of these variables on the well-being of rural people. Adding to the complexity of the problem, the variables used to measure rural development activity are normally location specific.[3] This high degree of complexity, compounded by the lack of agreement on the boundaries of what should be included in a review of the rural development literature, required the authors to make a number of highly subjective decisions to narrow the focus of this review. The end result of this process was a decision to focus on: 1) the social and economic aspects of rural

economic development (with emphasis on income and employment considerations); 2) the role of organizational and institutional forces in the development process; and 3) the impact of alternative spatial arrangements on rural development activities.[4]

In viewing the social and economic aspects of rural development, a three-dimensional delineation provided by Wilkinson [1974a] provides a useful starting point. His three-way classification of rural development includes: (1) an economic-technical growth dimension, (2) a human-interpersonal growth dimension, and (3) an environmental quality protection dimension. He argues that the human-interpersonal growth and protection of environmental quality dimensions have been delineated—"but not taken seriously." In fact, he argues that "rural development shorn of its co-optive supplements, is revealed in the political-administrative sphere to be primarily a code word for economic development. . . ."[5]

A second area of emphasis is the institutional and organizational considerations. The "rules of the game" and the setting in which decisions are implemented are an integral part of rural development research.[6]

The explicit recognition of the importance of the spatial relationships within which economic activity occurs is perhaps one of the major contributions of the rural development effort. Although there are major differences of opinion on what constitutes the appropriate economic space for viewing rural development, there is general agreement on the critical importance of considering spatial relationships when evaluating rural development activities.[7]

The principal reason for selecting this organizational approach was that it was judged to be the best compromise in terms of its familiarity to the target audience and as a basis for understanding the concepts and applications in the rural development literature.[8]

The Conceptual Base

Micro-Efficiency Concepts

The actions taken within the sphere of the "free market" remain the most important determinants of the economic well-being of rural people. The goal of many rural development programs is to alter the magnitude and distribution of the costs and benefits resulting from decisions made in the "free market." It is useful, therefore, to examine briefly the role of the basic efficiency model as it relates to rural development programs—with special emphasis on the assumptions inherent in the "Pareto better" approach.

It has been suggested by Schultz [1961] that rural development is basically a "disequilibrium process." Thus it can be argued that the relevance of the Pareto efficiency concept in allocating resources is diminished. However, the

value judgment set known as Pareto efficiency remains the standard used by many agricultural economists for determining an economically efficient allocation.[9]

For the Pareto efficiency mechanism to be a valid concept, many vital assumptions are required. Four of these assumptions of special importance in rural development research will be examined because a review of the literature suggests that economists tend to use the efficiency concept but often fail to consider the assumptions explicitly.[10]

INDEPENDENCE OF UTILITY

One assumption of the Pareto efficiency construct is the independence of each individual's utility function. That is, each consumer's preference pattern is not affected by his or her neighbor's consumption or lack of consumption. Leibenstein [1950] challenged this assumption and suggested that the utility function of one individual must include as a variable the qualities of goods consumed by others. Indeed, to suggest a public need for providing "necessities" within a community subsumes a nonindependence of individual utility functions. It is also necessary to recognize the lack of independence of community utility functions. For example, one of the obstacles to locating plants or firms in rural areas is the hometown jealousy of the various communities. Many local leaders would prefer no new plant in the local area if it meant it would be located in a neighboring town.

CONSUMER SOVEREIGNTY

A second assumption is the concept of consumer sovereignty. That is, the individual is always the best judge of his or her welfare in all economic matters. Consumers by virtue of their "votes" (dollars) decide what is to be produced, and in what quantities.

Mishan [1969] explicitly rejected consumer sovereignty in favor of what one might call an elitist approach.[11] He argued that all tastes are not of equal value—Milton's *Paradise Lost* is of higher value than a volume of *The Adventures of Superman* at the same price. Although one may agree with Mishan's subjective values in this particular case, the problem of interpersonal comparisons and who determines value remains a major problem.

The consumer sovereignty concept is also under attack by virtually all types of public programs designed to satisfy the "want satisfaction" role of government defined by Musgrave and others [1951]—including merit goods which the public desires (expressed through elected representatives) to have provided at a higher level than would result from a consumer sovereignty approach.

Relating specifically to the area of supplying community services, Donabedian [1971] examined the limit of consumer choice and control with re-

spect to medical services. He suggested that the concept of consumer choice in medical care is so wide of the mark as to be ludicrous. He noted, for example, that most medical purchases are involuntary, unpostponable, and that "shopping around" is discouraged.[12]

INCOME DISTRIBUTION

A third concern is the acceptability of allocating a fixed collection of goods within the framework of a given income distribution. In essence, Paretian economics permits one only to judge the desirability of reaching alternative contract curves. In choosing between all the different points on a given contract curve, the decision must be guided by something other than efficiency such as distributional equity.

If there is a series of economic actions that tend to increase the income of one class or region and leave other classes and regions unchanged or increasing at a slower rate, then, according to the Paretian value judgments, these economic actions are desirable. But, as Long [1969] suggested, people may think that these economic actions are undesirable because their adoption may preclude or postpone the adoption of some other policies which would have resulted in an alternative (and perhaps socially preferred) distribution pattern. For example, the decision to build a capital intensive plant that employs a few highly paid employees in a community with only one good industrial site may preclude the later introduction of a plant that provides a substantial number of middle-income jobs.

A related question is how to handle the situation in which the market is performing adequately but society is not satisfied with the results. For example, a rural community may be operating in the area of greatest comparative advantages, there are no unemployed, and every worker in the area is receiving exactly the value of his or her marginal product in real dollars. A problem remains if the level of income generated is less than the income that society has chosen as a certain minimal level, i.e., the marketplace has allocated resources efficiently, but society has indicated that the results are unacceptable (Bromley [1972]). For example, in an area densely populated with subsistence farmers possessing minimal skills and lacking an adequate natural resource base, the optimum returns to the resources of the area may be substantially below the poverty level and thus unacceptable to society.

RESOURCE MOBILITY

A fourth assumption often made in analyzing economic efficiency concerns the mobility of resources. Acceptance of this assumption leads to the conclusion that if a resource is unemployed or underemployed in a region, the resource will transfer (or be transferred) to a location where it could obtain a higher real return.[13]

There is substantial literature that explicitly recognizes the conceptual problems inherent in the assumption of resource mobility. However, other studies seem to assume an automatic reallocation of resources in response to market forces.[14]

In summary, it is important to issue and emphasize the usual warnings concerning the rather restrictive assumptions associated with many of our more popular economic models. A less frequent warning, but one of equal importance, is that the selecting of a specific economic construct is of itself a subjective process. For example, it should be emphasized that the act of selecting a model, such as one based on Pareto optimality, is a subjective process and that the allocative results suggested by the model are also subjective (Nath [1962]).

Macro-Related Concepts

Federal and state governments have had an increasing influence on the economic, social, and political affairs of local communities during the "postwar" time period of this review. The rapid expansion of federal grants and subsidies in the areas of housing, education, welfare, transportation, health, pollution control, renewal, and planning have had pronounced effects in the community. Yet agricultural economists have not been very active in developing a conceptual foundation for evaluating the effects of these programs on the rural community. In most cases, one must turn to the work of general economists and to other disciplines for a conceptual basis for analyzing these important rural development problems.

VOLUNTARY EXCHANGE THEORY

The formulation of a theory of public expenditures can generally be traced to the works of Wicksell [1958], Lindahl [1958], Samuelson [1954, 1955], and Musgrave [1959]. Their voluntary exchange theory concerned a rationalization of the provision of certain goods and services by the state rather than by the market mechanism, the extent to which such public goods and services should be provided, and the suggestion that individual demands for public goods are expressed by means of the voting process in a democratic society.[15]

The Musgrave-Samuelson analysis showed that there is only a conceptual solution to the problem of how consumer-voters register their preferences for publicly produced goods at the national level, because as things now stand, there is nothing to ensure that consumers will reveal their true preferences. The political mechanism is not a substitute for the market mechanism, thus many economists argue that a large portion of our public expenditures is allocated less than optimally when compared with the private sector. Tiebout [1956] showed that the Musgrave-Samuelson analysis, though valid for federal expenditures, need not apply to local expenditures. Tiebout's model assumes

full residential mobility along with fixed revenue-expenditure patterns for local governmental units. He admits that limitations result from institutional rigidities, but believes that the model is applicable in rural and suburban communities that have less complex budgets and service systems. He draws the following policy implications:

> Policies that promote residential mobility and increase the knowledge of the consumer-voter will improve the allocation of government expenditures in the same sense that mobility among jobs and knowledge relevant to the location of industry and labor improve the allocation of private resources (Tiebout [1956, p. 423]).

Further refinement and empirical testing of the theory that voters determine political decisions, i.e., politicians must not only promise but make decisions on expenditures and taxation that conform to the desires of the majority of their constituents, has been done by a number of investigators.[16]

Oates [1969] reaffirmed in part the usefulness of the Tiebout model in which national consumers choose a place of residence based in part on comparing the benfits from local public services against their cost (taxes). More recently, S. M. Miller and Tabb [1973] found that "intercommunity mobility has ranked as a fairly adequate surrogate for the market where families choose desirable tax-service combinations" [p. 161].

INTERDEPENDENCE OF PUBLIC DECISION MAKING

The above studies have generally overlooked the interdependence of decision making of local governments, i.e., the decisions of each governmental unit affect and are affected by the decisions of other governmental units. A basic problem here is the degree of "publicness" of government-supplied goods and services and the extent to which spillovers are felt outside the decision-making unit. Weisbrod [1964] claimed that a spillover of benefits leads to a provision of public goods that would be less than Pareto optimal, because local governments equate the marginal benefits to *their* citizens with the marginal cost (taxes) to *their* citizens, overlooking the spillover benefits accruing to others. Alan Williams [1966] challenged this conclusion, arguing that in a fragmented multicentered decision-making sector it is

> impossible to predict *a priori* whether undersupply or oversupply will generally result. Moreover, there is a real problem in finding a satisfactory yardstick against which to measure the various outcomes, in order to determine whether they are "optimal" [p. 19].

Brainard and Dolbear [1967] showed that only if the movement to equilibrium makes at least one community worse off will the optimal quantity of a public good be less than that in nonoptimal equilibrium.

Pauley [1970] attempted to reconcile these divergent conclusions by specifying more precisely the degree of "publicness" of various local public goods. By distinguishing the analytic approaches among different kinds of public goods, he determined the equilibrium and optimality conditions for each good. The results indicated that

> there would be little tendency for spillovers to induce communities to choose "too little" of some goods under given voting rules. Other things being equal, the amount of education provided should vary inversely with the fraction of spill out (Pauley [1970, p. 585]).

The fiscal incidence of public expenditures has particular relevance to the potential for fiscal exploitations of cities by residents of outlying communities. Early attempts to measure the distribution of benefits from public expenditures by different levels of government assumed benefits were equal to the costs of the service provided (Gillespie [1965]).

Greene [1973] developed several models of city collective decision-making processes, relating them to a concept of social optimum output level, with the intent to delineate the implications for measuring the benefits of public services. He concluded that

> unless a model of the collective decision-making process is specified, the analyst cannot specify how to treat the marginal benefits from government expenditures; to assume that they are more or less than marginal costs. Given some plausible alternative models and our present state of knowledge about the demands of various groups for public services, the assumption that such benefits and costs are equal may be no worse than any other assumption (Greene [1973, p. 184]).

FISCAL INCIDENCE

To this point the emphasis has been on theoretical problems associated with the evaluation of public expenditures.[17] It is also necessary to consider the procedures available for evaluating the various impacts of alternative taxation policies.

The property tax, along with most all other forms of taxation, has strong welfare implications involving the redistributional aspects of wealth and income. An article by Mishan [1972] is particularly relevant in this regard. He discusses two main problems in any proposal dealing with distribution as part of allocative efficiency: (1) knowledge of the required pattern of interdependence is for all practical purposes unattainable; and (2) Pareto optimal choices of distribution cannot be made on efficiency considerations alone, because they must start from a given pretax distribution of real income which involves virtually an unlimited number of sets.[18]

A framework for analyzing problems of taxations and public production was developed by Stiglitz and Dasgupta [1971], who challenged the analytic framework in which marginal rates of substitution or marginal rates of transformation are used as shadow prices for publicly produced goods in benefit-cost analyses. The authors argue this approach is not acceptable in an economy operating within a less than completely competitive market structure. Additionally, the rate of taxation is not consistent across different classes of property, among different kinds of labor, or among income classes. Moreover, few industries operate at constant returns to scale. Thus, it is misleading to use private production costs to estimate the cost of publicly provided goods and services.[19]

TAX REFORM

Property tax reform is a subject of increasing importance in the rural development literature. This stems in part from the now recognized imbalance in per pupil expenditures for education in poor communities compared with wealthy communities in which this public good is largely financed through the property tax.[20] But the question of reform is also closely allied with the view that the property tax is a more regressive tax than those based on incomes and thus bears more heavily on the lower income members of society. Many economists have accepted this view, based largely on the earlier works of Musgrave et al. [1951] and Netzer [1966]. However, Gaffney [1971] challenged this view, pointing out that adjusted gross income (as reported on Form 1040) which was used by Musgrave et al., Netzer, and others is not a measure of true wealth, and thus their conclusions about the regressivity of the property tax are erroneous. When wealth is taken to include holdings of property, Gaffney asserts, the property tax is a progressive tax. He also argues that the property tax is not shifted forward to the degree that many imply, because (1) the share of land in commercial holdings (the use class in which shifting is most crucial) is higher in value than most studies recognize; and (2) to be simply shifted forward, a tax would have to be proportional to output, whereas property taxes are related to capital inputs, which are not related to output.

Arguing strongly for tax reform, Gaffney [1972] asserts the most important reform needed is to increase the value of land assessment relative to the value of building assessment. He believes that land value assessments are regressive and that higher land taxes relative to improvements would encourage better land use. Moreover, he argues, proper land assessment and taxation would help rent perform its economic function of resource allocation.

> The trick for public policy is not just to tax rent, it is to tax it in such a manner as to exploit the fact that rent may be taxed with benefit rather than damage to economic functions (Gaffney [1972, p. 113]).

Distributional Concepts

Economic welfare is a function not only of the total quantity of goods and services available but also of their distribution. When a proposed policy alters the quantity of goods, distributive or equity effects must be considered.[21]

A dictionary definition of equity is "a quality of being equal or fair." However, most economists would tend to emphasize the "fairness" aspect of the definition (the definition used in this chapter), with equality being an extreme case of an equity measurement.[22] The pragmatic economist views the fairness question as a distribution problem.[23] But what aspect of the distribution question? An evaluation of policy alternatives suggests the need to examine income, spatial, sectoral, functional, and even intergenerational distributional impacts (Hughes, [1961], Jansma [1971]).[24]

MEASUREMENT PROBLEMS

Beattie, Klindt, and Bradford [1972] discussed two types of income distribution effects of a policy. Their emphasis was on the effects on individual utility functions and the utility interdependency effects. For example, it can be argued that when a proposed policy increases income, the most income should go to the individual with the highest marginal utility for income if the policy goal is to maximize welfare.[25] Beattie et al. suggested that even though this consideration is theoretically sound, there is no way of determining which individual possesses the highest marginal utility for income. The waters are muddied further when a proposed project—and one might add the typical project—decreases income to one individual while increasing income to another individual.[26]

Mohring [1971] provided a theoretical work on methods for quantitatively measuring welfare changes for each individual. He generally followed a compensating variation approach. The problem is development of appropriate "weights" necessary to equate marginal utility levels. The common procedure of adding individual dollar measures of gains and losses is very restrictive because it assumes that each dollar for an individual is equivalent to a dollar to society at large. Although this complex, highly mathematical article provides a starting point, it is far from being an operational technique.

The second source of distribution effects, that of interdependency of utility functions, is based on the contention that, for an individual, the level of welfare forthcoming from a given level of consumption depends in part on the level of consumption of other individual(s). As Beattie et al. [1972] suggested, it is very possible that a project could increase the income of two individuals, A and B, but the income effect of B's total utility could be outweighed by his envy of A's increased income.[27]

DISTRIBUTION PERSPECTIVES

Leven [1965] provided a useful framework for evaluating economic growth problems for alternative distributional perspectives. He examined and contrasted several "theories of regional growth" and developed a "limited number of alternative hypotheses" which are related "to a limited number of theoretical concepts" which, in turn, are related to "alternative concepts of what is meant by economic growth or level of regional development" (Leven [1965, p. 2]).

The Leven framework [pp. 3-12], discussed below, can perhaps best be summarized in the accompanying tabulation.

Interest Group	*Emphasis Variable*	*Conceptual Base*	*Bahavioral Assumption*
Self-interest advocates	Aggregate regional income	Aggregate demand theory	External markets and "ignorance hypothesis"
Equity advocates	Per capita regional income	Productivity theory	Chronic investment deficiency
Efficiency advocates	Differences in interregional factor prices	Market imperfection theory	Inefficiencies in interregional capital and labor markets

The self-interest group is normally represented by the segment of the community that sells goods and services (especially firms with increasing returns to size) within the regional economy. The primary goal of this group is to increase aggregate regional income so the area citizens can increase their purchases of goods and services. The conceptual basis for growth is in terms of policies to increase the total markets for the goods and services produced in the region—the classical economic base approach. That is, a region grows if and only if the market for products and services of the region expands. Leven further argues that this approach requires two behavioral assumptions. First is the external market hypothesis. For example, new resources may be found or technology developed which would tend to increase output of products and services from the region. A second assumption, Leven suggests, is the ignorance hypothesis. That is, entrepreneurs in other regions are not aware of the potential for profits in the region. This approach is the basic rationale behind the typical industrial programs pursued by many states and regions.

Leven designates the second interest group as the equity advocates. For this group, increases in the level of individual or family income, within an aggregate economic welfare context, is the area of emphasis. Equity advocates argue that the goal of regional growth should be a higher standard of living, which can be measured by the proxy of per capita income. The conceptual base for this group is the need to increase the level of productivity in the region. That is, they would generally argue that it is desirable to sell goods and services outside the region. But the reason this is not being done can be more nearly explained by an unfavorable comparative advantage which prevents competing in the larger market—not because of ignorance concerning the desirability of the region. Thus lagging economic growth in the region is due to the low productivity of the factors in the region. The reason for this low productivity can, in turn, be traced to problems of underinvestment within the region. This underinvestment may be in either the private or public sector.

Leven's third group is the efficiency advocates. Here the emphasis variable is interregional factor prices and is conceptually based in market imperfection theory. The focus goes beyond the question of investment deficiency—and to the problem of determining why people have not invested more in the area. The approach is in terms of examining inefficiencies in the interregional capital and labor markets. Thus the emphasis is on increasing national economic performance and then reducing barriers that prevent the flow of benefits to the various regions.

In a pragmatic sense, the point is that the measurement of the magnitude and distribution of benefits and costs from public policies is going to depend on the viewpoint from which one is evaluating the programs. It will also affect the type of policy that is recommended. Consider, for example, the problem of outmigration within the context of a regional viewpoint. The efficiency advocates would tend to encourage it, the equity advocates would try to remove the cause of it, and the self-interest group would be opposed to it. The recognition of these (and other) viewpoints is a prerequisite to a meaningful examination of the transformation occurring within rural America (Jansma and Day [1970]).

IMPACT OF PUBLIC EXPENDITURES

Another macro-level discussion of the distribution question is available in Gillespie's comprehensive study [1965] of the effect of public expenditures on income distribution.[28] His contribution to a collection of essays examines both the theory and the estimation procedures for evaluating fiscal incidence. The theory is basically concerned with relative economic position before and after accounting for taxes paid and benefits received from the public sector.

Measuring fiscal incidence is a three-step procedure: (1) derive the income base; (2) estimate the distribution of tax payments by income class; and (3) estimate the distribution of government expenditures by income class.[29]

Williamson [1965] studied the general relationship between personal income within regions and national economic development. McPherson and Yang [1974] applied the Williamson model to the "rich" and "poor" regions of Florida and found that as the level of income increased, the degree of income inequality decreased both between regions and between "high and low wage" occupational groups.

Thurow and Lucas [1972] prepared a major paper on the ingredients necessary to alter the market distribution of income. Historically, they argue, the emphasis has been on programs that affect the supply side of the education model. For example, programs were designed to increase a worker's skill level which would qualify him or her for higher-paying jobs and thus lead to a more equal income distribution. More recent evidence suggests that this approach has had limited effects on changing the distribution of income in the United States. They recommend a reexamination of the basic relationship and suggest that the emphasis should be on a "job competition model" rather than a "wage competition model." In the "jobs model" two sets of factors determine an individual's income—his or her relative position in the labor queue and the distribution of jobs in the economy. In this model the job characteristics rather than the personal characteristics of the worker become the major determinant in computing returns to labor. Thus, not only is it necessary to consider programs that attempt to change personal characteristics—through training and education—but it is also essential that the structure of the job opportunities be considered.[30]

Dovring, Leuthold, and Karr [1974] attempted to measure the effects of federal and other public outlays on the distribution of income. Although basically descriptive at this stage, the study provided a macro type of analysis based on a comparison of data from the Census of Population and from federal income tax returns for examining distribution questions.

Feldman [1971] evaluated the distributional aspects of public programs by examining the "normative implication" that factor inputs are entitled to their marginal products. He used the "politically conservative" arguments that imperfections in neoclassical models should be removed by court action as a matter of distributive justice and that income redistribution programs should be paid for by those that demand these programs.

IMPACT OF GENERAL DEVELOPMENT

An insight into the incidence of development or general economic growth on particular identifiable groups was provided in a study by Gallaway [1971].

His study tested the "backwash" thesis, that is, the proposition that there are substantial groups in the American population that are relatively unaffected by what is happening in the mainstream of American life.[31] A major finding in Gallaway's research was that the impact of economic growth on the income levels of families headed by a female or an elderly person appears to be neutral.

In summary, it is hard to disagree with Bromley [1972], who argued that most economists design their research to emphasize efficiency rather than distributional concerns. Economists tend to think in terms of per capita income, aggregate demand, or the tax base, paying little attention to the incidence of such changes.[32]

Spatial Framework

Two monographs, one by Cameron [1970] and the other by Cumberland [1973], serve as a starting point for examining the regional implications of economic growth. These authors suggest there are basically two approaches for enhancing the per capita income of an area. The first, dubbed the national demand approach, is basically an efficiency advocate position. That is, regions tend to respond to national market forces, and if a region is depressed it is due to the lack of competitiveness of the economy in the area. The "solution" is for resources to migrate or be transferred to other regions where their marginal returns will be greater. Any attempt to provide "region specific" programs will prevent the market forces from operating and thus move the national economy away from a "preferred" economic position. In this approach, the problem is not assumed to be with the efficiency model; rather, it is that the required degree of resource mobility takes time to work its way through the market system.

The second approach is called the theory of planned adjustment. In this approach it is argued that incentives or additional information is needed "to make the system work." Three assumptions are used to justify the theory of planned adjustment.

First, it is assumed that there is a chronic underinvestment in rural regions because the rates of return on investments are perceived to be higher in metropolitan areas even though they may not in fact be higher. It is further argued that this misallocation of funds is due to the fact that only private costs, rather than private plus social costs, are used in making investment decisions.[33]

The second assumption is related to Leven's "ignorance hypothesis." That is, adequate economic analysis would show that it is actually cheaper to produce in a given region, but the decision makers allocating investment funds are "ignorant" of the potential advantages of locating in the region.

The third assumption which has been used to support aid to specific

regions is the classic infant industry argument. A region needs special programs in the "short run" to let the area reach a level of economic viability needed to compete with other regions.

In summary, regional programs are usually justified on the basis of dissatisfaction with the results obtained under private decision making. The assumption of a market system based on efficiency would tend to emphasize national rather than regional programs. In terms of differences in national and regional decisions, the regional perspective is based on a rationale of externalizing costs and internalizing benefits to the region. Thus the regional approach tends to be in basic conflict with a national efficiency objective.

An associated question addressed by Cumberland [1973] —which tends to be argued more on an emotional than factual basis—is whether aid should be directed to places or to people. Virtually everyone agrees that the ultimate objective is to enhance the social well-being of people. The question, however, is which strategy is most productive in reaching that final objective. In some cases, especially when there is a demonstrated lack of labor mobility, a strategy of directing aid to specific places is the only viable alternative available for enhancing individual welfare.[34]

A final concern is the appropriateness of alternative criteria for the spatial delineation of areas for economic analysis. Nourse [1968] discussed two major approaches for dealing with the spatial delineation of a region. In one approach, the emphasis is on criteria associated with the homogeneous nature of such factors as employment, income, economic structure, and other socioeconomic characteristics of the region. In the other approach, the spatial interrelationships of the different economic entities within the region are stressed in developing the criteria. The specific approach used will normally depend on the specific problem under investigation.

HOMOGENEITY APPROACH

Siebert [1969] discussed the homogeneity criterion in the following manner:

> Economic homogeneity relates to such variables as production activities, skill levels of the labor force, and per capita income. A region is then defined as a number of adjoining spatial points having similar production activities or the same level of per capita income. Thus, we may distinguish agrarian and industrial areas or regions with a heavy concentration of the tertiary sector, or we may differentiate between low-income and high-income regions [p. 19].

Implicit in the discussion of the homogeneity criterion is the assumption of a rural-urban dichotomy. Fox [1967] suggested that the distinction between

rural and urban contributes to the confusion in finding appropriate solutions for "rural" people. He stated that the major problem "is the belief that a rural society exists and can be manipulated successfully apart from society as a whole." [35]

Admittedly there is a high degree of interdependence between the rural and urban segments of the nation, but the strategies for "tackling" problems in the urban ghetto are essentially different from those for a declining Pennsylvania coal town or an isolated small town in the Great Plains. For example, the strategy for decreasing the high per unit cost of community services in sparsely populated rural areas might be regionalization to provide a larger user base. A different strategy, perhaps even decentralization, is probably more effective in the central city ghetto. [36]

A related question is what type of area delineation procedures can be used to develop more homogeneous units for analysis. Doeksen, Kuehn, and Schmidt [1974] used the economic base of the area to specify five types of communities in an attempt to decrease the variance in their research results. Edwards, Coltrane, and Daberkow [1971] employed urban-density criteria for grouping counties in the United States. In these studies, as well as others, the principal thrust is to develop criteria for gathering diverse units into more homogeneous groups. [37]

Although generally associated with theories of development in less developed countries, the concepts of balanced and unbalanced growth need to be evaluated for their applicability in examining the structure of regional economies. [38] The balanced approach tends to be demand oriented and sees development occurring through a system of "becoming each others' customers." Thus the emphasis is on final demand rather than on intermediate markets. There is much to admire in the balanced growth approach in terms of its explicit recognition of the interrelationships within the economy of an area. The balanced approach requires not only an examination of the impacts resulting from stimulation by public investment, but also a consideration of the complementary and substitution effects between private and public investments. The relevance of these types of relationships are readily apparent, but too little work has been done in relating these concepts to the more developed economies. [39] The balanced growth thesis seems to be a useful starting place for developing conceptual frameworks for evaluating the impact of investments on economic growth.

Hirschman [1958] argued that balanced growth "fails as a theory of development." He was a major proponent of unbalanced growth—basically for very pragmatic reasons. He agreed that if there are 10 projects, each "lending each other mutual support in demand" (as argued by the balanced growth proponents), it would be desirable to undertake all projects. But the problem

is that a country normally cannot undertake all 10 projects. Thus the "pure" theory of balanced growth is not feasible because the development process is by definition a "chain of disequilibria."

There is a need to incorporate the contributions of the literature on balanced *and* unbalanced growth into the analysis of rural areas. On the demand side, the importance of delineating an appropriate economic structure for examining interrelationships needs to be recognized. On the supply side, the whole question of factor availability—especially as it relates to decision making—is of prime importance. A comprehensive understanding of these concepts would also lay the groundwork for analyzing the related problem of assigning investment priorities.

In summary, there is a need to increase our understanding of the macrostructural relationships in an area before measuring specific investment impacts. The delineation of areas into relatively more homogeneous units on the basis of economic structure will permit a more realistic evaluation of the impacts of regional investments. Fox [1962] concluded that a central problem in understanding an economy is the need to trace the effects of initial change in one sector, quantitatively and qualitatively, to the other sectors in the economy. He suggested that without this, all one can say is that everything affects everything else.

FUNCTIONAL APPROACH

Miller and King [1971] argued that although there is a substantial body of literature dealing with the application of location theory in decision making, there is a strong tendency for economists to use nonspatial frameworks in specifying their research procedures. Although the article is of the "survey" type, it is a good starting point for researchers interested in incorporating location considerations in their analysis of regional economic systems.

Barkley [1970] is an articulate spokesman for those who emphasize the need for additional research to understand better the forces affecting the level and mix of economic activity in geographic areas larger than a firm but smaller than a nation. He suggested that a two-way classification—based on growth-decline and development-attenuation—can be used as a vehicle for describing a community in terms of its total output and the range of goods and services produced and/or sold within a region. Barkley emphasized that "something must be said about productivity and simultaneously something must be said about the range of choice. Each of these separately is a valid and researchable question, but it is a lack of understanding about the two in combination that has prevented researchers from filling the gaps in theory" [p. 11].

Once the decision has been made that spatial relationships need to be integrated into the analysis, the work of Bos [1965] is an excellent source for

both the theoretical and analytical concepts.[40] The general approach in the work of Bos, an associate of Tinbergen in The Netherlands, is oriented toward the more centrally planned economies. However, it remains a useful book which provides the researcher with a rigorous framework for analyzing spatial problems.

As in most specialized areas of research, a vocabulary of terms with specific meanings has developed. Two studies by Moseley [1973a, 1973b] are good sources for definitional summaries of terms like trickledown, polarization, backwash, spread, core region, growth pole, and growth centers. The development and discussion of the "fine points" of these definitions is not appropriate here. However, those of us trying to understand regional economies must become familiar with these specialized terms if we are to achieve a viable level of communication. For example, the terms "growth poles" and "growth centers" are sometimes used interchangeably in the literature. But Moseley [1973b] argued that "growth poles" refer to growing economic sectors, whereas "growth centers" specify growing geographical areas. The development of strategies and tactics of regional development are indeed difficult if researchers do not agree on the basic definition of terms.

Backwash—associated with Myrdal [1957] and Gallaway [1971]—and polarization—associated with Hirschman [1958]—are basically generic terms for describing the process whereby production is drawn from rural to urban regions.

Spread, or trickledown, tends to be the opposite of the backwash phenomenon. The trickledown phenomenon emphasizes the need for a more even distribution of economic development—with varying degrees of belief on how the various groups within the community would be affected. The researcher interested in regional problems needs to evaluate the relative strengths of these two opposing forces.

Proponents of the backwash, or polarization, emphasis seem to have the most support in the literature.[41] The most articulate development of the concept is provided by Schultz [1968] in his development of the industrial-urban hypothesis. In general, Schultz's hypothesis comprises three major propositions: (1) economic development occurs in a specific locational matrix; (2) the composition of the locational matrix is primarily industrial-urban; and (3) an existing economic organization works best at or near the center of the matrix. The evidence supporting the industrial-urbanization hypothesis is developed in detail in an article by Katzman [1974] and will not be repeated in detail here. In general, he argues that factor markets for labor, capital, final products, and current inputs "work better" in urban areas.[42] However, one can question some of the examples Katzman uses to support his position. First, he tends to equate size with quality and efficiency in providing services

—a restatement of the "spatial concentration is efficient" argument. Katzman [1974] also argues that prices paid and received by farmers will be lower and higher, respectively, the closer the production is to the national "market center." It seems to us the more relevant consideration is the comparative advantage of producing goods and services at alternative locations.

Hansen [1969] attacked the report of the President's National Advisory Commission on Rural Poverty [1967] because the report assumed that the social costs of bringing industry to relatively poor regions would be less than the social costs involved in the migration of workers to industrial areas, which results in increased congestion and unemployment. He believed there was no convincing evidence that government programs can attract enough industry to the countryside to provide people everywhere with jobs close to their places of residence. He concluded (without objective analysis) that the opportunity cost considerations favor federal subsidies and information programs to facilitate rational migration toward intermediate regions where growth is rapid but where congestion poses no immediate threat.[43] In this manner he was quite willing to criticize the assumptions of a decentralization policy, but failed to marshal convincing empirical evidence to support his conclusions.

Perhaps the most valid view of the "growth center" controversy is provided in a report of the Council for Agricultural Science and Technology [1974]. The task force preparing the report suggests the desirability of concentrating investments in growth centers. However, they also note that "we suspect other qualities such as resource base, past growth, community attitudes, and characteristics of the surrounding area are as important as having a certain minimum size of population" [p. 10].

In general, there is substantial support for the industrial-urban hypothesis. However, there remains a need for rigorous, comprehensive studies to examine the general validity of this hypothesis.

The difficulties in conceptualizing and measuring equity considerations were summarized by Alonso [1968b]. He argues [pp. 4-8] that a regional definition is crucial to evaluate inequality and that there must be a spatial association of phenomena; if not, regionalization serves no useful purpose. Alonso also points out the difficulties of intertemporal comparison of equity, and asks: "How much inequality in the short-run can be tolerated for greater equality in the long-run?" [pp. 8-11]. Until we can discount inequality streams we will not be able to handle satisfactorily the problem of trade-offs between efficiency and equity.

Another discussion of some of the inherent difficulties in equity considerations that would be relevant to regionalization is available in an article by Winnick [1966] in which he berates those who seem to personalize regions as

having feelings and who fail in the process to realize that it is people that count, not places.

Institutions, Organizations, and Related Concerns

In addition to the micro, macro, distributional, and spatial concepts discussed in the previous sections, it is necessary to consider the conceptual frameworks available from the institutional, organizational, and related literature. The problem encountered in organizing and developing this section was not a lack of literature, but that of selecting and presenting representative works applicable to rural development research. Thus the literature cited here represents a very limited selection of some of the more important and relevant concepts in these areas of specialization.

INSTITUTIONAL ARRANGEMENTS

Moe [1970] saw the basic problem in rural development as arising out of a kind of institutional underdevelopment or the absence of social machinery for attacking problems that currently confront the affected people. He viewed community development as a systems approach which defines and projects a system that will bring together the relevant parts—people, groups, organizations, areas, communities, counties—into a viable mechanism for the future. Thus rural development research should be designed to include a consideration of the capacity and willingness of people to see the community and its problems as a whole rather than as a collection of self-interests and of agencies and institutions and political units. The point of emphasis is that one needs to consider the "process" used in community problem solving. That is, we must consider not only the efficiency and distribution impacts of proposed actions but also the institutional framework needed to involve the community in decision making.

A report by Dymsza and Allee [1969] attempts to bring concepts of economic development to bear on the problem of designing models for economically declining districts. Development organizations have been considered as dependent to a large extent on the economic environment in which they must operate and the development strategies suggested by that environment. That is, development organizations must be sensitive to both the demand for their services and the welfare effects of their efforts; thus appropriate strategies depend on the existing economic conditions within a region. Two dimensions upon which a classification of development districts might be based are: (1) the potential for urban development and (2) the quality of extractive resources. These dimensions yield classes of regions in which different development strategies are appropriate and which appear to have different

organizational implications. In a region with potential for urban development, a suitable growth strategy would include encouraging urbanization by investment in growth poles, developing social overhead capital to achieve agglomeration economies, and stimulating the growth of an urban complex of organizations and institutions.

Institutional arrangements are being used to bring about rather dramatic changes in the manner and degree to which resource planning and control are used to influence human activities. Questions concerning resource scarcity, environmental decline, and world population growth have contributed to a public awareness of the need for planned courses of action in the search for answers. The timeless conflict between the rights of the individual property owner and the rights and needs of society as a whole is increasingly being resolved in favor of society. Despite the traditional slowness with which the courts move in such matters, we are witnessing a constant redefinition of what an individual can and cannot do with his or her property.[44]

A considerable body of literature has developed in recent decades introducing into the theory of production and exchange new interpretations of (1) the role of individuals as decision makers, (2) the relationships between institutional arrangements and economic behavior, and (3) the recognition that transaction costs are greater than zero in virtually all cases. The essence of this new property rights approach is to show that the way in which property rights are institutionalized affects the allocation of resources. As Alchian [1967] states:

> In essence, economics is the study of property rights over scarce resources—the question of economics, or of how prices should be determined, is the question of how property rights should be defined and exchanged, and on what terms [pp. 2-3].

Furubotn and Pejovich [1972] provided an excellent review of the literature dealing with this aspect of the issue of property rights and economic theory.[45] The relationship of property rights to efficiency and equity considerations was also discussed extensively by Randall [1972], who pointed out that efficiency is an inadequate criterion, because what is efficient changes as property rights change. Changes in property rights, moreover, influence the distribution of wealth and income. Samuels [1972] further discussed Pareto optimality and the property rights issue, contending that Pareto criteria cannot justify particular changes in property rights without additional judgments on ethical assumptions about the appropriate distributions of wealth and income.

Much of the failure of zoning to achieved desired land use objectives is the result of conflict between the rights of society and the economic freedom of

an individual to use property to maximize satisfaction. Tarlock [1972] elaborated on the theme that contemporary zoning is a system of joint ownership between the landowner who holds property rights and the public which holds the power of veto. Thus, although zoning is designed to internalize the serious side effects arising from market imperfections, the net effect of zoning is to shift some rights in land from the private to the public sector.

The primary function of zoning is to prevent uncompensated losses. But in doing so, potential gains may be denied to other property owners. Gibson [1972] argued that what zoning lacks is an economic framework. External economies and diseconomies warrant careful study in the search for an economic basis for zoning. An effective land settlement policy can be formulated only when we have identified off-site costs and benefits in land use problems and made reasonable progress in quantifying their magnitudes.

ORGANIZATIONAL FRAMEWORK

The problem of designing appropriate "organizations" is intimately related to the concept of rural development. Determining the appropriate level of government and the appropriate area (region) to be served by public officials responsible for making decisions concerning the provision of a wide array of public goods and services remain critical issues. These issues have been with us to a greater or lesser extent since the colonists first settled the continent. The increasing complexity of our society, however, has provided new interest and concern with the issue of regionalization.

The concentration of the majority of our citizens in urban areas has led to spillover effects (externalities) that transcend political boundaries.[46] Fragmented governmental units are finding it increasingly difficult, if not impossible, to cope with problems in transportation, pollution, water supply, employment, health care, education, recreation, and so forth. Areawide problems such as transportation and air pollution cannot be dealt with by attacking them in geographical pieces; they must be handled in their entirety. Moreover, there is growing concern over the increasing disparities between the revenue-generating abilities of suburban communities and metropolitan centers and the financial resources required by each to provide the public goods and services demanded.

Regional planning and regional government are the essence of regional organization. A lucid argument as to why regionalism cannot hope to succeed in this country is provided by Babcock [1972]. He believes that COG's (Councils of Regional Governments) are only a "Band Aid" for the festering sores of metropolitan problems. Babcock argues that we must turn to the states, that only at the state level can we find the power (to tax, to regulate, and to condemn) necessary to solve our complex metropolitan problems.

Regionalization contains the "implicit assumption that there is a communality of interest within the region that will be better served if only the region were self-governing" [p. 123]. The conflicts within metropolitan regions are so pervasive that an arbiter is needed (the state), not a new governmental unit. Babcock admits that the records of the state governments have for the most part been disappointing but thinks that the long sleep of the states is ending, as evidenced by recent land use legislation in Vermont, Maine, and Hawaii.

Efficiency and equity are important considerations that have generally been overlooked when arguments for or against regionalization are advanced. Proponents of regionalization, in general, would be on much firmer ground basing their arguments on matters of equity. The clamor for regionalization arises precisely because of the wide disparity between marginal costs and benefits in providing public services in different municipalities within metropolitan areas (rural-fringe or suburban communities versus central city). Hirsch [1964b] developed several basic criteria for deciding whether small local governments should perform a particular service or whether areawide provisions should be made: (1) economies of scale of the service; (2) people-government proximity; (3) the multifunctional jurisdiction;[47] and (4) welfare considerations that include the spatial benefits and costs of spillovers, and the income distribution effects of alternative ways of providing public services. Hirsch's analysis [1964b] suggests a list of services best provided by local urban governments and a list of services best provided on an areawide basis. A surprising conclusion is that the present state of affiars is in remarkable harmony with his suggested lists.

The literature on regional organization leaves unanswered the question of designing an appropriate organizational structure to facilitate rural development. Arguments for consolidation of local government, for greater strengthening of the power of local government, and for abdication of local power to the state and federal governments can be made. It appears, however, that the trend evolving in recent years has been to place greater powers in the hand of larger units of government. It is apparent that the problem of organizational optimality offers many research opportunities for economists and other social scientists.

GENERAL COMMUNITY THEORY

A useful framework for a more comprehensive understanding of community development may be abstracted from a general community theory presented by Clark [1968a, 1968b]. His broad theoretical system is summarized in a series of propositions that relate community outputs (results of community decisions) to structural characteristics of the community (demographic, eco-

nomic, etc.), decision-making groups, and leadership characteristics. Of particular interest to those concerned with rural community development are propositions that include demographic variables, economic variables, and integrative mechanisms, e.g., government bureaucracies, political parties, and voluntary organizations.

Starting at a very general level of abstraction, Clark suggests that as communities grow larger, they are more likely to become structurally differentiated, to have greater differentiation between potential elites, and to be characterized by more decentralized decision making. Increase in size is also likely to lead to less community integration and coordination between sectors and a lower level of community output (i.e., actual results of decisions such as public programs, per capita expenditures, achievement of goals). Clark is quick to point out, however, that size *per se* does not lead directly to decentralization and differentiation, but to an increase in the number of individuals who are at present, or are likely to become, involved in local community organizations and active in community affairs. Thus an increase in the rate of inmigration may not result in differentiation if the new arrivals do not become involved in the community. If the inmigration is selective so that the new arrivals have above average incomes and educational backgrounds, both decentralization and differentiation are likely to occur.

Clark also argues that the more diverse the economic structures within a community or the higher the degree of industrialization, the more decentralized the decision-making structure is likely to be. In short, population increases and economic development are hypothesized to have disruptive effects on communities by fragmenting social structures. But the consequences of differentiation and decentralization for community output depend on the nature of the integration mechanisms.

As a community grows, community output can remain the same or even increase if integrative mechanisms are established and developed. Integration is a general functional problem which all social systems face as they become more differentiated. Integration mechanisms are primarily the voluntary organizations and political parties of the local community that mediate the relationships among the different groups within the community. Thus, as a community develops and the decision-making groups become more decentralized as evidenced by an increase in the number of voluntary organizations and an increase in the number of competing political factions, chaos and serious conflicts may arise if integrative mechanisms are not established or do not develop.

Clark [1968a, 1968b] suggested that decentralization can aid community output involving "less fragile" decisions, for more pressure can be brought to bear by a larger number of groups. In addition, Aiken and Alford [1970]

argued that decentralization coupled with integration is likely to lead to innovation in communities vis-à-vis the introduction of ideas, activities, processes, and services. It would appear that the optimum community development scheme would, therefore, be one that resulted in decentralization as well as in integration to ensure an increase in community decisions that would improve the quality of life.

Although there is some empirical support for Clark's propositions (Aiken and Alford [1970], Clark [1968a, 1968b]), his theoretical system remains basically untested. Clark's work, however, offers a number of insights that merit consideration in developing strategies and programs for rural community development. What are the consequences of differentiation and/or decentralization? Should they be accounted for in a developmental strategy? Can integration mechanisms be established by design? Is it likely that development without integration results in lower community output and lower quality of life? Tests of these propositions and a better understanding of the processes of community integration as outlined by Hillery [1968] are first steps needed to answer these questions and assess the utility of Clark's framework.

Summary

The first part of this review has examined some of the more important conceptual constructs common to much of the rural development literature. The basic economic efficiency model, with special emphasis on the assumptions inherent in the "Pareto better" approach, was discussed. The theory of public expenditures and its relevance to the increasing number of public programs directed toward rural development was presented. On the public receipts side, the welfare implications and redistributional aspects of the property tax, along with the literature dealing with property tax reform theory, were reviewed.

Not only is economic welfare related to the total quantity of goods and services available, but it is also concerned with their distribution. Our emphasis was on the theoretical literature dealing with the distributive or equity effects resulting from proposed policies designed to alter the quantity of goods and services produced in a region.

Several issues related to the regional or spatial implications of rural development were examined. Arguments over the desirability of a national or regional approach were discussed in terms of the efficiency objective, along with the associated question of whether aid should be directed to places or to people. In an attempt to deal with questions of regional delineation, the homogeneous area approach, which emphasizes such factors as employment, income, and economic structure, and the functional integration approach,

which stresses spatial interrelationships between economic entities within regions, were discussed.

The last section of the theory base portion of this review examined the conceptual frameworks available from the institutional, organization, and related literature. The institutional framework within which the process of community decision-making operates to solve local problems is an important variable in the success of rural development efforts. Topics included in this discussion were: (1) organizational models; (2) the relationships of property rights to resource allocation and income distribution; (3) levels of public decision-making—particularly regionalization, and intergovernmental spillover effects; and (4) community social organization (decentralization and integration) as related to community development.

Application of Rural Development Concepts

The literature reviewed in this section will be limited to three major rural development concerns:[48] (1) the micro, macro, and distributional aspects of income and job opportunities in rural areas;[49] (2) the organizational and institutional factors affecting the planning and implementation of alternative rural development programs; and (3) the spatial context in which rural development activities occur.

To the degree possible, the organizational format used in the preceding section will be employed. However, most applied studies cut across these theoretical frameworks. Thus a rigid adherence to the theory base would lead to unwarranted duplication.

It should be noted, of course, that a major article could be devoted to each of these sections—indeed, to each subsection. Thus the authors of this survey have attempted to provide general coverage with due apologies to the numerous authors whose works were not included.

Employment and Income Opportunities

MICROEFFICIENCY CONSIDERATIONS

The focus on the "jobs" component of rural development suggests that an appropriate place to start is with an examination of the studies of where people live and work—and why. A comprehensive discussion of the literature as it relates to how differences in the labor mobility assumption affect economic decisions about migration is beyond the scope of this report.[50] However, an attempt will be made to review some of the more important studies that relate the labor mobility question to the broader question of job opportunities in rural areas.

Nourse [1968] emphasized the importance of questioning whether the labor inputs are really underemployed in rural areas. A rather common, but inadequate, procedure for indicating underemployment of labor in rural areas is a static comparison of wage rates in rural and urban areas. McPherson [1975] argued that a static analysis using average differences as a proxy for marginal differences between urban and rural wages masks the important implications inherent in migration decisions. For example, there tends to be more pressure for rural outmigration when rural income remains constant while urban income increases than when both rural and urban incomes increase. This tends to be true even when the absolute difference in income between the two situations remains the same.

A related question is the relative importance of labor compared with other factor inputs. Nicholls [1961] argued that the efficiency of the labor market is more significant in explaining differences in farm income in the southern United States than are either the capital or product markets. In a North Carolina study, McPherson and Faris [1958] found that increases in wage rates were much more important influences on enterprise changes than were increased product prices. Specifically, they found through price mapping techniques that a 20 percent change in tobacco prices had little impact on farm enterprise combinations but that an increase of wages to minimum levels would effectively drive tobacco out of the region and decrease the demand for farm labor.

Another point is "that the factors of production tend to be paid what they are worth in terms of production, not in terms of the human needs of the factor owners" (Saupe [1970]). In studies like Hansen's [1970] there seems to be an implicit assumption that the act of migration increases the migrant's value as a productive input. It is perhaps worth emphasizing that although more jobs may be available in the urban setting, the skill level of the migrant does not change in the migration process.[51]

In general, there are major differences of opinion on the causal factors affecting migration.[52] Some authors (Lansing and Morgan [1967], Lowry [1966]) indicate that the economic conditions in the "home area" of the potential migrant are not an important factor in the rate of outmigration. For example, Diehl [1966] found a strong farm to nonfarm migration response to income incentives. However, he also discovered a significant negative relationship between farm income and rate of migration from farm.[53]

Other authors (McPherson and Faris [1958], E. Miller [1973]) believe that the economic conditions in the "home area" are the important factors in migrants' decisions. The authors argue that it is the lack of opportunities in the local area rather than the attractiveness of the (normally) urban alternatives

that are the important factors in the migration decision. Both schools of thought have valid support for their positions.

Hart [1973] suggested that the insignificant results often associated with studies of migration responses are probably due to the following: (1) the income differentials are not large enough; (2) the income data are too aggregated; and (3) the data are not accurate or comprehensive enough to pick up real differences in income. He also indicated that we need to examine the dynamics of the migration process by including "leads and lags in the explanatory variables" [p. 280].[54]

Maddox [1960] provided an important discussion of the private and social cost of moving people out of agriculture. He stressed the role of the cost side in benefit-cost calculations of the migration process. In terms of private costs, we need to consider such items as the direct monetary costs of transportation, income loss during transfer, and potential decrease in capital value of assets. In addition, there are the nonmonetary private costs which have generally been defined as psychic costs. Social costs are readily apparent in a declining community with excess capacity in public facilities and undepreciated fixed investments.

An associated question is who fills the jobs made available through public programs. Olsen and Kuehn's study [1974] of four multicounty areas in different regions of the United States found that 78 percent of the new job opportunities went to local residents, with the remaining 22 percent equally divided between new and returning migrants. Another interesting finding of this study was that for 38 percent of new and returning migrants, weekly earnings were the same as or lower than they had been in the job left when migrating. In another study, Nelson and Tweeten [1975] examined, through simulation techniques, alternative programs for alleviating underemployment and poverty in a seven-county district in Oklahoma. In the short run subsidized labor mobility was the single most "cost-effective" program, but in the longer run the approach tended to be ineffective because there was an extremely high rate of return migration.

Finally, when deciding which new plant location might be the most efficient, it is not enough to measure only the building and operating costs of the plant. There are real, but often unconsidered, costs in forced displacement and migration of populations. Families often lose the equity in their homes, and communities lose their tax base for public services. These costs and losses are not borne by the industry locating the plant, but by people and communities, thereby not entering the efficiency computations. Nath [1962] argued, without empirical support, that it is not economical from the standpoint of the whole society to allow existing communities to die while building other

whole communities from the ground up in the name of economic efficiency.[55]

In a related study, Bryant [1968] provided an analysis of the potential impact of employment in rural areas as a policy for decreasing poverty.[56] His analysis was micro-oriented and attempted to identify the important private and public sector leakages that diminish the impact of industrialization on the poor. Factor payments to capital and the effects of inmigration appear to be the major private sector leakages that diminish the impact of industrial growth on the poor. Bryant [1968] also found that in the public sector the level of leakage appears to revolve around the proportion of investment in public overhead capital which constitutes investment in human capital. For example, one would conclude from his results that investments in public education would have smaller leakages than a similar level of investment in highways. If the efforts to industrialize a poverty-stricken rural area succeed only in raising the income level, then some fraction of the increase goes to the poor. If, however, the growth rate is increased, a continuing fraction of the additional increase in annual per capita income goes to the erstwhile poor. It is likely that the fraction will decline through time as inmigration continues if the capital/labor ratio of new capital rises and if the unemployable as a fraction of the total poor in the area increases.

MACRODISTRIBUTIONAL CONCERNS

From the societal point of view, the extent to which the goal of "jobs" in rural areas is reached is largely a function of the level and distribution of the nation's population and employment. Although we recognize the importance of the level of national employment, our emphasis will be on the distribution of employment and population.[57]

In a frontal assault on the problem of employment and population redistribution, Knapp [1971, pp. 5-6] questioned whether redistribution is desirable or whether any program designed for this purpose would result in anything more than temporary dispersion and displacement. He concluded that if people are to live in rural areas, they face the traditional shortages of efficient health delivery systems, modern schools, and adequate fire and police departments because these services are difficult to achieve with a widely scattered clientele, a relatively low tax base, and large proportions of time and money needed for travel. Further, there is the question of whether rural America will welcome increased urbanity.

Knapp also indicated he was unable to find research that suggested anything more than a general association between urban problems and population density, i.e., density *per se* does not cause crime, drug addiction, inadequate waste treatment, and high levels of impure air. Thus he concluded that we might wish to pursue policies encouraging more balanced rural and urban growth

but that attempts should concurrently be made to seek solutions for problems within our present system.[58] Conversely, Hoch [1976b] believed it is reasonable to ascribe higher levels of air pollution to increased density and size of place. He also argued that although the crime-size density relationship has often been overstated, there is a positive association between the two measures. Both Knapp and Hoch agreed, however, that population dispersion should not be considered as a magic cure for problems of urban or rural areas, but should be evaluated on its own merits as a policy objective.[59]

In evaluating the thesis presented by Knapp and others of this school, it is important for us to consider what costs are included when comparing the "efficiency of the systems" in areas of varying population density. For example, the larger volumes of discharge from a sewage treatment plant in a densely populated area may require higher (and more expensive) treatment than the effluent from a more sparsely populated area to meet the same water quality standards. Kerns and Jansma [1971] found that the gains that might be expected through economies of size for the larger system were often not realized because of the failure to use the natural assimilative capacity of the stream.[60]

Eddleman and Cato [1976] developed and empirically implemented a model designed to measure the impact of changes in exogenous forces on a regional economy. The model contains provisions for including both micro and macro considerations. The exogenous forces specifically examined include changes in supply and demand of factors and products, the firm's production possibility trade-offs, and the number of firms in the industry.[61]

An alternative macro-oriented approach is provided by Maki and Tu [1962]. In their article on growth models for rural areas development, the emphasis is on variables (including lags in the variables) such as income, consumption, savings, population growth, investment, employment, and physical assets.

In more recent studies, Barrows [1972] and Barrows and Bromley [1974] developed a generalized model for examining the process of creating employment—with special emphasis on the number of jobs created by investments in public programs. In the specific formulation of the model, four classes of variables are used: (1) regional characteristics—including county-specific income and employment measures; (2) project characteristics—cost of project and location in terms of population concentrations; (3) firm characteristics—skill level of firms attracted by project; and (4) controls for the national economy—including changes in GNP and levels of unemployment. Although the study suffered from data deficiencies, it developed a useful approach for examining one aspect of the employment question.

Hartman and Seckler [1967] designed a regional investment model to formulate more precisely the question of whether a region is capable of sustained endogenous growth. Their general approach was to relate regional in-

come over time to exports and changes in exports as exogenous determinants of growth. The parameters of interest are the propensities to consume and invest, and the level of imports. Specification of these parameters gives a quantifiable determinant of the level of import leakage that will "damp out" multiplier-accelerator effects.

Battison and Jansma [1969] developed a framework for measuring income and employment by integrating conventional input-output analysis and linear programming to achieve a more direct approach to relating economic changes to basic factor inputs. Constraints were assigned to the basic factor inputs to determine if the economic changes resulting from a specific development plan for the region would exceed the factor constraints, and, conversely, the type and size of economic change that could be supported in view of the constraints.

In summary, a host of alternative approaches have been suggested for evaluating the macrodistributional concerns associated with rural development policy. However, Daft [1972] is concerned that current rural development programs are not directed toward national objectives or policies. It is virtually impossible to design programs and measure their success if we lack objectives as a standard for measuring accomplishments. The emphasis to date has been on programs—which are basically concerned with the input side of the problem—rather than on policies—which are designed to focus on the "outputs" of the programs.

REGIONAL-SPATIAL CONSIDERATIONS

An examination of how spatial considerations have been incorporated into the rural development literature suggests a high degree of fragmentation. One of the basic problems in deciding the "where" question in rural development is considering the "need *vs.* potential" of specific economic areas. Cameron [1970] and Barrows [1972] discussed the relevant considerations in deciding whether to supply investment dollars to areas with the most need or to the areas with the most potential for development. In a general way this is a special case of the equity-efficiency trade-off decision. A "worst first" set of criteria may be more equitable, but will tend to stimulate a smaller income stream than if the same dollars were placed in more viable economic communities because the smaller income stream may channel more income to the target population. This line of reasoning soon reaches the point of requiring the measurement of the marginal utility of returns from alternative investments—a problem that has generally been overlooked when making investment decisions by assuming the marginal utility of a dollar is equal for all recipients.[62]

An aggregate approach to the problem was provided by Goode and Jansma [1975] in a study that developed a series of indexes indicative of "need" and "potential" for each county and region in Pennsylvania. This permits the de-

cision maker to find the combination of indexes that fits their judgment of the best trade-off between "need" and "potential."

Central Place Theory. In terms of spatial organization, the concept of central place theory, as originally conceived by Christaller [1966], is useful because it proposes that centers can be arranged hierarchically, with various orders or ranks distinguished by the size of place and by the types of services offered in the place. Those of higher orders supply larger areas than those of lower orders, and thus the order of the central place is determined by the radius of the goods or services it supplies (Bos [1965]). Berry and Garrison [1958] demonstrated that a hierarchical structure of central places tends to emerge regardless of the distribution of purchasing power, so that the larger centers earn more "profit" than those at the margin.

The findings concerning the application of central place theory to rural community growth and decline are instructive, for they suggest several processes that may be useful in formulating population redistribution policy. Initially, it was believed that small rural communities were "losing out" to larger places, i.e., low-order places were unable to gain population or services as rapidly as the few larger places. Subsequent research has indicated the process is more complex than the premises of central place theory suggest. Although some recent studies have shown that small centers decline at faster rates than larger centers (Hodge [1966], Scott [1968]) and that communities with more types of service offered tend to grow faster than those with fewer services (Fuguitt and Deeley [1966], Hassinger [1957a, 1957b]), the findings have been inconsistent and the associations weak.[63] Fuguitt's work [1965, 1971] has shown that stagnation rather than growth or decline characterizes rural communities. It also appears that the relationship between the initial size and growth of nonmetropolitan communities is becoming weaker, suggesting an emerging trend toward decentralization.

Other studies have emphasized that the location of the lower-order centers in relation to the higher-order centers may be the key factor responsible for growth or decline. Several studies have shown that towns near large cities are more likely to grow than others (Doerflinger [1962], Fuguitt [1964], Glynn, Labovitz, and Stouse [1961], Hardin [1968], Northam, [1963], Tarver and Beale [1968]). Other studies have found that rural centers near to or remote from larger places are more likely to grow than those in between (Fuguitt [1971], Harden [1960], Hawley [1956], Madden [1956]). Studies by Hassinger [1957a, 1957b] and Butler and Fuguitt [1970] found some evidence of an interaction effect; when the nearest large town was only slightly larger than the small town, the larger town tended to grow at the expense of the smaller town, but when the nearest large town was much larger, the small town tended to grow.

Several alternative explanations have been offered to interpret these findings. These different growth patterns of rural communities have been attributed to the ecological processes of competition and symbiosis (Butler and Fuguitt [1970]). Competition refers to the central place notion that larger places are likely to grow at the expense of smaller centers particularly when they offer many of the same services and become rival centers. Symbiosis occurs when the larger center becomes dominant and the smaller centers adjust and provide both a place of residence and a market for the larger center. Competition is most likely to operate when rival centers both function primarily as trade and service areas, with the probable consequence of the larger gaining population and services at a faster rate than the adjacent smaller centers. On the other hand, symbiosis appears when smaller centers, particularly near larger centers, have lost services to the larger center through competition but have gained residents who commute to the larger centers. Remote rural communities that are growing are likely to have a competitive advantage over adjacent rural centers and to assume a central place function. Rural communities in between may lack the central place location and be too far from the larger central places to benefit from decentralization. Thus these in-between communities are likely to lose both population and services.

Impacts of Industrialization. The Area Redevelopment Act of 1961, directed toward redistributing industrial activity in both rural and urban depressed areas, provided for direct loans to industry, loans and grants to depressed communities for constructing public facilities, retraining of unemployed persons, and research and technical assistance. Tang [1965] examined the economic rationale of the act in light of Schultz's locational hypothesis and other studies dealing with industrial locational decision-making processes. The process of industrialization is consistent with the goal of revitalizing depressed rural areas; however, Tang expressed concern over the type of industries likely to be favored by the act. Footloose industries—which move from town to town in response to changes in input prices—are not apt to ensure lasting improvement in an area and are not likely to help all the communities in need of improvement because their growth potential is poor.

Several studies documented the increasing attractiveness of rural areas as a location for industrial activity. Till [1972] found that the growth of nonfarm employment, especially in manufacturing, was faster in the rural than in the urban areas during the 1960s. Till also discovered that "nearness" to SMSA's was a significant explanatory variable in only four of the thirteen southern states included in the analysis. Gingrich and Jansma [1969] found no significant difference in the type of manufacturing industry locating in the rural and in the urban areas of Pennsylvania in the early 1960s.

A number of studies found that per capita income increases in rural com-

munities where rural industrialization has occurred (Bertrand and Osborne [1960], Kaldor, Bauder, and Trautwein [1964], Andrews and Bauder [1968], Sizer and Clifford [1966], Summers et al. [1969]). Expanded employment opportunities brought on by rural industrialization have also resulted in decreases in unemployment and underemployment (Taylor and Jones [1964]). Two Oklahoma based studies provide evidence of indirect effects of rural industrialization, i.e., multiplier effects (Doeksen and Little [1969], Schreiner and Muncrief [1972]).

Another group of related studies evaluated the impact of employment change on the fiscal "balance" in the community. The effects of rural industrialization have been found to be mixed. On the positive side, studies have shown that industries built in rural areas expand employment opportunities and thus keep young adults in or attract them to the rural community. Some studies have found a decrease in the outmigration of young adults (Jordan [1967], Stuart [1971]), whereas other studies have reported that young adults and people of working age have migrated into the rural community (Andrews and Bauder [1968], Summers [1973]).

Rural industrialization, however, is not a panacea. Clemente and Summers [1973a, 1973b] showed that the economic status of the aged on fixed incomes declines with rural industrialization. In addition to the aged, other labor force members who are weak competitors such as female heads of households were found to experience declines in relative economic status (Clemente and Summers [1972]). In short, some segments of the population may be adversely affected by rural economic development because they are not active participants in the growth process.

Another study highlighting the negative consequence of rural industrialization is that of Garrison [1970]. He investigated the impact on local government finances of establishing manufacturing plants in five rural towns in Kentucky. The impact was often negative and usually small since most of the new plants added few in-migrants to the community, with little change in the level of local government services required. A large negative impact resulted when property taxes were substantially subsidized for the new firms and/or when large numbers of new residents, with corresponding needs for additional public services, were attracted into the community. However, this negative impact tended to be short-run and it often became positive after a few years.

A relatively large group of studies examined the impacts resulting from introducing specific industries into a town or region (Andrews, Bauder, and Rogers [1960], Beattie, Klindt, and Bradford [1972], Crecink [1970], Fuller [1971], Kuehn et al. [1972], McElveen [1970], Wadsworth and Conrad [1966]). Maitland and Friend [1961] provided a summary of the kind of information this type of study usually contains, i.e., who joined the rural indus-

trial work force, impact on income level of participants and nonparticipants, and general community effects. A major problem with most of these research studies is the use of a "before" and "after" rather than a "with" and "without" methodology.

Area Delineation. Edwards and Coltrane [1972] concluded that, from the standpoint of rural development, the best delineation on which to base a system of indicators (for regional economic growth and development) probably should be multicounty in size and based on functional logic. Although we agree that this may be the most appropriate approach for many purposes, we would stress the need to recognize that the specific development problems of many of the smaller towns and villages are masked when viewed from a multicounty viewpoint. For example, Drudy and Wallace [1971] argued that the collection and analysis of data for statistical units such as counties has concealed major problems which are clearly visible when data are examined at a more local level.

There is the additional question of whether the delineation technique is really that important. Edwards and Coltrane [1972] compared nine different approaches to regionalization and discovered high correlation coefficients among the various schemes.[64] However, they found some differences in the specific attributes of the distributions such as mean and skewness. They concluded that the appropriate criterion for delineating a region is that it must be large enough to be an economic unit but small enough to show specific development problems. Although conceptually correct, this criterion may be of little assistance in the implementation stage of the research process.

One example of an approach to area delineation is that provided by Berry [1970, p. 3]. In his analysis, rural areas were attached to metropolitan labor markets on the basis of commuting distance. Using the 1960 census data on commuting, Berry defined the "zero commuting line" as the outer boundary of a city's labor market, i.e., the commuter willing to drive the farthest is the standard used in defining the spatial boundaries of the laborshed. The area delineated by Berry encompasses "all but five percent of the country's population—within the daily commuting fields of metropolitan centers." This technique virtually ignores the importance of the economic activity in any of the small rural towns through which, in the extreme, a single commuter is willing to drive for employment in the urban center. For example, Hoch [1976a] suggested that if Berry's approach was reversed and all territory furnishing any rural labor was defined as rural, the county would be largely made up of rural labor markets. Thus the policy guidelines developed from the Berry analysis are largely a result of the urban bias used in delineating the area.

Another method that can be used to identify rural areas with potential for

development is the community structure approach. A series of factor analysis studies (Bonjean [1971], Bonjean, Browning, and Carter [1969], Hadden and Borgatta [1965], Jonassen [1961], Jonassen and Peres [1960], Munson [1968]) have shown that communities can be clustered, and thus differentiated, on the basis of several dimensions. The unit of analysis of these studies has varied (cities or counties) and the results have varied, but a fairly consistent factor pattern has emerged. These include the following factors:

1. Socioeconomic status. Usually the strongest factor that reflects the level of living. It is generally characterized by income level, education level, economic opportunity, housing quality, and the development of political systems for rich and poor alike.
2. Residential mobility. Represents population influx, population increase, and migration rate.
3. Life cycle. Reflects age composition, age distribution, birthrate, family size, and so on.
4. Urbanization. Includes population size and population density.
5. Government revenues and expenditures. Characterized by educational expenditures and per capita government expenditures.
6. Manufacturing concentration (level of industrial activity).
7. Commercial center (the extent of retail and wholesale activity).

These factors (or others) can be used to rank communities in terms of each of these dimensions. A community profile can then be developed and used as a starting point for local decision makers in developing a rural development strategy.

The area delineation problem is also related to the question of efficiency in the provision of public services. For example, Hirsch [1968] offered useful insights into the optimum scale for providing specified public services. However, there is little reason to expect much similarity in the optimum size of jurisdiction for providing different types of services. Similarly, Barkley [1974] argued that

> while 150,000 may be optimum with 3,500 persons per square mile, the same population can hardly be described as optimum for cities of other densities. If one size were optimum, the United States could be divided into the appropriate number of jurisdictional units and total costs of public services would be minimized. The task is not that simple, and the absurdity of the suggestion scarcely warrants comment except to say that key features that serve to bring about this absurdity include congestion, employment, income, race, location, and the split between exogenous and endogenous activities appropriate to uniform-sized jurisdictions [p. 1140].

In summary, it is necessary to recognize that the spatial dimensions of our regional economic problems are real and not a "straw man." Leven [1966, p. 11], in his presidential address to the Regional Science Association, pointed out "that an alternative way of eliminating a good bit of existing interregional differentials would be simply to redefine the boundaries of the regions we are comparing." The point is that the results obtained when evaluating employment impacts are directly linked to the spatial arrangements within which our analysis is conducted. Yet this important consideration is completely neglected in a substantial part of the research designed to investigate impacts of population and employment.

Institutions and Organizations

A major question addressed in the literature is at what level of government should decisions on the design and implementation of rural development policies be made. There seems to be a growing body of support for a sweeping restructuring of governments in metropolitan areas into a single decision-making unit. Such suggestions for reform are usually opposed by residents of the suburban and rural-urban fringe communities, for rather obvious reasons. They recognize certain advantages in a fragmented political system, and there is little doubt that given the political realities present today, any significant restructuring of local government into larger decision-making units is a long way off. In some sections of the country, the basis and scope of power for home rule is being strengthened, not weakened.

REGIONALIZATION

Major determinants of the degree to which the restructuring of local governments will occur will be the federal government and the courts. Glendening [1971] provided a good summary of the issues involved in regionalization and argued in favor of the Council of Governments (COG) approach, claiming that increases in federal largesse are mainly responsible for the growth of COG's in recent years. Glendening echoed the concern expressed by others that national programs to encourage federal-local bonds and interstate councils will further erode the ability of state governments to cope with society's problems. He believed that this is inevitable in view of the abdication by the states of their role and responsibility in solving local problems. Medeiros [1971] questioned Glendening's conclusions, however, arguing that the

> federal government has not caused local regionalism but it has merely *reflected* the new regional philosophy which local governments have developed over the years because of recognition of a need for cooperation and a serious regional problem to be solved [p. 119].

Regionalization interests and efforts in this country are not limited to local metropolitan governments. The eroding of the old basis for regional politics, as a result of economic diversification, migration, and social heterogeneity, made possible the introduction of federal programs to foster federal multistate activities. Beginning with the Delaware River Basin Commission in 1961, and then proceeding with the Appalachian Regional Development Act (1965) and the Title V provisions in the Public Works and Economic Development Act of 1965, there are now (mid-1970s) 16 federal multistate instrumentalities, of which seven are in the field of economic development and nine in the field of water resources development. A description of these programs, their implications in light of their brief existence, and their likely future is provided by Walker [1972].

Barnard, MacMillan, and Maki [1969] formulated a research design for measuring and evaluating the impact of a federal-provincial regional development program upon the Interlake Area of Manitoba. The evaluation process is is approached through a comprehensive system of social accounting formulated on the basis of a two-region, input-output model. The system of social accounts includes both current and capital accounts for business and government and provides a basis for the development of a dynamic model of the economy. Also stressed is the fact that public investment is important in regional development to the extent that it promotes private investment *and* increases area incomes and productivity. Quantitatively, linkages that relate public investment in natural resources, human resources, and social capital to regional economic development are examined.

Most of the regionalization literature deals with its relevancy to urban problems. However, it also has meaning in rural areas. With the declining role of the small rural town as a service center for the agricultural community and the concurrent growth in regional importance of the dominant urban center (the concept of the functional economic area), many of the same arguments within the metropolitan context presented earlier in our discussion of institutions and organizations are applicable here. Some question the desirability of the large number of county governments. Such governments were geographically defined to serve the judicial and legal record keeping needs of a populace whose mode of travel at the time was limited to horse and wagon. It is argued that greater operating efficiencies and higher quality staff would be obtained by consolidating the county courthouses in many rural areas. Rural people, however, are generally the ones most opposed to a lessening of home rule and of the opportunities for elected officials to come in contact with their constituents. It may be ironic that at a time when the rationale for the present geographical size of county governments in this country no longer exists, certain

federal programs assisting agriculture (for example, the Agricultural Extension Service and the Soil Conservation Service) are actually strengthening the county as a governmental unit.

Conversely, one can argue that the delineation of an area should be related to the specific function (service) being supplied rather than emphasizing the consolidation of currently "unacceptable" governmental units because they are too small. Boles [1966, p. 129] maintained that "the geographic consolidation of local government units, such as counties, continues to be parroted as the final solution to problems of local government . . . unfortunately, there is seldom a tough-minded analysis of political and power obstacles standing in the way of achieving this goal."

Within the framework of larger economic aggregations, the Appalachian Regional Development Act (ARD) of 1965 provided a new approach to "alleviating poverty" in a large economically and socially lagging region in the nation. The federal government supplied the funds (nearly two billion dollars from 1965 to 1972), but the operation of the program rested on a local-state-federal cooperative effort. Multicounty local development districts were the key planning units for the program. A basic philosophy of the act was that although the Appalachian region was rich in natural resources and had promising potential for tourism, its isolation from the rest of the county had discouraged significant industrial growth. Therefore, most of the development funds were devoted to improving highways. To a lesser extent, funds provided for improving social overhead capital (education, health, etc.) were allocated almost exclusively only to those urban centers which show significant prospects for future growth. Funds were not to be "trickled away" in attempting to improve conditions in the numerous hollows.

A number of authors have examined the Appalachian regional program critically. Hansen [1969] argued that too much emphasis had been placed on economic development (highways) and not enough funds devoted to social overhead capital. He believed that comprehensive regional policy must consider inter- and intra-regional opportunity costs and the effects upon labor mobility. Highways may open Appalachia up to the rest of the nation, but the rest of the nation will also be open to Appalachia. If industry is not attracted to Appalachia because of improved access, at least outmigration may be easier. Both beneficial and adverse effects would then ensue—for Appalachia as well as for areas outside.

Others also have argued that social conditions must first be improved before any significant gains in economic opportunities can be achieved. Caudill [1962], a native of the region, made a compelling case for this philosophy in an enlightening and revealing book. Solnit [1967] thought that the problem is one of individuals with a strong preference for keeping their roots in a home

community and that development of human resources is more important than development of specific economic sectors.

Several articles have appeared challenging the concepts of regional development embodied in the ARD Act. Drawing upon their study of an old coal mining town in Kentucky, Lauer and Crismon [1972] documented the efforts of the local power structure to resist outside directed change; this evidence supports in many ways the hypotheses and prescriptions of Caudill [1962].

Moomaw [1971] argued that programs designed to influence industry locational decisions by providing infrastructure incentives will be very costly, and probably doomed to failure, although the data he provides on two regions in Virginia neither support nor reject this contention. The study did emphasize the need, however, for addressing the question of whether, within a national economic efficiency and welfare framework, the expenditure of large amounts of public funds should be used to attempt to redirect the spatial (regional) location of economic activity to stem outmigration.

Rothblatt [1971a, 1971b] made extensive studies of the Appalachian Regional Commission and concluded that the greatest contribution of the ARD Act has been in the political-institutional arena. It created, through the three-tier decision system, an institutional means for reconciling the differing goals of local groups with those of state and federal planning agencies. With regional planning gaining increased acceptance, a program that has been able to generate a strong power base in the face of conflicting goals, and with it a significant budget, needs careful scrutiny.

In a recent study, Levine and Adelman [1973] used factor analysis to investigate the interrelationships of economic, social, and political behavior in the development of Appalachia. A set of 28 variables was employed to explain the variance in income growth in 574 counties, 181 of which are peripheral to the 393 Appalachian counties. In the total sample, modernization of individual farms, with an emphasis on livestock products, and an absence of nonagricultural economic change were associated with short-run income growth. In the 181 peripheral counties, however, mechanization and rapid labor displacement in agriculture together with significant nonagricultural mechanization were associated with a rapid growth in income.

Several evaluative studies of the Appalachian Regional Development Program have been conducted. Newman [1972] prepared a history and critique of the program. Widner [1973], former Executive Director of the ARD, felt the program would have been more successful had the states lived up to the challenge of the act. A report by the U.S. Advisory Commission on Intergovernmental Relations [1972] supports his view and criticizes the program for not coordinating with competing federal programs.

In summary, Martin [1965] felt that the decision makers charged with try-

ing to stimulate regional growth have given inadequate attention to relationships that are important for analyzing regional problems. Many development efforts are directed toward basic manufacturing activities. Analyses to determine the competitive position of an area assume that most industrial processes can be set up in any location although the unit costs of production might be quite high in many locations. He suggested that to estimate the net effects of a given investment in an area, production changes must be evaluated by examining the net effect on returns and costs of additional inputs. Similarly, an investment resulting in fuller employment of human resources should be examined by comparing the additional net income with the annual costs of the investment.

Implementation of Rural Economic Development Programs

In order to improve income and job opportunities, many rural communities attempt to attract new economic activity by offering various kinds of inducements. The emphasis in this section will be an examination of the substantial literature on the role of financing in—and its potential impact on—the economic viability of rural areas.

FINANCING AT LOCAL LEVEL

There is considerable disagreement on whether the subsidization of new economic activity is responsible for desirable results in the community. Rinehart [1963] undertook a study to examine various kinds of subsidies—including direct outlays of cash, tax exemptions, and loans and interest rates below the market value. He found that the rate of return on the subsidy was significantly above the 6 percent alternative rate which was assumed as an opportunity cost. Thus he concluded that even on the basis of an assumption that the subsidies went to firms that might be classified as "fly by night," the present system of subsidization still makes returns on these investments profitable. This conclusion, and others in Rinehart's study, were a result of his assumption of a fixed rate for opportunity costs. Also, it should be noted that an investment in a "fly by night" industry might preclude the community from subsequently attracting a more profitable industry.

Gold [1966] developed a similar study of communities engaged in a variety of efforts designed to attract new industry and thereby increase employment within their area. He considered direct inducements to firms in the form of tax exemptions and loans at interest rates below those charged by commercial credit sources.

The results of Gold's study show that plant financing subsidies tend to result in only marginal savings to recipients relative to total costs of production, except for firms facing prohibitive costs of commercial credit or subject to

severe credit rationing. Plant financing did result in substantial employment gains to communities giving the subsidies. But the effectiveness of the subsidies given in increasing employment differed markedly according to the net worth categories of the recipients. Plant financing subsidies were largely wasted on large firms with ready access to sources of capital. Plant financing subsidies to small and medium firms resulted in more positive employment gains.

Burton [1966] examined a planning region in Yorkshire, England, encompassing an area of 5,500 square miles and a population of nearly five million. He concluded that

> the future prospects of the area remain virtually the same whether regional policy is to encourage and assist industrial development in rural districts, or to discriminate against them and foster growth in the established industrial centers [p. 118].

Moes [1961] and Rinehart [1963] found that the annual rates of return on subsidies, viewed as a community investment, ranged from 70 percent to 6,000 percent. Estimates of this type present only a partial economic picture of subsidization. Income additions to local households are only meaningful measures if unemployment is reduced and/or real wages are increased as a result of the new firm. From a national perspective, only the incremental increases in the income of residents moving into the community in response to the new firm are relevant (income above what they would have earned had they elected not to move). Additionally, the income additions to existing residents might be overstated if opportunity costs of employment outside the community (minus the cost of moving) are not considered. Also not accounted for are the additional current and future demands on community services by the firm as well as by the residents. Furthermore, interregional effects are not taken into account, and if the firm merely relocated, there could be sizable costs imposed on the community losing the firm. But from the viewpoint of *only* the "receiving" community, rich or poor, subsidies tend to be profitable.

Sazama [1970] developed and applied a benefit-cost framework to analyze the effectiveness of industrial development loans by state governments. The net increase in absolute state income was the criterion used in examining data from five northeastern states. All benefit-cost ratios were greater than one. Sazama correctly pointed out, however, that

> because state loans frequently work with relatively low wage firms, at a time of full employment these programs could cause a reduction in state per capita income even though they would stimulate an increase in total state income [p. 396].

A discussion of rural development research would not be complete with-

out including Hirsch's [1964a] study of the fiscal impact of industrialization on local school financing. Although his study was limited to the impact on schools, he did indicate that industrialization may not be the "solution" that is often suggested by political and industrial development groups. In general, Hirsch's study confirmed that industrialization improved the fiscal health of the school district only when the state subsidy was included as a revenue source. This result was due to the fact that low wage industries bring in employees with school age children, but the assessed valuation of the plants where they work and the homes where they live is relatively low.[65] The opposite tends to be true for high wage and capital intensive industries.[66]

FINANCING AT STATE AND FEDERAL LEVEL

One of the important aspects of public financing in rural communities is the imbalance between receipts and expenditures when all levels of government are considered. Viewing the community in a macroeconomic sense, there exists in any time period a certain flow of public funds out of the community. Local residents pay federal income taxes, social security payments, and other specialized taxes or charges to the federal government. On the other hand, federal agencies commit funds to the same community for a wide variety of purposes. Some of these funds may be in the form of wage and salary payments where individuals are employed directly in the community or live there but commute to federal jobs nearby. In a like vein, the state government is also demanding payments from local communities (including their residents) as well as supporting numerous activities, particularly highways and education.

Few studies have examined the specific issue of public receipt and expenditure imbalances in rural communities, but some interesting insights into this problem can be gleaned by examining input-output models in which households are included as a separate sector in the endogenous (producing) portion of the model and state and federal governments are shown separately within the exogenous (final demand) portion.

A study of a very rural county in Pennsylvania by Gamble [1967] showed that federal and state governments combined spent about 884,000 dollars more in the county than they received from the county, with the highest contributor being the state government. Total direct payments to households from all levels of government amounted to about 2.5 million dollars, or an average of 1,380 dollars per household. One could imagine the severe hardships if government activity were suddenly curtailed. Taking into account the induced income generated in the local community as a result of the multiplier effect, Gamble found that public revenues were the second largest source of income in the county, exceeded only by the direct and induced income from forest products.

Since the time of that study (1963 data), the extent of federal fiscal involve-

ment in rural communities has undoubtedly expanded, and the same may be true for state government involvement. It appears very likely that many rural communities today are receiving more funds from state and federal sources than they are paying to them. To what extent inequities in income distribution are being corrected by these imbalances is not known. In the Gamble study a large portion of local federal expenditures were for welfare programs and social security. Nearly all the local state expenditures were for wages and salaries in highway and educational activities.

Several interesting questions evolve from the above: (1) Considering public funds at all levels of government, to what extent is urban America subsidizing rural America? (2) If measures could be obtained, how well would the marginal benefits compare with the marginal costs of such subsidization?

In a study of tax burdens in Kentucky, Buckley and Soule [1972] found a substantial lack of correspondence between tax burdens and government expenditure benefits largely because the taxing jurisdictions were much smaller than the economic areas they served. In many areas the high level of the family tax burden was a result of low average levels of taxable property, not of increased levels of service. They concluded that

> the fractionalization of local areas for taxation and government services has the undesirable effects of encouraging businesses to locate outside of cities and of confusing citizens in their attempts to encourage governmental efficiency by the traditional methods of demanding that tax burdens be offset by benefits [p. 29].

Sinclair and Craig [1968] studied 30 Vermont towns and found that the average income elasticity of the tax base between 1954 and 1965 was 0.71, whereas the average income elasticity of tax revenues during the same period was 1.85. Their conclusion was that the burden of property tax, expressed as a percentage of income earned, is significantly regressive. The tax burden of farmers in the study was over twice that of the homeowners sampled. These findings were in accord with previous studies—when based on income, the property tax is regressive; but when based on wealth, the property tax is progressive.[67] A further interesting finding in the Vermont study was that nonresident property owners (mostly seasonal homeowners) significantly decrease the tax burden for many local residents. This should be an important consideration for rural communities contemplating the development of their land resources to meet urban recreational demands.

A specific strategy in providing subsidies is property tax concessions. Due [1961] summarized some of the early studies on the question of tax concessions. W. V. Williams [1967] examined the situation in Minnesota, but his findings, like so many earlier ones, were inconclusive as to the impact of state and local taxes on industrial location. One of his findings consistent with sim-

ilar studies was that state and local taxes constitute a very small fraction of the value of shipments of manufacturing industries, being in the neighborhood of 1 to 2 percent. This would imply that for most kinds of manufacturing firms other factors influencing location decisions (labor supply, raw materials, accessibility to markets) would have a much more significant influence than tax concessions.

Stinson [1968] summarized three groups of studies on the question of tax concessions and industrial location: (1) surveys of company officials generally found that for most firms taxes rank below other locational factors and are not important enough to influence site selection by established firms; (2) tax savings available to firms that relocated were a small portion of both total costs and total geographically variable costs; and (3) studies correlating economic growth with tax levels have produced conflicting results, making it impossible to draw general conclusions from them. It is interesting to speculate that an explanation for such a lack of correlation rests with the propensity of government to "cash in" on growth by raising tax levels after growth occurs.

REVENUE SHARING, COST SHARING, AND THE GRANTS ECONOMY

Growing demands for most locally provided community services at a time when municipal governments are finding it increasingly difficult to raise sufficient revenues to finance them have forced many communities to look to higher levels of government for financial assistance. Local governments find themselves in a growing fiscal "crisis" because of the high degree of labor intensity in the public sector (thus reducing the scope for productivity gains) which leads to higher relative costs, coupled with the high cost of debt servicing for which inadequate provisions were made at the time the debt obligations were assumed. In many communities demands by local residents for public services have been rising faster than incomes. In addition, state and federal regulations have mandated local government expenditures in a variety of programs (for example, air and water quality improvements, solid waste disposal, land use planning, health care, and housing). However, declining birth rates are already reflected in reduced demands for educational services.

In times of inflation, tax revenues based on the assessed value of real property in an area will tend to increase less rapidly than will local expenditures because of lags in reassessment and/or an unwillingness of local officials to increase the tax rates continually. Conversely, revenues from the federal income tax tend to rise faster than national output, whereas the federal budget over the long run may not rise faster than the GNP. The resulting federal fiscal dividend has been used increasingly to alleviate the financial plight of local governments.

The State and Local Fiscal Assistance Act of 1972 formally established a

system for federal revenue sharing. A good explanation of how funds under this act are allocated between states and between local governments within states, and the restrictions on use of funds, is provided by Powell [1973].

Much of the economic logic behind federal fiscal support for state and local governments was developed by Musgrave [1959] and Tiebout [1956, 1961]. Their layer-cake model views governmental activities in the areas of resource allocation, income distribution, and economic stabilization as functions of three separate branches of government, with each branch operating under the assumption that the others are performing their jobs. Netzer [1969] also contributed to this view, although he believed that the evidence indicates a fiscal federalism better described as "marble cake." Most economists agree that the income distribution and economic stabilization functions are best carried out at the federal level. State and local governments are limited in their borrowing capacity, lack effective tools for monetary policy, operate in an open economy (leakages are too great for effective stabilization efforts), and attempts at progressive taxation may repel economic activity and thus stunt local economic development. On the other hand, state and local governments can perform reasonably well the resource allocative function so long as benefits of public services are somewhat closely related to costs (taxes). Thus the principal objectives of revenue sharing programs are seen as correcting apparent imbalances in the present pattern of income distribution and bolstering the economies of depressed areas.

McLure [1971, p. 477] in an excellent review of the development of revenue sharing theory, concluded that revenue sharing must be viewed as "a stopgap measure offered in lieu of a more sensible set of fiscal institutions." The primary thrust of the federal government in the area of righting income imbalances should be directed toward federal tax reform and the initiation of a comprehensive program for alleviating poverty. Netzer [1969] concurred with McLure that revenue sharing must be viewed as only an expedient.

Weintraub [1972] discussed the various ways of sharing federal revenues: (1) grants-in-aid for single purpose specific projects (highways); (2) grants for broad functional areas (education); (3) grants for multipurpose projects; and (4) unassigned block grants. He then analyzed the benefits and costs of the different approaches, concluding that the geographical dimensions of the problem under consideration together with the specific national objectives dictate the best form of aid to be used.

Let us now broaden our discussion to include conditional federal grants requiring matching monies from state and local governments. A "distortion thesis" has appeared in the literature which suggests that federal grants distort the budgets of state and local governments (Heller [1967], Maxwell [1965]). Federally aided activities are preferred in state and local governments over

activities not receiving aid, thus distorting the revenue-expenditure pattern that would have otherwise prevailed. By employing an indifference curve approach in an analysis of legislative bodies, D. L. Smith [1968] examined the empirical validity of the distortion thesis. The implicit assumption of the thesis is that demand for the aided activity is price elastic and that budget distortion could not occur in activities that exhibited a price inelastic demand curve. His findings showed that for selected state-local-federal government activities the demand was price inelastic and that federal grants appeared to subsidize indirectly a wide range of nonaided governmental activities.

James [1973] challenged the theoretical analysis of the stimulation and substitution effects of federal grants-in-aid programs–effects that have been largely discovered by using a highly restrictive partial equilibrium model. He employed a general equilibrium qualitative analysis with less restrictive explicit assumptions, but his results did not differ significantly from those of earlier investigators.

The most noteworthy (and virtually the only) writing on the grants economy in our own *American Journal of Agricultural Economics* is an article by Horvath [1971]. In it, he proposes a model adapted to observing the working of the grants economy in rural America. Although he does not test the model empirically, he discusses the ramifications of a number of federal programs in terms of it, e.g., price support, land diversion, surplus disposal, preferential tax treatment, productivity improvement, concessionary loans, and revenue sharing. One of Horvath's most significant contributions is his discussion of the microeconomic implications of the grants economy, particularly the matter of the interdependence of utility functions among individuals. He insists that grants economics must encompass a broader concept of social welfare which specifically recognizes benevolent behavior, the utility derived from giving and from contemplation of another person's welfare.

One of the difficult problems associated with analyzing the grants economy is that of determining priorities or choices in the awarding of grants. Yet little work has been done to determine the effectiveness of present allocative procedures.

H. E. Marshall [1970] examined inconsistencies in cost sharing rules and practices of federal agencies, which lead to production practices and scales of development that are not necessarily socially efficient at the national level. In single purpose developments, costs should be shared in proportion to benefits received at the margin.

Examining flood protection projects, Loughlin [1970] found both efficiency and equity shortcomings. The inefficiencies he saw were similar to those studied by Marshall above, but the equity problems consisted of "differing patterns of reimbursable functions, and the arbitrariness of existing cost-sharing provisions" [p. 377].

RURAL DEVELOPMENT AND THE TAX BASE

A major concern of rural communities where public land ownership comprises a significant proportion of the area is the subsequent effect on the local tax base. Such concern finds expression in a number of ways. Many local community leaders think that the payments in lieu of taxes or other grants now received are insufficient to make up for the revenue losses occasioned by tax immunity of public lands. On the other hand, some public administrators contend that local governments enjoy unique benefits from public land ownership and that compensatory payments for loss of tax revenues are therefore not justified. The U.S. Public Land Law Review Commission, in its report to the President [1970], found no evidence to support this latter contention. Their evidence did suggest that for federally owned lands in the West, revenue sharing programs to offset tax immunity only fortuitously provided payments in amounts sufficient to offset tax losses. Seastone [1971] analyzed this problem in reviewing the commision's report and discussed how some alternative equity and efficiency goals could be attained under a combination payment-in-lieu-of-taxes will probably be the system retained by the federal government.

Barron and Jansma [1970] found in a study of three counties in Pennsylvania that neither increased effective tax rates nor reduced local government expenditures were associated with increasing amounts of public land. The distribution among local governments of the 20 cents per acre in lieu of taxes seemed to favor townships and counties at the expense of school districts.

A number of studies have been conducted to determine the effect of public resource development projects on property values. Knetsch [1964], David and Lord [1969], Schutjer and Hallberg [1968], and Hendon [1971] looked at the effect of reservoir and park development on nearby property values, and all found direct relationships. Epp [1970] discovered that in most of the 27 reservoirs he studied in Pennsylvania, the increased value of land in the vicinity of state parks more than offset the loss in taxable land due to public acquisition.

Bates and Soule [1971] developed tax severity indexes for counties in Kentucky that contained 3 reservoirs and found that higher local government tax burdens are not necessary consequences of reservoir development. Public resource developments may bring about property reassessments sooner than otherwise, thus raising taxes, but such tax increases should not be considered burdens resulting from loss of taxable lands.

Summary

The second section of this review has discussed the more applied research literature and examined how the conceptual constructs are being used to in-

vestigate the complex problems in rural development. Two major "concerns" of rural development have been emphasized: (1) income and employment considerations, and (2) implementation of alternative rural development programs.

The focus on income and job considerations started with an examination of the studies of where people live and work and why. These studies attempted to answer questions of labor mobility, the efficiency of labor as compared with other factor impacts, the private and social costs associated with migration, and industrialization effects in rural communities.

Studies addressing employment and population redistribution at the macro level were reviewed next. Of special interest were the models that related economic change to basic factor inputs.

Studies examining regional-spatial considerations in rural development exhibited a high degree of fragmentation, with a basic problem being the "need vs. potential" controversy in assigning investment dollars. The relevancy of central place theory to rural community growth and decline was examined. The positive and negative effects of rural industrialization on employment, income, commuting, migration, community fiscal "balance," and local government finances were reviewed. Problems associated with the spatial delineation of appropriate regions and identification of rural areas with potential for development were also included.

The next group of studies in our review examined the problems and issues associated with appropriate levels for decision making and the regionalization of local governments. We reviewed a number of studies that evaluated federal programs, such as the Appalachian Regional Development Act which directly and indirectly had a strong influence on regionalization.

There is a substantial volume of literature on the role of financing (such as the subsidization of new economic activity) to improve the economic vitality of rural areas. Direct inducements, tax exemptions, and low interest loans are tools employed for this purpose. Their effects on income and employment, their fiscal impact on other public services, and their effectiveness within a benefit-cost framework were analyzed.

The literature in the rather vast area of revenue sharing, cost sharing, and the grants economy to correct apparent imbalances in the pattern of income distribution and bolster the economies of depressed areas was examined. Determining priorities or choices in the awarding of grants, and efficiency and equity problems associated with cost-sharing practices, as reported in several studies, were discussed.

The effects of public land ownership on the local tax base, including the regional dependency effect of federal and state ownership, have important implications for regional economic growth. The equity and effectiveness of

in-lieu-of-tax payments and revenue sharing programs to offset tax immunity were reviewed. Finally, studies examing the effect of public resource development projects on property values and on the local tax base were discussed.

Conclusions

This limited review of the literature does not do justice to the work being done in rural development. We hope that it provides an indication of some of the conceptual and applied approaches that have been employed. Some are imaginative and exciting—others are frankly very pedestrian. This is partly a function of the lack of an integrated body of theory to support rural development research. Another reason is the relatively small number of professionals—especially among agricultural economists—who have been working in this area for more than the past few years.

The postwar literature on rural development that has been reviewed here seems to fit roughly into three categories:

1. A significant contribution to the literature may be called the "academic-rhetorical" type. This literature serves to point out the deficiencies in the theoretical conceptual procedural nature of previous works in the literature. These contributions are essential to the growth and maturation of the literature, because they stimulate further exploration in quest of better approaches and methods. But in and of itself, literature of this type does not constitute an improvement in the theoretical/conceptual/procedural base for rural development work. For example, we questioned the widely used Pareto framework by pointing out that essential assumptions are virtually never met in the real world. But an alternative framework has yet to emerge and assume the stature of the Pareto criteria.
2. A second contribution to the literature is the "synthesizing-retrospective" approach. Literature in this category serves to synthesize the contributions of previous literature in such a way as to provide a clearer understanding of the past. It is useful in offering explanations of why some areas and types of rural communities have experienced more rapid rural development (in whatever way it is defined) than other areas and types of situations.
3. A third general category of contribution to the literature—the "prescriptive" type—overlaps but transcends the other two. This type of literature offers solutions to problems of rural development, by specifying the causal or probabilistic relations connecting the various possible approaches to rural development and the intended outcomes. We pointed out the extreme diversity in the literature. For example, we discussed the three interest groups (self-interest, equity, and efficiency) and contrasted their respective conceptual bases and behavioral assumptions, indicating their opposing

perspectives toward outmigration. We also reviewed several critical essays that suggest that economists have failed to take account of many relevant dimensions of the rural political economy in forming their explanations and prescriptions.

In general, the literature reviewed is highly weighted toward the first type (academic-rhetorical) and the second type (synthesizing-retrospective), but the third type seems to be an arena with much unfinished business. The literature contains an abundance of suggestive or prescriptive discussion, but it is largely untried and unproved. We hope that as new and expanded rural development efforts are mounted in the future, researchers will be called upon to help form the development plans. As this is done, we should approach the task in the scientific spirit of attempting to test and improve our predictive and prescriptive tools.

Our literature review suggests that one of the reasons there is so little focus and such a high degree of fragmentation in the rural development literature is the lack of a theoretical tradition within this professional specialty. Without this theoretical tradition to draw from and extend, professionals working in the area of rural development are given little direction. Often the result is that the research becomes primarily descriptive with little or no relation to a broader conceptual base. Thus synthesis becomes very difficult, and fragmentation abounds.

One purpose of a literature review is to determine what has been studied. This review has emphasized the research that has been conducted on labor mobility, population distribution and redistribution, the relevance of space to development and growth, delineation of rural development areas, appropriate structures of government and community decision-making units, and the ways in which rural development activities should be financed.

Another conclusion one arrives at after reviewing the literature is that we simply do not know enough about some of the most fundamental aspects of the problem to be able to formulate meaningful policies and objectives for its solution. For example, how far should we attempt to go in equalizing income disparities between "growth" and "lagging" regions, that is, to what extent do production efficiency criteria at the national level override welfare considerations? If we assume that most people prefer rural living environments to urban ones (national surveys have indicated this to be true) and further assume that income levels in rural areas will remain below those of urban areas, what are the trade-offs between income and quality of life? Since society has an interest in property as well as the individual, what are the trade-offs between community well-being (social needs) and the property rights (freedom) of private landowners? What level of population density and size range of rural communities would satisfy the needs and expectations of the majority of

rural residents? These and other very basic relationships need to be known if meaningful rural development policies are to be formulated.

A lingering perception resulting from this review of the literature is that economics is only one part of the problems associated with rural development. Although the rural area—its environment, land resource base, and its people—is strongly interrelated with national economic efficiency, the preferences, values, and expectations of rural households are also of paramount importance. Such a consideration calls for coordinated efforts by sociologists, political scientists, regional planners, as well as economists, if the well-being of rural people is to be improved.

It is still too soon to evaluate comprehensively the social and economic effects of most rural development programs. Of particular usefulness will be studies showing the incidence of the benefits and costs of the program. Who have been the direct and indirect beneficiaries of rural development programs? Who have been affected by the interregional consequences of changes in the migration patterns? Have the really poor in the remote areas realized significant gains? Who has experienced costs as a result of rural development programs and what is the nature of these losses? These are only some of the more important questions—the answers to which are necessary if we are to assess fully the usefulness of rural development activities.

It is obvious that rural development programs are going to proceed and will not wait for highly refined conceptual and analytical models. As more of our political strength and economic power become concentrated in urban areas, these urban interests will increasingly dictate what goes on in rural America. It behooves agricultural economists, then, to assume a more active as well as a more practical role at the state and national levels in the formulation and implementation of rural development programs.

It has been said that it is far better to light a candle than to curse the darkness. The goal of this paper has been to do both. It is hoped that by emphasizing some of the important contributions—as well as suggesting inadequacies—future work will be enhanced.

Postscript

Owing to a significant lapse of time between the completion of this review article and the date of publication, the editor agreed to accept a brief postscript in which current trends in rural development research could be discussed.

We start with two observations about the direction of rural development research during the 1977-80 period. First, the type of researchers engaged in rural development studies seems to have shifted from agricultural economists to rural sociologists. Second, a reason for this shift may be the concentration

of research on questions related to the reversal of the rural to urban migration pattern—a topic that has traditionally been more closely associated with rural sociology researchers.

The magnitude of the "turnabout" in rural to urban migration, first discussed by Beale [1975], was investigated and reported on by several researchers (Beale and Fuguitt [1978], Tucker [1976], Wardwell [1977]). The same reversal in migratory patterns was observed in various regions in the United States as well as in several Western European Societies (Heaton, et al. [1979]). Zelinsky [1978] prepared an extensive bibliography of these studies.

Although most of the studies focused on the changes in magnitude of the migration stream, a few also examined the selectivity of the streams. The findings of these studies were diverse. Lichter et al. [1979] recently demonstrated that the overall effect of the population turnaround may have resulted in a slight overall downgrading of the socioeconomic status composition in nonmetropolitan areas. They found that the population migrating to nonmetropolitan areas was disproportionately composed of older, less educated persons of lower occupation status compared with the population of outmigrants. Wardwell [1977] concluded from his analysis that some differentials between nonmetropolitan-to-metropolitan and metropolitan-to-nonmetropolitan streams may be narrowing so that the streams may become more similar over time. Other studies have noted the movement of younger, highly educated people into nonmetropolitan counties to enjoy the amenities of rural life (Ploch [1978]) and the movement of younger and highly skilled workers into nonmetropolitan areas where new industries have located (Summers et al. [1976]). Others have argued that even though the people who migrate to nonmetropolitan areas may be younger and better skilled than the resident population, they are still older and less skilled than those who leave (Morrison and Wheeler [1976]). Thus until more definitive conclusions about the nature of the population turnaround can be reached, it will be difficult to judge what implications this demographic trend has for rural development.

Using a different approach, Dillman [1979] addressed the question of the possible reasons for the change in migration patterns. His list of some 16 forces that may help to create a preference for rural residential locations included such diverse items as simple spillovers from metro to nonmetro counties, completion of the interstate highway system, and concern over urban disamenities. Without claiming causality, he argued that a general preference for the rural lifestyle may be an important contributor to the urban to rural migration.

Hoch [1979] contributed one of the few economic studies on the turnaround phenomenon in his investigation of the relationship between place

size and real income earnings. An appealing hypothesis in need of intensive testing, according to Hoch, is that "minimum disamenities occur in the 10,000 to 25,000 range, making that population level 'optimal' in terms of [residential] preference" [p. 958].

Several studies on questions related to rural industrialization have recently appeared. Summers et al. [1976] compiled an excellent review of some 186 case studies of the impact of locating industrial plants in more than 245 nonmetropolitan locations. They summarized their findings in a series of empirical generalizations. Among other things they reported that communities in which plants located were likely to experience population growth through increased inmigration of those living within a 50-mile radius of the plant. They found little evidence that industrial development increased the level of education in the community. The new jobs often did not go to the local unemployed, underemployed, or minorities, but to younger workers or experienced workers. An increase in the fiscal resource base of the community in which the plant located was often outweighed by the increased cost of providing services to the new industry and the community.

Murdock and Schriner [1978] examined the structural and distribution effects of rural community development through a series of case studies. Their major conclusions were: (1) the structural factors in the community were affected during the development stage of an activity but tended to be returned to predevelopment levels once the operational phase of the development activity was completed; and (2) the new residents of a community received more benefits from development than long-term residents, but long-term residents in communities with development activites were better off than the residents of comparable communities not experiencing development. In addition to these studies, several other studies have examined the effects of industrial development on income (Rogers et al. [1978], Summers and Clemente [1976]).

The rural development research of the Economic Development Division of ESCS, USDA, needs to be cited as a continuing source of relevant information. Although the division's studies of rural population changes have received the most attention, the work of Bender, Temple, and Parcels [1980] on the simulation of local community impacts and of Hines and Reid [1977] on using data on federal outlays to measure program equity should be studied by rural development researchers. A recent rural development background paper for the Domestic Policy Staff at the White House by Deavers and Brown [1979] provides a useful overview of current social and economic trends in rural America.

Notes

1. Cosby and Wetherill [1978] listed 78 references in which the major focus is on defining what rural development means.

2. Some prefer to view rural development as synonymous with rural economic growth (sustained increase in per capita income over time) or the somewhat more inclusive term rural economic development (increase in well-being owing to improvements in resource productivity and/or the introduction of additional goods and services as a result of new technology) (Meier [1964], Spurlock [1973]).

3. Not only is the determination of the proper spatial context for investigating rural development subject to disagreement, there are concerns about the terminology that should be used in labeling these activities. For example, Tweeten and Brinkman [1976] argue for adoption of the term micropolitan, whereas others prefer terms such as rural, nonmetropolitan, or nonurban.

4. Two of the more important areas of specialization generally included under the rural development umbrella, but not addressed in this review, are the economics of community services and the process approach to rural development. Recommended references in the community services areas are Leadley [1972], Cordes [1976], Hirsch 1964b, 1965], Alan Williams [1966] and Anne Williams, Youmans, and Sorenson [1975]. References to the process approach literature include Hobbs's [1977] and the presidential addresses of Copp [1972] to the rural sociology society.

5. Noland and Heffernan [1974] support Wilkinson's conclusion and point out that an examination of the "text of remarks" made by senators during the course of committee hearings for the Rural Development Act of 1972 "leaves little room for alternative interpretation" than that the act is largely aimed at stimulating economic growth.

6. The works of Ruttan [1975] and Hildreth [1969] are especially important in pointing up the need for including institutions and organizations in evaluating rural development activities.

7. Bird [1968, 1971, 1976] and others (Kain and Meyer [1971]) maintain that rural development should be examined in terms of a subset of the larger questions of national development. They tend to argue that what really makes a difference in terms of employment and income in rural areas is national fiscal and monetary policy.

8. Although its emphasis is somewhat different, this organizational approach is similar to that used by Edwards [1979] in the preceding survey. His organizational approach is to examine the major conceptual literature within the framework of (1) demand, (2) resource availability, (3) technological advancement, (4) spatial relationships, and (5) institutional arrangements. Thus Edwards chose to stress demand, supply, and input-output relationships, whereas the authors of this review preferred to use a micro-macro delineation to examine efficiency and distributional questions. In both surveys, albeit at different levels of emphasis, the importance of spatial and institutional arrangements is stressed.

9. The authors recognize the extensive theoretical literature that has supplemented and refined the basic Pareto conditions. Space limitations plus an assumption that the micro-efficiency literature is a highly developed part of agricultural economists' theoretical "working tools" preclude a more complete discussion of the efficiency model.

10. Copp [1970], a rural sociologist, provides a useful, and sometimes devastating, review of the problems with the capitalistic system and its emphasis on economic efficiency. Although the article's main thrust is in terms of poverty "policy," the work is also a legitimate criticism of the narrow approach traditionally used by agricultural economists. For example, many of our economic models assume the freedom of choice

for individuals but disregard the lack of "parity among the bargainers" [p. 742]. Neither have agricultural economists worried very much about the secondary impact of change. As Copp suggests, "the social costs of . . . technological unemployment are passed on to labor and the general public" [p. 741].

11. A chapter in Mishan's [1969] book is entitled "The Myth of Consumer Sovereignty."

12. Hoch [1976a] argues that the selection of medical service as a case in point is hardly convincing, given the considerable union monopoly power of the AMA and the massive government intervention in medicine. This has shifted demand up with little change in supply—redounding greatly to the benefit of the medical profession. Thus, what has been happening in medicine is, says Hoch, "decision-maker dispensing merit good sovereignty" rather than consumer sovereignty.

13. The use of "fixed asset theory" seems an appropriate but generally neglected approach for analyzing problems of resource mobility—especially among the more established workers. Edwards [1959] demonstrated the usefulness of this concept in analyzing resource allocation problems in production economics.

14. Concepts and procedures for evaluating the labor mobility assumption will be examined in greater detail in our discussion of microefficiency considerations (see pp. 533-537).

15. See Lindblom's [1968] treatment of this subject in his book entitled *The Policy-Making Process.*

16. Davis and Haines [1966] and Barr and Davis [1966] tested the theory empirically by using data from municipal and county governments in Pennsylvania. The first study uncovered some of the underlying political influences behind local expenditures for operations and maintenance of public services; the second study examined expenditures for highways, judiciary, and general government operation by means of a model that did not contradict the predictions of the theory and that had some explanatory power.

17. This review will not deal with the considerable literature on the evaluation of *public investment* decision making, particularly the matter of discount rate choice. This topic is included in another survey in this volume (Castle, Kelso, Stevens, and Stoevener [1980]) because it is historically associated with natural resource economics.

18. Bergstrom and Goodman [1973] found that whether the provision of public goods is too great or too small depends to a large extent on price and income elasticity of demand and distribution of income. When income elasticities are greater than unity, the communities they studied provided a less than optimal amount of public goods. Netzer [1964] also examined the income elasticity of the property tax. Ohls and Wales [1972] estimated price and income elasticities of demand for several public services at the state and local level and discussed applications of the results.

19. In a study relating tax levels to growth, Struyk [1967] found an inverse association between local tax levels and changes in the growth of urban areas with populations of 50,000 to 100,000.

20. To be valid, such comparisons must be in real dollars and corrected for cost-of-living differences between communities.

21. See Schmid's [1972] interesting comments on the conceptual distinctions in the distributive effects of alternative public investments.

22. Copp [1970] argued that equality is not even a goal and that inequality is inherent in the capitalistic system, i.e., "The best we try for is to make the rules fair in the case for inequality."

23. J. Kunen [1969] expressed his somewhat unorthodox view of the distributional impact of the Apollo moon landing as follows:

> The really fine aspect of the trip, as we all know, was that it brought all humanity together—but it's not true. Maybe for 10 minutes it did; 20 minutes tops. But in the long-run, the only thing we all do together moonwise is chip in for the ticket. And the money is needed for the cities, yes. And to soar to the moon over the faces of starving people is an obscenity, yes. But Americans are reluctant to back programs which will aid some people at the expense of others. The moonshot aided no one at everyone's expense, and thus was equitable and perfectly all right [p. B-2].

24. Some of the spatial and sectoral distribution impacts will be discussed in a later section of this chapter. Marglin [1963] and others have attempted to develop intergenerational preference functions, but substantial "gaps" remain in the conceptualization of this difficult problem.

25. Hoch [1976a] argued that using the "highest marginal utility" criteria for allocation neglects alternative "equity oriented" criteria in which the equalization of total utility for all people is emphasized.

26. Tweeten and Walker [1977] attempted to operationalize the concept by empirically estimating marginal utility curves.

27. It should be noted that the interdependence of the utility functions can also be positive—involving empathy, altruism, and sympathy considerations. For example, many public programs designed to increase equality have positive interdependence of utility attributes.

28. Aaron and McGuire [1970] develop a somewhat more complicated—but not significantly better—approach, which they argue is "the logically correct" method for measuring the distribution of public good benefits. They tend to stress the problem of delineating consumption and "asset development" in the public sector more than Gillespie [1965] did.

29. One implementation of the procedures developed by the Gillespie work is available in a recent study by Infanger and Butcher [1974]. This Washington State University study was designed to measure individual income redistribution resulting from investments in irrigation activities in the Columbia River Basin. The study found that the redistributional impacts were "clearly not in favor of the poor—the lowest income group consistently experiences negative net benefits" [p. 810]. The Infanger-Butcher study generally agreed with the findings of Gardiner [1971] but reached a conclusion opposite to that of Freeman [1965].

30. Also see the work of Edwards and DePass [1975] on the impact of differences in participation rates of the rural and urban labor forces.

31. Silvers [1970] explored the differential multiplier impacts on the direct and indirect beneficiaries of public programs within specific income groups.

32. Weisbrod's [1969] presentation to the Joint Economic Committee of the Congress is an excellent reference on the incidence and effectiveness of income redistribution programs.

33. A related concern is the misallocation of private capital among farm and nonfarm uses.

34. Okun [1970] discussed the importance of the indirect approach in economic policy implementation. He suggested the same is true in other fields. For example, the penicillin shot for a sore throat is usually received in another part of the anatomy.

35. The problem of the rural-urban dichotomy has attracted the attention of many

rural sociologists. See, for example, Bealer, Willits, and Kuvlesky [1965] and Dewey [1960].

36. It is recognized, of course, that factors other than the rural-urban orientation—such as income, age, and education of the population, and the area's natural resource base—also affect the selection of appropriate development strategies.

37. The reader is referred to the survey of Meyer [1963] and the book by Nourse [1968] for additional discussions and references on the homogeneity criteria for delineating regions; see also Engerman [1965] for a somewhat different approach for delineating regions.

38. It is not possible to discuss this controversial concept in any detail here. The reader is referred to Meier [1964] for a general evaluation of the "pros and cons" of each position.

39. Studies examining the balanced growth concept in the broader context are Nath's [1962] and Streeten's [1963].

40. Also see Hoover's [1948] book on the location of economic activity.

41. The concept of centralization in regional analysis has an interesting history—ranging from the notion of growth poles (Moseley's growth centers [1973a, 1973b]) to the functional economic areas delineated by Fox [1962], and the central place theory developed by Christaller [1966] and modified by Berry and Garrison [1958].

42. Newman and March's [1969] examination of the Appalachian program is also within the framework of an industrial-urban hypothesis.

43. There is some validity to the question of whether such a place exists.

44. The purpose of this section is not to review the planning process or outline the various methods of land use controls, such as zoning and subdivision regulations. (Solberg [1952] wrote extensively on the issue of planning and zoning in rural areas.) Rather, we will concentrate on the important concepts and problems involved in the property rights aspects of resources and their relationship to rural development.

45. For additional articles on property rights and economics, see the work of Dales [1972] and McKean [1972].

46. A voluminous "externality" literature has developed rapidly over the past few years. Limitations of both time and space do not permit a review in this chapter of that important and relevant body of literature. For a brief review, see Castle, Kelso, Stevens, and Stoevener (this volume, pp. 393-500).

47. A multifunctional jurisdiction is a government unit responsible for a sufficient number of functions that its governing process involves a resolution of conflicting interests so as to balance governmental needs and resources.

48. The goal of rural development, according to the President's Task Force on Rural Development [1970], is to create job opportunities, community services, a better quality of living, and an improved social and physical environment in the small cities, towns, villages, and farm communities in rural America. Restated, the area of emphasis in rural development is to provide job opportunities with an acceptable quality of life (including adequate services and an acceptable environment) for those who wish to remain in rural areas as well as for those who wish to migrate to urban centers. The extensive literature that addresses questions concerned with physical environmental quality will not be reviewed. The topic is reviewed by Castle, Kelso, Stevens, and Stoevener in the chapter on natural resource economics (this volume, pp. 393-500).

49. Little attention has been given to the effects of economic decline on rural communities. Most of the research has been conducted by demographers and rural sociologists. These studies have focused either on the economic and demographic changes

associated with decline or on the social and social psychological impact upon those living in declining communities. Wilkinson [1974a] provided an excellent overview of these studies.

50. Siebert [1969] included an informative discussion of the labor mobility question in his textbook. He divided his discussion of labor mobility into five areas: (1) aspiration level and reference-group behavior; (2) information aspects; (3) search process and migration decisions; (4) determinants of labor mobility; and (5) expansion effects. It is impossible to examine each of these areas here, but Siebert provides adequate references for those seeking a more detailed examination of these considerations.

51. Hoch [1976a] argued that the skill level may not change in the migration process but that the marginal productivity, in real terms, should. He emphasized the economic argument that factors move because of higher real returns in the new location. Thus an individual or family migrates only if there is an expectation of an increase in real income and/or quality of life.

52. See Petto and Bender [1974] for a discussion of various viewpoints regarding the relationship between local economic conditions and rates of outmigration. Also see the excellent collection of papers presented at a workshop sponsored by the North Carolina State University, Agricultural Policy Institute [1961].

53. For a related discussion of the largely macro effects of rural to urban migration, see Graves and Clawson (this volume).

54. Spiegelman [1969] suggested the opportunity cost of labor in some areas may be small because labor is "locked-in" an area. It is important to consider the "fixed asset" character of labor in many rural communities.

55. In a conceptual article, Tolley [1969] suggested that attempts to find a desirable place to live at a reasonable cost may explain much of the flight to the suburbs. As people move to the suburbs, tax rates in the cities are raised to provide services to the increasing numbers of the poor. This provides a further stimulus for the more affluent to leave the city. The same argument can be used for some of the poorer rural areas. That is, rural families with lower incomes become increasingly isolated in the less productive agricultural areas. Perhaps if government services—whose cost the poorer families do not fully reimburse—were financed independently of where they live and if the quality of services was more nearly equalized among places, the poor would have less incentive to migrate in response to differences in service level. The assumed relationships in these scenarios are interesting, but additional empirical research is needed to estimate their validity.

56. Matsumoto [1972] analyzed the impact of the food stamp program on the economy of rural areas and estimated the number of direct and indirect jobs generated by the food stamp program. Madden [1973] examined the impact of the food stamp program in Pennsylvania on economic activity and on state and local tax revenue.

57. McLean [1971a] suggested four alternative approaches for handling the spatial distribution of population question: (1) do nothing—let the present trends continue; (2) rebuild the urban centers; (3) enhance the economic and social viability of existing smaller communities; and (4) build completely new communities.

58. Moynihan's [1969] solution to the urban crisis discounted the possibility of stemming migration from rural to urban areas by revitalizing selected rural areas through rural development policies. He encouraged an increase in rural to urban migration, with a somewhat more decentralized distribution within the urban area.

59. Sundquist [1970] found it interesting that the concept of rural development was included under the heading "Crisis in the Cities" in the 1968 Republican platform.

60. One can argue that a major cause of environmental degradation is the concentration of population. See, for example, Hardin's essay [1968] on the "Tragedy of the Commons."

61. Eddleman and Cato [1976] concluded there are only minimal employment impacts associated with natural resource investments in the short run. In more colorful, but possibly less objective fashion, Cumberland [1973] suggested:

> There has been no diminution of the time-honored practice of using the limited job-creation and poverty-reduction potentials of typical physical development projects as a convenient rationale for converting public funds and national resources into private benefits for the influential . . . (p. xiii).

62. Maass et al. [1962] discussed procedures for "adjusting" marginal utilities by income class.

63. For a review of these early studies, see Fuguitt and Deeley [1966].

64. The nine regional schemes used by Edwards and Coltrane [1972] were: (1) counties, (2) A-95 areas (multicounty areas delineated for reviewing federal project), (3) SEA's, (4) Rand-McNally regions, (5) subregions of SEA's, (6) aggregate Rand-McNally regions, (7) basic economic research areas, (8) OBER's (Office of Business Economics Regions), and (9) states.

65. It is important to note whether the new "low wage" job attracts "heads of households" from outside the region or whether it provides primary or secondary jobs to permanent residents of the area.

66. Wealthy communities sometimes attempt to use zoning to keep industrial development out, fearing that an influx of low-income workers with school age children will cause an increase in local educational expenditures, leading to higher property taxes.

67. See the discussion by Gaffney [1971].

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