

LYLE W. SHANNON  
University of Wisconsin

## *Goals and Values in Agricultural Policy and Acceptable Rates of Change*

### THE INCREASE IN AGRICULTURAL PRODUCTION

**I**NCREASING AGRICULTURAL PRODUCTIVITY in the United States since the early 1900's is part of a world-wide change in agricultural productivity. The United States is among the leaders in increasing productivity per capita per acre of cultivatable land. We reap the benefits of increased productivity but must also struggle with some of the problems attendant to high productivity.

### Regional and Temporal Variations in Food Production

#### High Productivity Does Not Solve All Problems

Before launching into a detailed discussion of optimum or desirable rates of change in the transition from rural to urban it might be well to examine change in agricultural productivity and some of its pertinent correlates. Examination of various indexes of food production on an international basis indicates that although world production has been increasing in recent years, there are important variations on a regional basis. Regional variation in food production is a part of the problem and to some extent a solution to the problem for efficient surplus producers. The desirability and feasibility of extensive interregional shifts of surplus produce is the subject of considerable controversy.

As an example of recent changes in world food production, using 1934-38 as a base of 100, United Nations' data show an

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<sup>1</sup>Although only one author's name appears on this paper it was written in consultation with Professor Raymond J. Penn, Department of Agricultural Economics, University of Wisconsin.

increase to 107 for the period 1948-51, 112 for 1951-52, 117 for 1952-53, 120 for 1953-54 and 120 for 1954-55.<sup>2</sup>

### North America Leads in Increasing Food Production

During the same period North American food production increased about 50 per cent, twice as much as European food production. Food production in the Far East, excluding the Chinese mainland, increased about 10 per cent. These figures do not really become meaningful unless the increase in population in these areas is taken into consideration. Since gross productivity is not our chief concern we must turn to changes in per capita food production. It has not been increasing at such a pace; the rapid growth of world population does much to negate the general increase in productivity.

With 1934-38 as a base of 100, United Nations' data show a per capita world food production index of 95 for the period 1948-51, 97 for 1951-52, 100 for 1952-53, 102 for 1953-54 and 101 for 1954-55.<sup>3</sup>

During the same period North American per capita food production increased around 20 per cent. Food production per capita decreased 15 per cent in the Far East, about 5 per cent in Latin America and around 10 per cent in Oceania. No area other than North America experienced an increase of around more than 10 per cent during this period.

### The Relationship of Population Growth to Increased Food Production

Although world population has been increasing during the past few years at the rate of 1 1/2 per cent per annum and food production has been increasing at about 2 1/2 per cent per annum, the great variation in growth and production rates from country to country means that population will press against available food supply to an increasing extent in some areas.<sup>4</sup> Just how much surplus in one area may be used to alleviate shortages in another area is controversial.<sup>5</sup> Although the basic problem with which we

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<sup>2</sup>Report on the World Social Situation. United Nations, New York. 1957. Table 1, Index Numbers of Total Food Production, p. 50.

<sup>3</sup>Ibid., Table 2, Index Numbers of Per Capita Food Production, p. 50.

<sup>4</sup>Ibid., p. 57.

<sup>5</sup>See, for example, Helen C. Farnsworth, Imbalance in the World Wheat Economy. The Journal of Political Economy, 66 (1, February, 1958): 1-23.

are concerned is sometimes defined as overproduction, what we probably need is an effort to increase agricultural production in all parts of the world. The rapidly growing underdeveloped areas are in most urgent need of higher food production.

If a particular crop is taken into consideration such as corn, the variation in yield per acre around 1950 ran from 45 to 50 bushels in top corn-producing states in the United States to less than 10 bushels per acre in many African political entities. Some of the latter are self-governing countries; others are nonself-governing dependencies, but all are relatively underdeveloped.

### Cultural Variation and Food Production

Cultural variations in farming practices have been emphasized in regional differences in yields and in changes in yield over time. Marvin P. Miracle has pointed out that while production methods do vary in detail in non-European farming in Africa, they have the following general characteristics:

(1) hoe culture predominates, and machinery is infrequently employed; (2) usually little care is given to the preparation of a seedbed; (3) clean cultivation is rarely attained, either because maize is grown with other crops or because the farmer is unable to keep up with the growth of weeds; (4) improved seed is not typically used; (5) fertilizers are not commonly applied except, perhaps, on small plots around the dwelling where maize may be grown as a garden crop; (6) maize may receive some irrigation, along rivers especially, but irrigated maize is a small fraction of the total; (7) crop rotation is essentially a question of crop sequences during the three or four years that land is under cultivation and (8) maize may be grown at any time in the sequence, but is most often first and seldom last.<sup>6</sup>

The increase in agricultural productivity over time is even more striking if a longer trend is taken. Farm production per acre has moved upward fairly steadily since 1919 with the exception of the Great Depression period. Farm production per animal unit has moved upward at even a greater rate during this period. Output per man-hour gradually increased during the period from 1910 to about 1935 and then at a very rapid rate until the present. The latter period was one in which output per man-hour of farm labor more than doubled.<sup>7</sup>

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<sup>6</sup>Marvin P. Miracle, *Maize in Tropical African Agriculture*. Tropical Agriculture, 35 (January, 1958): 5.

<sup>7</sup>See Olin T. Mouzon, *International Resources and National Policy*. Harper and Bros., New York. 1959. Chap. 3, pp. 31-74, for an excellent presentation of U.S.D.A. and other data on farm production.

## THE SHIFT FROM RURAL TO URBAN

The Movement of Population from Agricultural  
Production to Industrial ProductionPush and Pull in Rural-Urban Migration

One of the consequences of increased agricultural productivity per capita has been a movement of the population from rural to urban areas. The need for fewer and fewer persons on the farm has resulted in a general decline in the relative cost of food and has freed millions of farm workers for more productive activities in industry, commerce and service. This movement from the farm to the city has not been entirely a push from the farm due to desperation, i.e., declining need for labor in order to satisfy production demands, but has in addition been a consequence of pull from what is conceived by some to be the very attractive city. It is unfortunate that some descriptions of what has been transpiring on a world, national and relatively local level have been influenced by the value position of the writer. Objective discussion of change has often been replaced by nostalgic references to a way of life that probably never existed.

The past 50 years have seen phenomenal change in the proportion of the population residing in urban areas.<sup>8</sup> The extent of this change is shown in Table 12.1.

Table 12.1. Urban Population of the World, Per Cent of Increase in Urban Population of the World and Per Cent of Increase in Total World Population: 1800-1950\*

Years	Population Living in Localities of 20,000 Inhabitants or More		Total World Population
	Per cent of world population	Per cent increase over previous period	Per cent increase over previous period
1800	2.4		
1850	4.3	132.3	29.2
1900	9.2	193.5	37.2
1950	20.9	239.6	49.3

\*United Nations, *op. cit.*, Tables 1 and 2, p. 114.

<sup>8</sup>See Rose Hum Lee, *The City*. J. B. Lippincott Co., Chicago. 1955. Chapters 3-6. This text is unusual in its approach to urbanism and urbanization in that it places considerable emphasis on the international transformation from rural to urban.

### The Consequences of Leaving the Farm for Those Who Leave

The transformation from rural to urban living has proceeded at an even more rapid pace in the United States. Within the United States it has varied from region to region.<sup>9</sup> This is a cause for some concern to many people, not the least of whom are the agricultural economists and sociologists.<sup>10</sup> Before we become too concerned about the move from the farm we ought to at least obtain some idea of the outcome — what are the persons who have moved doing for a living? How are they making out in their new environment?<sup>11</sup> Has the transition from rural to urban been more beneficial than harmful for the majority? Have they raised their level of living?<sup>12</sup> By 1956 the farm population of the United States was only about 13 per cent.<sup>13</sup> The transition from rural to urban is shown in Table 12.2.

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<sup>9</sup>For a breakdown by geographical regions and a brief discussion of migration see Donald J. Bogue, *Residential Mobility and Migration of Workers*, in William Haberer, Frederick H. Harbison, Lawrence R. Klein, Gladys L. Palmer (eds.), *Manpower in the United States*. Harper & Bros., New York. 1954. Pp. 143-53. For detailed statistics see U.S.D.A., *Farm Population: Estimates for 1955-1959*. Agricultural Marketing Service, Washington, D.C. 1960.

<sup>10</sup>For a very carefully prepared analysis of changing patterns of agricultural production in the United States see: U.S.D.A., *Family Farms in a Changing Economy*. Agricultural Information Bulletin No. 171. U.S. Government Printing Office, Washington, D.C. 1957. P. 94.

<sup>11</sup>Extensive studies have not been made of the adjustment of persons moving from farms in recent years. Several studies have been made of particular groups but they do not enable us to answer the larger question. William H. Metzler, *Socioeconomic Aspects of Manpower Adjustments: Low-Income Rural Areas*. *Rural Sociology*, 24 (3, September, 1959): 226-35, stated in reference to migrants from rural to urban areas in West Virginia, "The habits and values of these people are a strong handicap in their adjustment to the responsibilities of urban life." Andrew W. Baird and Wilfred C. Bailey in *Farmers Moving Out of Agriculture*, (Mississippi State University Agricultural Experiment Station Bulletin 568, October, 1958) found that income went up for those who left farming in Mississippi. Howard W. Beers and Catherine Heflin in *Rural People in the City* (Kentucky Agricultural Experiment Station Bulletin 478, July, 1945) found that farm migrants to Lexington differed from those who had been reared in urban places in terms of ecological distribution, income and occupation.

<sup>12</sup>Baird and Bailey, *op. cit.*, p. 5. Annual income: still farming = \$541; left farming = \$679. Also see Alvin L. Bertrand and Harold W. Osborne, *Rural Industrialization in a Louisiana Community*. Louisiana State University and Agricultural and Mechanical College Agricultural Bulletin No. 524. June, 1959. Pp. 30-32. Level of living increased for plant employees to a greater extent (110 per cent) than open-country respondents (75 per cent) between 1950 and 1957.

<sup>13</sup>Douglas G. Marshall, *Wisconsin's Population: Changes and Prospects*. Wisconsin Agricultural Experiment Station Bulletin 194. February, 1956. P. 4.

Table 12.2. Workers in Farm Occupations and Persons in Urban Areas in the United States\*

Year	Per Cent of All Workers in Farm Occupations	Per Cent of Population in Urban Areas
1820	71.8	7.2
1840	68.6	10.8
1860	58.9	19.8
1880	49.4	28.2
1900	37.5	39.7
1920	27.0	51.2
1940	17.1	56.5
1950	11.6	64.0 (59.4)**
1958	7.9†	

\*U.S. Bureau of the Census, Statistical Abstracts of the United States, 1953. U.S. Government Printing Office, Washington, D.C., 1953. P. 184.

†Bureau of the Census, Annual Report on the Labor Force — 1958, Current Population Reports. U.S. Government Printing Office, Washington, D.C., 1959. P. 7.

\*\*Old urban definition.

### Changing Characteristics of the Production Unit

#### Farm Size and Way of Life

At the same time that farmers are leaving their farms, those remaining in agriculture are increasing the size of their operation so that production is not reduced by any amount proportional to the loss of producers. The average farm in Wisconsin, for example, increased from 113 acres in 1925 to 147 acres in 1954.<sup>14</sup> What are the correlates of this change? Is one way of life being replaced by another? About 75 per cent of Wisconsin's farms were between 30 and 220 acres in 1954 and family operated.<sup>15</sup> Has one way of life already replaced another as the media of mass communication make it possible to share another way of life without residential propinquity?<sup>16</sup> The latter position is a

<sup>14</sup> Marshall, *op. cit.*, p. 34.

<sup>15</sup> Marshall, *op. cit.*, p. 35.

<sup>16</sup> See C. C. Taylor, et al., *Rural Life in the United States*. Knopf, New York. 1949. Pp. 522-33. Taylor lists 14 trends of change in agriculture: 1) the lessening of rural isolation; 2) commercialization of agriculture; 3) change from hoe farming to mechanized farming; 4) change from folk beliefs and practices to the use of science; 5) shifting of processes from farms to factories; 6) loss of folk arts and skills; 7) increase in part-time farming; 8) decreasing proportion of population in rural areas and on farms; 9) decline in agricultural ladder; 10) decline in the status of hired farm labor; 11) rising levels and standards of living; 12) decreasing rural-urban difference; 13) changing methods of obtaining security and 14) steady decline in primary types of association.

popular one among sociologists.<sup>17</sup> The sociologist would hypothesize that television and Life magazine, for example, have brought a different way of living further and further from the city, and that change has been particularly rapid in recent years as a consequence. Not only are we interested in movement from farms and its consequences, but even more specifically, the consequences of a rapid loss of farm population. This leads us into the major concern of the paper, what is an acceptable rate of change from rural to urban?

### The Consequences for Existing Rural Institutions

Does movement away from the farm result in a rising per capita cost of institutions and inferior institutional services in rural areas? Is this in itself a cause for concern about movement from rural to urban areas at too rapid a pace? What are the consequences of this movement in terms of level of living for those remaining on farms? It is difficult to secure a direct answer to some of the questions that are raised in this paper. It is necessary in seeking an answer to substitute data that point toward an answer rather than data that provide a definitive answer.<sup>18</sup>

Does the movement of people away from farms change the composition of the farming population? Are the more or less able persons drawn away by opportunities in the city?<sup>19</sup> What are the consequences of this in terms of the dependency load carried by the rural population? It is here that we can bring in

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<sup>17</sup>See Evelyn M. Duvall and Annabelle B. Motz, Are Country Girls So Different? *Rural Sociology*, 10 (September, 1945): 263-74; Howard W. Beers, Rural-Urban Differences: Some Evidence from Public Opinion Polls. *Rural Sociology*, 18 (March, 1953): 1-11; Otis Dudley Duncan, Gradients of Urban Influence on the Rural Population. *Midwest Sociologist*, 18 (Winter, 1956): 27-30.

<sup>18</sup>Marshall, *op. cit.*, p. 39. Although the plight of the farmer is of much concern, farm operator level of living has risen from 106 and 107 in 1930 and 1940 to 149 in 1950 and 155 in 1954.

<sup>19</sup>See C. T. Pihlblad and C. L. Gregory, Selective Aspects of Migration. *American Sociological Review*, 19 (June, 1954): 313-24. Persons migrating from rural to urban areas average higher on I.Q. tests than those remaining. Also see Frederick C. Fliegel, Aspirations of Low-Income Farmers and Their Performance and Potential for Change. *Rural Sociology*, 24 (3, September, 1959): 205-14. Migrants and non-migrants varied in level of aspiration. Farm operators who were low in aspiration were favorably oriented toward farming. They tended to plan to stay in farming. The study was conducted in Fayette County, Pennsylvania, June 1957.

an interesting parallel with migration from the farm and village in underdeveloped areas, but without the same consequences.<sup>20</sup>

### The Most Desirable Cultural Milieu

#### Measuring Goodness of Milieu

Although rural-urban migration has been thought of in terms of a push from rural to urban areas in recent years, with the implicit notion that something very fine was being left, out of necessity, it is also possible to think in terms of the limited cultural opportunities in rural areas, limited medical facilities, limited recreational facilities, etc. The question of whether rural farm, rural nonfarm or urban life is best is not easily settled. How do we measure goodness of milieu? Thorndike and others have constructed scales that measure differences in milieu and have found that there is little correlation between size and goodness in cities.<sup>21</sup> Other studies have contrasted rural life with urban life.<sup>22</sup>

#### No Monopoly on Goodness for Rural Areas

The basic proposition for consideration is that farming is a way of life endowed with intrinsic good for the whole society. The

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<sup>20</sup>One concern over the migration of the indigenous inhabitants of underdeveloped areas to mines and industry was the composition of the migrants. Since the younger and healthier young men in the village were drawn off out of proportion to their numbers and agriculture was not mechanized their loss tended to have direct consequences on the amount of food raised in the village. The dependency load of the village was increased, and nothing was done to increase the productivity of those remaining. Persons remaining on farms have had no difficulty in producing sufficient food for the needs of the country in the United States.

<sup>21</sup>E. L. Thorndike, *Your City*. Harcourt, Brace and Co., New York. 1939. Thorndike studies 310 cities in the United States. Three hundred items were measured in each and 37 were selected as being items characteristic of the goodness of cities. These were items on health, education, recreation, social and economic status, creature comfort and miscellaneous items. Good traits were associated with each other. There was little correlation between size and goodness scores but a city of 50,000 or more offered more specialized opportunities. Also see Paul B. Gillen, *The Distribution of Occupations as a City Yardstick*. Kings Crown Press, Columbia University, New York. 1951. P. 42. Gillen shows that occupational index based on the proportion of the population of a city employed in various activities from professional to labor does not vary with city size. In fact the greatest variability is within the smallest size category of cities.

<sup>22</sup>These questions are discussed at some length in T. Lynn Smith et al., *Social Problems*. Thomas Y. Cromwell, New York. 1955. Chap. 7, *Rural Problems*. Smith presents data from the United States Bureau of Agricultural Economics on ten different levels of living items. The more rural the county the poorer the showing that the county made. Figure 7.4, on page 191 is particularly pertinent in reference to the push vs. pull hypothesis of motivation to migrate.



question seems to be whether or not people are being pushed off the farms more rapidly than they would like to leave and that something precious is being lost as a consequence. Is something equally good being developed in the city in time to replace the valued cultural milieu of rural areas? Has the family farm been more than a means of making a living? Does rapid movement away from the family farm destroy a social situation that promoted thrift, patriotism, neighborliness, honesty, morality and respect for the law? Although the urbanization hypothesis of deviant behavior is widely accepted, it is an oversimplification of the process whereby deviant behavior develops. This is not the place for a detailed evaluation of the various competing explanations of deviant behavior but it must be noted that virtues alone are not generated on the farm any more than are vices the sole product of the city.

Are youth already defining the city as a more attractive place as a consequence of their contact with both rural and urban life styles?<sup>23</sup> Statistics indicate that fewer farms are operated by young farmers than formerly. Farm boys are now working off the farm part of the time; others are working off the farm as a regular means of livelihood, although perhaps continuing to live on the farm.<sup>24</sup>

We have previously made the point that man is not an economic man pure and simple, but there are values other than economic ones. Nevertheless, when discussing desirable rates of change we must remember that the change from country to the city and an industrial commercial life has already resulted in a higher level of living for the population in the United States. It is difficult to quarrel with change that results in a higher level of living, particularly when it cannot be demonstrated that undesirable costs and consequences necessarily follow.<sup>25</sup>

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<sup>23</sup> Marshall, *op. cit.*, p. 38. In 1920 over 25 per cent of the farms in Wisconsin were operated by men under 35 years of age, but by 1950 only 19 per cent were operated by men of this age category.

<sup>24</sup> Marshall, *op. cit.*, p. 40. In 1930 slightly more than 8 per cent of the farm operators in Wisconsin were working off the farm but by 1954 20 per cent were working off the farm for 100 days or more per year. For a description of part-time farming in the United States and in Wisconsin see Glenn V. Fuguitt, *What the Census Tells Us About Part-Time Farming in Wisconsin*. Department of Rural Sociology, College of Agriculture, University of Wisconsin, Madison. 1959.

<sup>25</sup> Marshall, *op. cit.*, pp. 43-45. The level of living of Wisconsin farmers has improved; the desire for improvement is probably a consequence of increased contacts between rural and urban dwellers. Also see Colin Clark, *Conditions of Economic Progress*. Macmillan, New York. 1952. Clark argues that economic efficiency and per capita income of a nation increase as the proportion of the working population in primary (agricultural) production decreases, and as the proportion of its workers in tertiary occupations (trade, the services and administrative jobs) increases. Clark found that the proportion of the gainfully employed in secondary industries (manufac-

URBANIZATION AND ITS RELATION  
TO INDUSTRIALIZATIONInternational Nature of the Transition  
to an Urban, Industrial LifeUrbanization More Rapid than Industrialization in  
Underdeveloped Areas

What we observe in the United States is an advanced stage of the change throughout the world to an industrial civilization with increasingly larger aggregates of people engaged in scientifically organized operations yielding a high degree of efficiency in production.<sup>26</sup> Table 12.3 shows the relationship of per cent of economically active males to per cent of population in cities and socio-economic development scores in various areas of the world.

Capital equipment, science and better organization replace manpower. The depopulation of rural areas is a sign of modernization according to Davis.<sup>27</sup>

Urbanization of U. S. and Other Developed Areas More  
Closely Related to Industrialization

But what if urbanization occurs more rapidly than industrialization? What are the consequences of urbanization proceeding at such a rate that employment is not immediately available? It is believed that urbanization is proceeding at too rapid a rate in some underdeveloped areas at present. When urbanization and industrialization in underdeveloped areas today are compared

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turing) appears in the more advanced countries to rise to a point where its maximum level is reached and then recedes. It was about 26.4 per cent in the United States in 1920 and was in 1952 25.8 per cent. Also see Paul J. Jehlik and Ray E. Wakeley, *Population Change and Net Migration in the North Central States, 1940-50*. Iowa Agricultural Experiment Station Research Bulletin 430. July, 1955. P. 512: "Along with the reduction in number of farms and farm families, the decrease in rural population through migration, the increase in farm mechanization, the improvement of farm management practices, the increase in farm production and the market decrease in the use of hired labor, a substantial increase in average farm operator level of living took place in the North Central states."

<sup>26</sup> See James S. Slotkin, *From Field to Factory*. The Free Press, Glencoe, and the Research Center in Economic Development and Cultural Change, The University of Chicago. 1960. P. 156. This volume deals with the process of industrialization in underdeveloped and advanced areas, drawing a parallel between what might seem to be widely divergent situations but in which certain processes are in operation.

<sup>27</sup> Kingsley Davis and H. H. Golden, *Urbanization and the Development of Pre-Industrial Areas*. *Economic Development and Cultural Change*, 3 (October, 1954): 6-24.

Table 12.3. Per Cent of Economically Active Males Engaged in Agriculture, Per Cent of Population in Cities and Development Scores by Continents

Areas	Economically Active Males Engaged in Agriculture*		Population in Cities*		Development Scores†	
	Per Cent	Rank	Per Cent	Rank	Per Cent	Rank
World	60		13			
North America	17	1	29	2	33.99	1
Oceania	35	2	41	1	30.06	3
Europe	38	3	21	3	31.62	2
U.S.S.R.	54	4	18	4-1/2	30.00	4
South America	62	5	18	4-1/2	24.28	5
Central America and Caribbean	69	6	12	6	23.65	6
Asia	70	7	8	7	20.36	7
Africa	78	8	6	8	19.03	8

\*The data for males in agriculture and population in cities were taken from: Kingsley Davis and Hilda Hertz Golden, *Urbanization and the Development of Pre-Industrial Areas. Economic Development and Cultural Change*, 3 (October, 1954): 6-24.

†Lyle W. Shannon, *Underdeveloped Areas*. Harper and Bros., New York. P. 447. The scale score of each continent is determined by the scale score of each country within the continent, weighted by its population. There were 17 items in the scale. The items were indexes of production and indexes based on end-product data for around 1950. United Nations sources were used for the data. The scale is described in Chapter XIII of the volume.

with urbanization and industrialization in the United States at an earlier period, it appears that industrialization and urbanization in the United States were more highly correlated than they are in underdeveloped areas today.

### Social Problems Attendant to Urbanization and Industrialization

#### Rapid Change Renders Traditional Controls Ineffective

The problems induced by urbanization that outstrips industrialization or other urban employment opportunities have been dealt with by sociologists and economists.<sup>28</sup> The breakdown of social controls, the absence of housing, inadequate water supplies, sanitary facilities, fire protection, police protection and other services have been described in connection with rapid urbanization in the United States and in underdeveloped areas.

<sup>28</sup> Report on the World Social Situation, *op. cit.*, Chapters VII and VIII, pp. 111-92; G. A. Theodorson, *Acceptance of Industrialization and its Attendant Consequences for Social Patterns of Non-Western Societies*. *American Sociological Review*, 8 (No. 5, October, 1953): 477-84; Bert F. Hoselitz, *The City, the Factory, and Economic Growth*. *American Economic Review*, 45 (No. 2, May, 1955): 166-84; and C. Bauer, *The Pattern of Urban and Economic Development; Social Implications*. *Annals of the American Academy of Political and Social Science*, 305 (May, 1956): 60-69; Kingsley Davis and Ana Casis, *Urbanization in Latin America*. The Milbank Memorial Fund

The increase in deviant behavior, perceived to be attendant to rapid urbanization, and at least in part a real increase as a consequence of ineffectiveness of traditional social behavior, has been studied in the United States, Europe and now in underdeveloped areas.

Urbanization outstripping industrialization simply transfers rural poverty to urban areas, it is said. Are the consequences of even this undesirable? Kingsley Davis doubts it.<sup>29</sup> It may even stimulate economic growth since the accumulation of people in the city represents a potential setting for industry. Davis argues that overurbanization has its limits and that movement to the city will fall off when opportunity is not present. On the other hand, the presence of large numbers of people who have not been integrated into the economic institution may be a stimulus to revolution and a new social system that it is believed will provide opportunity. Unfortunately it may not. There is great doubt as to whether there is any easy, painless course to economic development.

The question to which we return is whether or not people are leaving farms at a rate more rapid than they can be readily accommodated in the city. What is a desirable rate of change in terms of the acceptability of in-migrants into the urban economy? What are the crucial variables in determining rate of acceptance?

### The Effect of Rapid Urbanization on the Labor Market

In underdeveloped areas the change from rural to urban took place at an exceedingly slow rate for many years — now the rate

(Footnote <sup>28</sup> continued)

Quarterly, 24 (April, 1946): 186-207. Several excerpts from Table II, Report on the World Social Situation, *op. cit.*, p. 127, are shown below:

Urbanization and Structure of Employment

Country and Year	Per Cent of Population Living in Cities of 20,000 or More	Per Cent of Active Labor Force Employed in Manufacturing	Per Cent Active Labor Force in Agriculture
Egypt (1947)	29.1	5.5	62.8
Mexico (1950)	24.0	8.4	60.9
France (1946)	31.4	18.9	38.0
Sweden (1950)	34.5	28.7	20.5
United States (1950)	42.8	26.3	12.5

<sup>29</sup> Davis and Golden, *op. cit.*, pp. 6-24.

has rapidly increased so that the most fantastic examples of urban growth are to be found in underdeveloped areas rather than in developed countries like the United States. This transformation from rural to urban occurred at a steadier rate and over a longer span of years in the developed countries.<sup>30</sup> The urban labor market in the United States, although it has had surpluses at times, has never been glutted with hoards of untrained industrial job seekers as in some underdeveloped areas.<sup>31</sup> The availability of employment opportunities for in-migrant laborers is without doubt a large factor in determining their acceptance. This is not to say that economic opportunity disposes of adjustment problems but that a needed group of in-migrant workers is more acceptable than a group who will become dependent due to their lack of employment.

### The Problem of Value Assimilation Among In-migrant Labor

The degree to which in-migrant laborers are accepted on the urban scene is also determined to a considerable extent by their assimilation or failure to assimilate the dominant values of the urban society. Perhaps more crucial than assimilation of values, but usually following value assimilation, is observable behavior that is taken as evidence of value assimilation. Unlike in-migrant workers in underdeveloped countries, those in a developed country such as the United States probably have somewhat more stable and longer range goals. Their goals are less of a target nature than are the goals of new arrivals in underdeveloped areas.<sup>32</sup> Target buying has, of course, always been something of a problem among in-migrant laborers from the viewpoint of middle-class persons whose values culminate in a quite different rank-ordering of expenditures. The social worker has viewed lower-class spending in much the same way and has

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<sup>30</sup> For a recent text dealing quite extensively with world urbanism see Nels Anderson, *The Urban Community: A World Perspective*. Henry Holt and Co., New York. 1959.

<sup>31</sup> See M. B. Deshmukh, *Study of Floating Migration*, Delhi. In: *The Social Implications of Industrialization and Urbanization*. UNESCO Research Center, Calcutta. 1956. P. 150.

<sup>32</sup> See E. E. Hoyt, *Want Development in Underdeveloped Areas*. *The Journal of Political Economy*, 59 (No. 3, June, 1951): 194-202; S. D. Neumark, *Some Economic Development Problems of African Agriculture*. *Journal of Farm Economics*, 41 (No. 1, February, 1959): 43-50; A. Curle, *Incentives to Work*. *Human Relations*, 2 (No. 1, 1949): 41-47; E. E. Hoyt, *The Needs of East African Workers*. *Human Organization*, 11 (No. 2, Summer, 1952): 27-28; E. E. Hoyt, *The Impact of a Money Economy on Consumption Patterns*. *Annals of the American Academy of Political and Social Science*, 305 (May, 1956): 12-22.

been critical of the in-migrant laborer who purchases television and a car before properly feeding and clothing his children. This is a pattern of buying that we have encountered in an on-going study of value assimilation among in-migrant Mexican-American workers in two communities presently being studied with the support of the National Institutes of Mental Health and the Urban Research Committee of the University of Wisconsin. The problem of value assimilation and behavioral change constitutes a major part of our concern over the adjustment of the rural dweller, or the in-migrant worker who has moved to the city.

### The Transitory Nature of Urban Problems

It is frequently contended that the individualism of the former rural dweller makes it difficult for him to adjust to the city, that industrialization is a dehumanizing process that robs him of his individualism. While this is true in some respects, freedoms are acquired that he has never before known. Some of the so-called dehumanizing of the industrial society is probably not a necessary characteristic of it but only a transitory characteristic of some specific institution that has not yet completed its development in the urban setting.<sup>33</sup>

The basic problem of change from rural to urban, from farm to factory, has been presented with a brief discussion of some of the costs and consequences. What we observe in the United States is part of a greater long-term cycle that will eventually culminate in world urbanism. Even those who remain in the production of foodstuffs will maximize their return with the products of an industrial order based on scientific research.

## DETERMINING THE DESIRABLE RATE OF CHANGE

### Gains and Losses as a Consequence of Change

### What Problems Do We Desire to Avoid in the Host Community?

Here we are concerned with what is the desirable or optimum rate of change. How fast should the transition take place?

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<sup>33</sup> Yale Brozen, *Technological Change, Ideology and Productivity*. *Political Science Quarterly*, 70 (No. 4, December, 1955): 522-42. Brozen deals with overspecialization, centralization and loss of initiative and efficiency in some industrial organizations.

Although some of the consequences of rapid urbanization have been described, we have not specified which consequences should be avoided. The role of the scientist is one of describing costs and consequences rather than specifying goals. Therefore, it is more appropriate that mention be made of a number of considerations that may be important to the public and their policy makers in determining what is an acceptable rate of change.

Taking the role of the citizen, are we concerned about the consequences of a rapid influx of untrained rustics? If so, are we willing to train persons now in the category of inefficient farm producers so that they will become desirable additions to the urban labor force? This assumes that inefficient farm producers are trainable, and it may well be an incorrect assumption in some cases. The rate and extent to which people may be trained becomes a factor in deciding what is a desirable rate of change.

Are we concerned about the number who can be housed in existing facilities and for which fire, sewer, water, telephone and other services and facilities are available? Is pressure on existing facilities desirable as a stimulus to enlargement, modernization and expansion of industrial and service activities? If this is the case, some short-run dislocation may have long-run consequences of a great value. The ability of a community to expand services and facilities is tied in with the question of capital supply, and this may become a determinant of desirable rate of change.

Are we concerned about the number of in-migrants for whom immediate employment will be available, considering the rate of investment in new productive facilities in the United States? Is population concentration sufficient stimulus to the investment of unproductive capital in such ways that the level of living will rise? If so, a certain amount of unemployment may not be too serious a problem in the long run.

### What Do We Desire to Avoid Losing as a Consequence of Rural Depopulation?

What effect does rapid urbanization have on the rural community? Does the declining farm population mean a rising per capita cost of basic institutional services in rural areas so that a bad situation becomes worse? While it might seem that rural areas educate children for a lifetime of gainful labor in the city with nothing received in return, leaving the farm to become a producer of finished goods and consumer of farm products may just about balance out the relationship. How much worse off

would the farm community be if the out-migrant stayed to share farm income?<sup>34</sup> Whatever the effects of depopulation, the question is one of which alternative has the fewest undesirable consequences, as the public defines them.

Do we believe that rural life is an important source of the virtues in our society? Is there evidence that the culture of our society, or at least some aspect of it is preserved in a rural setting to a greater extent than in the urban setting? Do we accept differential rates of official delinquency, crime and other forms of deviant behavior as evidence of the superiority of rural life from some viewpoints?<sup>35</sup>

### What is to be Gained as a Consequence of the Rural-Urban Transformation?

How important is it that modern medicine be made available to everyone, and how soon do we wish to accomplish this goal? One study has shown that only 1 per cent of the children in large metropolitan counties do not have medical services in elementary schools, 6 per cent in lesser metropolitan counties, 32 per cent in counties adjacent to metropolitan counties, 36 per cent in isolated semi-rural counties, and 61 per cent in isolated rural counties.<sup>36</sup>

If this contrast in availability of medical services is not considered appropriate, any one of many other sets of data are available to show differences in medical care on a basis of the proximity of an area to an urban center. To make a really stark contrast in terms of the healthfulness of people in an urban industrial society, as contrasted to rural subsistence society, we have only to turn to underdeveloped areas.

In a study of labor productivity in the Belgian Congo the physical condition of workers from the Mayumbe, Tshuapa and Middle Kwilu districts was described as follows upon their arrival from tribal areas:<sup>37</sup>

<sup>34</sup> This problem is presented in some detail in John F. Cuber, Robert A. Harper and William F. Kenkel, *Problems of American Society: Values in Conflict*. Henry Holt and Co., New York. 1956. Chapter 18.

<sup>35</sup> For a discussion of this point see: Marshall B. Clinard, *The Sociology of Deviant Behavior*. Rinehart and Co., New York. 1957. Chapter 3; Clinard, *The Process of Urbanization and Criminal Behavior*. *American Journal of Sociology*, 48 (September, 1942): 202-13; Arnold Rose, *Theory and Methods in the Social Sciences*. University of Minnesota Press, Minneapolis. 1954. Pp. 25-49.

<sup>36</sup> Annual Report, Federal Security Agency, Office of Education, 1949, p. 33, quoted in William E. Cole, *Urban Society*. Houghton Mifflin Co., Boston. 1958. Pp. 103-21.

<sup>37</sup> P. de Briey, *The Productivity of African Labour*. *International Labour Review*, 72 (Nos. 2-3, August-September, 1955): 6-7.



1. they all suffer from parasitic worms of the intestines
2. some suffer from parasitic worms of the blood
3. all have malaria
4. all have incipient yaws, for which they have received little or no treatment
5. most have or have had gonorrhoea
6. many have syphilis
7. some of these conditions reduce their haemoglobin level, which in many cases is as low as 65 per cent, a red blood count of 3 to 3-1/2 million.

Moreover, it was stated that this picture is generally true for all of Africa, although the specific diseases vary.

The contrast between rural and urban in terms of mortality has always favored rural areas in the United States due to the prevalence of communicable diseases and the problem of water supply and sanitation. In more recent years public health measures and the development of specialized medicine in urban areas have resulted in a rapid decrease in death rates in urban areas. Urban death rates in urban industrial states are now lower than rural death rates in the same area.<sup>38</sup>

#### Goals and Values as Determinants of the Desirable Rate of Change

##### When is the Existing Social Structure Disrupted by In-migration?

How important is the problem of value assimilation? We have stated that the community may define unassimilated migrants as a problem because their behavior conflicts with middle-class norms in the larger society. The problem of assimilating midwestern commercial farmers is probably small in comparison to that of assimilating subsistence farmers because urban, industrial values are more readily acceptable to the former than the latter. The midwestern commercial farmer has become urban in his outlook in many respects, in contrast to the subsistence farmer found in mountainous or semi-mountainous states and the northern cutover areas. The values of the subsistence farmer stress getting along, making do with what you have, as contrasted with managerial skill, emphasis on production and a higher level of aspiration. William H. Metzler has contrasted the values of the subsistence and commercial farmers in some

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<sup>38</sup>Dorothy G. Wiehl, Mortality and Socio-Environmental Factors. The Milbank Memorial Fund Quarterly, 26 (October, 1948): 335-65.

detail and concludes that the habits and values of subsistence farmers are a great handicap in their adjustment to urban life.<sup>39</sup>

Unfortunately, there is no standard by which we can judge the rate at which communities can accept in-migrant workers in reference to the various criteria mentioned. It is the same with migrants and their families in urban areas in underdeveloped countries. A few in-migrants or gradual in-migration does little to upset the existing social structure; rapid in-migration of large numbers of persons creates problems, particularly when employment is scarce and community facilities are strained. No one has determined how much in-migration can be accepted without some disruption of established relationships, of existing ways of dealing with human adjustment problems, or of the traditional status structure of the community. Most sociologists will agree that gradual in-migration presents no problem, but at what point and at what rate does the changing proportion of in-migrants make for what kinds of problems? We cannot yet do more than speculate about this.

### The Necessity of Specifying Goals

If our single goal is to stimulate change, then a high rate of in-migration to urban areas is desirable. If we, i.e., the public and its policy makers, believe that cities are already beset with problems and desire to hold new problems to a minimum, then a low rate of in-migration would be the safest course. A desirable rate of change cannot be specified without knowledge of the goals towards which we are struggling.

This is just as pertinent in the transformation of the world's economy from a rural subsistence type to an urban industrial and commercial type as it is in the changing economy of the United States. On the international level there are political considerations as well as strictly humanitarian considerations. The same is true for the present farm problem of the United States.

The question of whose welfare we are trying to maximize, if anyone's, is important in consideration of a desirable rate of change. Is our goal to bring surplus rural dwellers into urban areas as rapidly as possible on the assumption that this will maximize their welfare? If so, how do we avoid such an undesirable

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<sup>39</sup>William H. Metzler, Socio-economic Aspects of Manpower Adjustments: Low-Income Rural Areas. *Rural Sociology*, 24 (No. 3, September, 1959): 226-35. Also see Basil G. Zimmer, Participation of Migrants in Urban Structures. *American Sociological Review*, 20 (April, 1955): 218-24.

reaction in the host community that acceptance and assimilation of the in-migrants will be difficult? If we are primarily interested in the welfare of city dwellers, then we must ask which alternative will be most expensive for them in various kinds of costs. Would they rather take care of the surplus farm population in the country through some form of subsidy, or would they rather bear the cost through increased institutional expenditures in urban communities where the new worker may not make an immediate contribution to the economy?

Is there such a thing as the general welfare, or are there only subcategories of general welfare with various groups jostling for position in order to maximize their own gain, their proportion of the fruits of production?

Perhaps nothing should be done. There is some evidence to indicate that those farmers who are economically motivated are already looking to nonfarm employment for better opportunities.<sup>40</sup>

The question of timing must be considered when attempting to determine what is the optimum or desirable rate of change. How urgent is the need for bringing a group into the commercial, industrial economy? What will be the consequences of gradually integrating people into the economy as contrasted to action designed to facilitate immediate movement from one sector of the economy to another?

### The Weight of Values in Determining Policy

What kinds of costs, social or economic, are we willing to pay, and what kinds of costs do we wish to avoid in the process of transforming the national and world economy?

Although we have mentioned human values previously in this paper, we have not emphasized the fact that human values may be one of the most crucial determinants of what is a desirable or optimum rate of change. It may well be that the family farm as a value, as an end and a means, will hold people on the farm past the time that such activities can be justified from an economic standpoint. The desirable rate of change may be that rate which is acceptable to both the farm population and to the larger population.

It may well be that a rate of change dictated by economic considerations alone is too rapid and that change must come more slowly. Perhaps the most economic rate is not the desirable rate to even urban dwellers.

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<sup>40</sup> Fliegel, *op. cit.*, pp. 205-14.

If means and ends are not differentiated in rural areas, and we seem to have such a situation, a certain proportion of rural dwellers have no intention of moving to the village or the city. Their daily labors are an end in themselves as well as a means. An optimum or desirable rate of change is no change at all from their viewpoint.

There are, of course, regional variations in farming and in the attitude of farmers toward their activities.

When considering what is a desirable rate of change we must balance the social and economic costs of changing against the social and economic costs of not changing. Since costs are determined by values and values vary from group to group, it is not possible to talk of what is a desirable rate of change unless we are told which group is assessing the desirability of a particular rate of change.

If the rate of change is to be controlled, that in itself is a cost of change, for it implies that direct or indirect restraints or incentives will be employed.

## CONCLUSION

The Desirable Rate of Change Is the Acceptable Rate of Change

### The Desirability of a Grass-Roots Approach

It could be concluded that the desirable rate of change is one that is acceptable to people directly affected — in other words, the decision to leave rural life, to be consistent with values held by many persons in our culture, should be made by the farmer and should be one that he makes with the idea of maximizing his level of living, rather than in response to coercion.

This is not to say that change cannot be speeded up by pertinent action, but simply that coercive economic or political action is not the answer. Much the same can be said in reference to underdeveloped areas. The difference is that coercion does not seem consistent with the value system within which American farmers operate, and it is difficult to control their behavior in this fashion. On the other hand, there are social systems in other cultural and subcultural areas of the world where independence of action has not been such an important part of the value system and where a certain amount of coercion may be effective. Knowledge of the culture is crucial, and it is probably true that our technical assistance programs have had some failures because

we had little or no knowledge of what approach would be consistent with the culture in which it was desired to bring about certain changes.

### Misuse of the Concept of Cultural Relativity

It should be noted that the concept of cultural relativity has come in for a considerable amount of misuse by those who accept cultural differences as almost insurmountable obstacles to change. It is one thing to be aware of cultural differences and the necessity of taking them into consideration in planning for change, but it is quite another thing to accept cultural differences as barriers to action.<sup>41</sup> Differences in subcultural groups and differences in goals and values on a rural-urban basis make for difficulties in implementing change but do not preclude efforts along these lines. The important thing is to have an awareness of cultural differences, differences in goals and values, at the time that change is being planned.

### Pulling vs. Pushing from Rural to Urban

#### Making a Move from the Farm Attractive

Since the entire problem of change, as framed herein, is related to a decline in farm income or a desire for greater income on the part of persons in the agricultural sector of the economy, the possibility of increasing income through nonfarm activities might be a way of accelerating change. In this case, new horizons, or ways of reaching the goal of a higher income, are presented to the farmer so that he will be pulled from the farm at a rate acceptable to him rather than pushed at a rate that makes him resentful.

In areas where farm activities have for a considerable period of time been supplemented by nonfarm activities, the first step has been taken and change can proceed at a more rapid rate without various types of dislocation.

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<sup>41</sup>This point has been developed more fully by Chester L. Hunt, *Cultural Barriers to Point Four*. The Antioch Review, 14 (Summer, 1954): 159-67; and Frank E. Hartung, *Cultural Relativity and Moral Judgments*. Philosophy of Science, 21 (No. 2): 118-26. Paris. 1954.

Defining Industrial Employment as Attractive

The same may be said for underdeveloped areas. Change will come about more rapidly when the indigenous inhabitants have come to define the fruits of industrial work as highly desirable. This means that unless motivations are entirely target in nature the framework of mind conducive to urban or industrial employment is present when desires expand. When a higher level of living is demanded by either rural dwellers in the United States or the indigenous inhabitants of underdeveloped areas, they will take such action as appears to lead them toward the higher level of living as long as they are not required to engage in behavior that is inconsistent with values that are of even more importance to them than their level of living.

A desirable rate of change in the United States, taking democratic values into consideration, is one that derives from the attraction of the city rather than from a coercive push away from what is still valued.

This paper has suggested a wide variety of factors that must be taken into consideration in determining what is a desirable rate of change from rural to urban.

The economist and sociologist cannot tell you exactly what rate of change is desirable without a catalog of national values and the costs and consequences of trying to maximize them for each of various subcategories of the population.

## BIBLIOGRAPHY

## Bulletins

- BAIRD, A. W. and BAILEY, W. C. Farmers Moving Out of Agriculture. Miss. Agr. Exp. Sta. Bul. 568, Oct., 1958.
- BEERS, H. W. and HEFLIN, C. Rural People in the City. Ky. Agr. Exp. Sta. Bul. 478, July, 1945.
- BERTRAND, A. L. and OSBORNE, H. W. Rural Industrialization in a Louisiana Community. La. Agr. Exp. Sta. Bul. 524, June, 1959.
- FUGUITT, G. V. What the Census Tells Us About Part-time Farming in Wisconsin. Dept. of Rural Soc., Col. of Agr., Madison, 1959.
- JEHLIK, P. J. and WAKELEY, R. E. Population Change and Net Migration in the North Central States, 1940-50. Iowa Agr. Exp. Sta. Res. Bul. 430, July, 1955.

- MARSHALL, D. G. Wisconsin's Population: Changes and Prospects. Wis. Agr. Exp. Sta. Bul. 194, Feb., 1956.
- U. S. BUREAU OF THE CENSUS. Annual Report on the Labor Force — 1958, Current Population Reports. U. S. Govt. Printing Office, Washington, 1959.
- U. S. DEPT. OF AGRICULTURE. Farm Population: Estimates for 1955-59. Agr. Mktg. Ser., Washington, 1960.
- . Family Farms in a Changing Economy. Agr. Info. Bul. No. 171, U. S. Govt. Printing Office, Washington, 1957.

### Books

- ANDERSON, N. The Urban Community: A World Perspective. Henry Holt and Co., New York, 1959.
- BOGUE, D. J. Residential Mobility and Migration of Workers. Chap. XI, Manpower in the United States. W. Haberer, F. H. Harbison, L. R. Klein, G. L. Palmer (ed.). Harper & Bros., New York, 1954.
- CLARK, C. Conditions of Economic Progress. The Macmillan Co., New York, 1952.
- COLE, W. E. Urban Society. Houghton Mifflin Co., Boston, 1958.
- CUBER, J. F., HARPER, R. A., and KENKEL, W. F. Problems of American Society: Values in Conflict. Henry Holt and Co., New York, 1956.
- DESHMUKH, M. B. Study of Floating Migration, Delhi. In: The Social Implications of Industrialization and Urbanization. Calcutta, UNESCO Research Center, 1956.
- GILLEN, P. B. The Distribution of Occupations as a City Yardstick. Kings Crown Press, New York, Columbia University, 1951.
- LEE, R. H. The City. J. B. Lippincott Co., Chicago, 1955.
- MOUZON, O. T. International Resources and National Policy. Harper & Bros., New York, 1959.
- SHANNON, L. W. Underdeveloped Areas. Harper & Bros., New York, 1957.
- SLOTKIN, J. S. From Field to Factory. The Free Press and the Research Center in Economic Development and Cultural Change, the University of Chicago, Glencoe, 1960.
- SMITH, T. L. AND ASSOCIATES. Social Problems. Thomas Y. Crowell, New York, 1955.
- TAYLOR, C. C. et al. Rural Life in the United States. Knopf, New York, 1949.

- THORNDIKE, E. L. *Your City*. Harcourt, Brace and Co., New York, 1939.
- UNITED NATIONS. *Report on the World Social Situation*. United Nations, New York, 1957.
- U. S. BUREAU OF THE CENSUS. *Statistical Abstracts of the United States*; 1953. U. S. Govt. Printing Office, Washington, 1953.

### Journals

- BAUER, C. The pattern of urban and economic development: social implications. *Annals of the American Academy of Political and Social Science*. 305:60-69. 1956.
- BEERS, H. W. Rural-urban differences: some evidence from public opinion polls. *Rural Sociology*. 18:1-11. 1953.
- BROZEN, Y. Technological change, ideology and productivity. *Political Science Quarterly*. 30:522-42. 1955.
- CURLE, A. Incentives to work. *Human Relations*. 2:41-47. 1949.
- DAVIS, K. and GOLDEN, H. H. Urbanization and the development of pre-industrial areas. *Economic Development and Cultural Change*. 3:6-26. 1954.
- and CASIS, A. Urbanization in Latin America. *The Milbank Memorial Fund Quarterly*. 24:186-207. 1946.
- DE BRIEY, P. The productivity of African labour. *International Labour Review*. 72:6-7. 1949.
- DUNCAN, O. D. Gradients of urban influence on the rural population. *Midwest Sociologist*. 18:27-30. 1956.
- DUVALL, E. M. and MOTZ, A. B. Are country girls so different? *Rural Sociology*. 10:263-74. 1945.
- FARNSWORTH, H. C. Imbalance in the world wheat economy. *The Journal of Political Economy*. 66:1-23. 1958.
- FLIEGEL, F. C. Aspirations of low-income farmers and their performance and potential for change. *Rural Sociology*. 24: 205-14. 1959.
- HARTUNG, F. E. Cultural relativity and moral judgments. *Philosophy of Science*. 21:118-26. 1954.
- HOSELITZ, B. F. The city, the factory, and economic growth. *American Economic Review*. 45:116-84. 1955.
- HOYT, E. E. The needs of east African workers. *Human Organization*. 11:27-28. 1952.
- . Want development in underdeveloped areas. *The Journal of Political Economy*. 59:194-202. 1951.



- HOYT, E. E. The impact of a money economy on consumption patterns. *Annals of the American Academy of Political and Social Sciences*. 305:12-22. 1956.
- HUNT, C. L. Cultural barriers to Point Four. *The Antioch Review*. 14:159-67. 1954.
- METZLER, W. H. Socio-economic aspects of manpower adjustments: low-income rural areas. *Rural Sociology*. 24:226-35. 1959.
- MIRACLE, M. P. Maize in tropical African agriculture. *Tropical Agriculture*. 35:5. 1958.
- NEUMARK, S. D. Some economic development problems of African agriculture. *Journal of Farm Economics*. 41:43-50. 1959.
- PIHLBLAD, C. T. and GREGORY, C. L. Selective aspects of migration. *American Sociological Review*. 19:313-24. 1954.
- THEODORSON, G. A. Acceptance of industrialization and its attendant consequences for social patterns of non-western societies. *American Sociological Review*. 8:477-84. 1953.
- WIEHL, D. G. Mortality and socio-environmental factors. *The Milbank Memorial Fund Quarterly*. 26:335-65. 1948.
- ZIMMER, B. G. Participation of migrants in urban structures. *American Sociological Review*. 20:218-24. 1955.

**GEORGE K. BRINEGAR**

University of Connecticut

## *Discussion*

THE MAJOR PROBLEM that had to be faced by Shannon in his chapter, and by the writer as a discussant, was that of figuring out how to talk sense about acceptable rates of change. It is, of course, impossible to talk about a rate of change, period. We can only talk about rates of change in something — economic growth, productivity, employment, defined values and other specifics. Shannon solved this problem, and appropriately, for purposes of his present chapter, by centering attention on increasing agricultural productivity, and the effects of migration from rural to urban areas. He concludes by stating:

“The economist and sociologist cannot tell you exactly what rate of change is desirable without a catalog of national values and the costs and consequences of trying to maximize them for each of various subcategories of the population.”

This writer's criticism of this chapter, and he assumes the major function of a discussant is to criticize, is not of what Shannon has said but of what he has left unsaid. More specifically, his chapter offers little help to persons interested in coming up with guess-estimates of whether current rates of change in agricultural productivity are too high or too low. The writer had hoped to get a picture of Shannon's answer, with its rationale rather than only a rationale which suggests it would be nice if we knew everything.

The writer therefore proposes to attempt to get hold of this problem of evaluating the appropriateness of the present rate of increase in agricultural productivity by centering attention first on the notion of progress and second on the notion of balance among various rates of change.

### THE NOTION OF PROGRESS

The notion of progress is fairly new in the history of thought and perhaps not as widely assumed to be a meaningful concept — certainly not as an inevitable trend — as in the past. Be this as it may, we must act as if we knew the answers to the problems centering around this notion of progress. Our alternatives in the final analysis are to assume that (1) progress exists or it does not, and (2) if it does exist we can identify it and affect its rate or we can't, and (3) lastly if it exists it is either good or bad. While we can not answer these questions a criterion is available for choosing which answer to assume as correct. Choice among possible answers can be made on the basis of asking what the costs are of making a mistake in picking an answer to assume as correct. The logic of choice in this type of situation is to trace out the secondary effects of choice among answers, first on the assumption the right answer was selected and second, on the assumption the wrong answer was selected. Without presenting the details of this procedure, I simply state that the answer flowing from this process is to act as if progress is possible, that it can be identified and its rate affected, and that it is good.

If it is granted that it makes sense to act as if progress is good and can be speeded by our behavior we must face the problem of what to do. This we do by looking at the problem of balance.

## THE NOTION OF BALANCE AMONG RATES OF CHANGE

The notion of balance in rates of change can serve a useful role in the identification and selection of alternatives. In fact, it can be argued that the only thing wrong with progress is that it is uneven in the sense that one rate of change outruns another or to say the same thing in other words, that one rate of change lags behind another.

The major emphasis of most papers on the subject of progress or on its components such as productivity, etc., is on the relationships of one set of changes or rates of change with another. Thus, such questions arise as to whether agricultural productivity is increasing at too fast a rate compared with the demand for food, the outward mobility of rural people, the ability of the nonfarm community to accommodate the recent arrivals, the ability of the rural community from which they left to adjust. This type of balance can be looked upon as if one rate of change is too great or as if another rate of change is too low — in fact, these are the same problem.

Given the observation that one rate of change is too high — compared with others — we have the choices of speeding other rates of change or of slowing the rate of change that was found to be too fast. How is choice made? If the only problem of concern was that of balance the choice would be made on the basis of which in some sense was the least difficult. However, if we have decided to act as if progress is both possible and good the first choice is to speed the lagging rates of change. To go further with the problem of making choices to speed or to retard rates of change in order to obtain balance it will be helpful to turn to specifics. Let us use productivity in agriculture.

We shall assume that the rate of increase in productivity in agriculture has outrun many of the other components that fit together in determining the extent to which balance exists. Before asking which of these components should be altered it will be useful to first ask why productivity in agriculture has been increasing as fast as it has.

The major causal factor bringing about increases in the productivity of agriculture appears to be the accumulation and application of knowledge. Thus, the cause of the agricultural productivity problem is in terms of most peoples' values, an end, as well as a means, to increases in efficiency and higher levels of living. To get at the cause of the high rate of increase in productivity in agriculture would require that the rate of knowledge accumulation be slowed and/or that people be prevented from using existing knowledge. The extent to which the accumulation of

knowledge can be slowed as a means of decreasing the rate of increase in productivity is nominal for short time periods of 20 to 30 years. A moratorium on new knowledge accumulation would be unlikely to produce any significant effects on agricultural surplus in this generation — if existing knowledge were applied, productivity in agriculture would still continue to increase for many years. The second choice is to make it impossible for people to apply existing knowledge and to thus slow down the rate or even to reverse the trend in agricultural productivity. A number of techniques are possible, though none seem to be especially happy choices. For example, a major depression would aid greatly, a tight rationing of any or several inputs such as land, fertilizer, seed or labor would help as would a halving or more of output prices. Since these alternatives used singly leave much to be desired, it is appropriate to look at other possible choices.

A second group of choices is encompassed in the rates of change that are too slow in relation to the rate of increase in productivity in agriculture. These may be grouped, as is customary by economists, into items affecting supply or inputs and demand or outputs. On the demand side there exists the whole array of measures that could be adopted to increase the demand for food, which, while not without some hope, especially in the foreign trade area, do not seem to offer more than modest contributions to bringing about a balance between productivity increases in agriculture and the other relevant components. On the supply or input side, an array of techniques are also available that can be used in bringing about balance, though again there are no simple ways to manipulate the rate of change of a single variable to bring about, in an acceptable way, an appropriate balance. In sorting out these alternatives, however, we find that a speeding of a number of existing rates of change would contribute to bringing about the desired over-all balance.

In the so-called second group of changes that might be introduced to bring about balance with the level and rate of change in agricultural productivity it becomes possible to look for small changes at the margin, as well as for "major" reforms. An inspection process of this sort is eclectic in the sense that any changes that may aid in the catching up process — with the rate of increase in the productivity of agriculture — become possibilities worth examination. Moreover, such an investigation might reveal that the cause of the imbalance — too high a rate of increase in agricultural productivity — should be speeded. For example, suppose the costs of producing food and fiber were to be reduced another 25 or 50 per cent in the next few years; this might be the answer to how the United States might become a major supplier of food to the rest of the world.

## THE AVOIDANCE OF MAJOR VALUE CONFLICTS

When the observation of an "excessive" rate of change in productivity is put in its proper place by concentrating on the complementary rates of change that are lagging, the possibility of avoiding major value conflicts and of muddling through is enormously increased for several reasons. First, the number of variables with which appropriate balances can be reached are usually great, and they can usually be used in combination. By the manipulation of several variables by small amounts, rather than concentrating on a single variable, the impacts of the adjustment process are diffused. Moreover, since different people have different values the complete adjustment may be brought about through a series of acts in no way inconsistent with the values of the specific people directly involved. Further, the value conflicts in agriculture, in general, do not appear to be moral absolutes but rather centered on notions of equity, fair play, etc. — thus, the quantitative aspects are of great importance.

Let us pause for a moment and ask how well does existing agricultural policy square with bringing about the adjustments needed in relation to the existing rate of increase in agricultural productivity. The quick answer is, probably, better than one would think at first blush. The extent to which appropriate adjustments have been made in terms of labor mobility, etc., are impressive as Shannon has so well pointed out in his paper. That the investment of capital in people is becoming recognized more widely as a central problem is encouraging. The great variation in our agricultural programs, with all their contradictions, is encouraging in that, at worst, only a number of little mistakes are being made. The extent of excessive production in agriculture is small — some 8 per cent — in comparison with other sectors of the economy when account is taken of excess capacity.

The above is not intended to argue this is the best of all worlds. On the contrary, we are failing to bring about the many possible and desirable "little" adjustments that are needed if we are to catch up with the output of knowledge that has been bringing about the rapid rates of increase in agricultural productivity. The costs of not catching up are lost alternatives, not retrogression, which means the direction of change is correct — we just are not moving fast enough in exploiting the opportunities for change we see about us. This in a large measure comes from confusing the things that can be treated as variables with the things to be treated as constants. Thus, we should take off our blinders.

## SUMMARY

If the notion is accepted that it is desirable to decide to act as if progress is good and that it can be speeded by the use of our heads, the observation of a rate of change that is too high points to the problem of finding ways of speeding complementary rates of change in order, so to speak, to catch up. If it is found that a catching up is impossible one may be forced to conclude that the excessive rate of change disturbing the balance must be slowed, though such a conclusion, if correct, is highly unlikely.

If we look at agriculture in the United States today, does it make more sense to conclude that the rate of increase in productivity should be slowed or that other rates of change should be increased or is it possible that increasing the productivity in agriculture will open up new opportunities? The writer's own judgment is that the things that need to be changed are the lagging rates of change as well as to increase the rate of change in productivity in agriculture. If this diagnosis is correct, the future is in the hands of the groups that assume the diagnosis is correct. If the diagnosis is incorrect, there is no hope for the future anyway, and little is lost.

Let me recognize that my conclusions flow from value judgments as well as what have been presumed to be the facts.

## CONCLUSIONS

My conclusions, or were they my initial starting points, concern two matters: (1) how to think about rates of change, and (2) a guess-estimate of the appropriateness of the rate of increase in productivity in agriculture.

In thinking about rates of change of the type under examination here, the writer thinks we need to focus on how little we need to know to make our behavior more effective rather than how much would we like to know to make sure we are correct. Put in other words the best we can do is to try to learn to live with our ignorance rather than to eliminate it. If we are willing to take as given the notion that knowledge in the sciences is good we must accept the by-products of this knowledge — increase in productivity. It then follows that changes will occur which will upset past balances. Thus we have the opportunity to look for methods to speed up the lagging rates of change and in the interval to take measures that will shift the impact of imbalance among various groups in such ways as seem expedient and reasonable.

On a guess-estimate of the facts, I reach the conclusion that

the rate of increase in productivity in agriculture is not to be deplored or slowed but rather that major efforts should be made to speed lagging rates of change, to increase the productivity of agriculture and to adopt measures that will redistribute among people the gains and losses that result from increases in productivity, etc.

This writer is not impressed with the fact that we don't know exactly what to do or how to do it. He is impressed with the fact that people seem to be able to deal effectively with specific acute problems when they are willing to meet them head on. The alternative of caution in a competitive world has no survival value. This is not to argue that this new experiment of people, to use their heads and live by reason, will be successful — at this point in history all peoples are committed to the notion, and the only variable is in the degree to which people attempt to speed the rate of progress in all of its components, one of which is productivity in agriculture. Let's get on with the experiment of knowledge accumulation and its application and see how it turns out — every new page of this history seems more exciting.

These conclusions that I reach, and I'm sure you will agree, were necessarily developed on the basis of little knowledge.