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**CHAPTER 40**  
**MODERNIZATION AND CHANGE IN**  
**MEXICAN COMMUNITIES, 1930–1970**  
**by**  
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# MODERNIZATION AND CHANGE IN MEXICAN COMMUNITIES, 1930-1970

Over the past four decades the Mexican economy has grown at an average rate of more than 6% per annum, in comparative terms a remarkable rate of sustained economic growth. Fueled by an aggressive industrialization program, this rapid growth has been accompanied by equally dynamic drives toward increasing levels of modernization and urbanization. Mexico in the 1980s is a nation of skyscrapers, steel mills, and fast-food restaurants.

Yet at the same time, Mexico is a nation of rural villages. The Dirección General de Estadística defines a rural locality as a village of less than 2,500 inhabitants.<sup>1</sup> According to the 1970 population census, more than 40% of the Mexican population lived in rural localities. Moreover, of the total of 95,208 localities, 94,254 (99%) can be classified as rural (Unikel 1976:31). As the anthropological literature has shown, a good number of these localities have retained many of the elements of traditional folk culture and society and are isolated, both culturally and geographically, from the national mainstream. Thus, Mexico is often characterized as having a dual culture and economy: the one industrial, modern, urban, protean; the other agrarian, traditional, rural, unchanging.<sup>2</sup>

My purpose here is to examine the concept of duality through an analysis of the sociocultural effects of rapid economic growth upon Mexico's rural communities. The study poses several questions. Are there really two Mexicos, one modern and changing and the other socially isolated and stagnant? What are the patterns of change in levels of modernity for community types over time? What is the relationship between these patterns and the process of economic growth? The study intends to measure the rate at which village Mexico has been drawn into the national social and economic mainstream over time.

My thesis is that the economic development of Mexico has been largely tied to its social development, and that the modernization of the rural sector has been one of the key factors in Mexico's phenomenal rate of economic growth. As Kunkel has noted (1965:439), economic development cannot occur without a preceding or concomitant incorpora-

tion of autonomous peasant communities into the national network of economic and social relationships. By breaking rural Mexico's social and economic isolation, the modernization process has broadened the national market and maintained effective levels of aggregate demand. If, as Clark Reynolds observed (1970:42) in his seminal study of the Mexican economy, the expansion of the domestic market has been the engine of growth in the economic development of twentieth-century Mexico, then the incorporation of the rural sector into the national market must have had a significant effect upon the course of Mexican development.

Modernization is defined here as the process of social and cultural transformation which encourages participation in the national market. Though usually described in terms of the expansion of infrastructure (schools, roads, and the like), the process of modernization also involves the reorientation of values and preferences. The expansion of infrastructure is only the vehicle through which this reorientation is effected. Thus, in measuring relative levels of modernity for communities over time, I have not sought to analyze infrastructure; rather, I examine the social and economic orientation of community populations over time.

This is not to say, however, that modernization is necessarily "good" or "bad" from the point of view of standards of living. Since Porfirian times, there has been a great deal of debate as to whether modernization has been detrimental to the spiritual and material well-being of Mexico's Indian population.<sup>3</sup> For the most part, however, the participants in this debate have largely missed the point. The process of cultural transformation has been occurring in Mexico for more than four centuries and will, no doubt, continue. For historical analysis perhaps the relevant question is: what has been the internal rationale behind the process of cultural transformation, and what has been the structure and pace of this process? Whether this change has been beneficial or harmful is not the issue. In the social sciences we do not need to pass judgment on history in attempting to understand and explain the varied facets of the human experience. For this reason, I argue neither for nor against modernization, but seek to examine the relationship between capitalist growth and the modernization process.

The need to continually expand the size of the Mexican market is a prevalent theme throughout the literature on Mexican development. Writing in the 1940s Sanford Mosk noted that "Of the many problems that Mexico is likely to encounter as she [sic] goes forward with her [sic] industrial

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<sup>1</sup> For an analysis of Mexican population-bracket sizes and related discussion, see Haber (1981) and R. Wilkie (1976).

<sup>2</sup> For example, see Paz (1972).

<sup>3</sup> For a summary and discussion of this debate, see Beals (1976).

development, none promises to be more critical than the limitations of the domestic market" (Mosk 1950:201). Mosk went on to note that the major bottleneck to the broadening of this market was the economic and social isolation of the rural sector, and argued for the incorporation of village Mexico into the national, commercial mainstream. In the 1960s Raymond Vernon, analyzing the trajectory of Mexico's economic development, came to a similar conclusion. Vernon (1963:176-193) argued that insufficient aggregate demand for manufactures would eventually put a brake on the Mexican economic miracle, and went on to say that without government intervention to broaden the market, Mexico's economic growth would come to a standstill. Thus, as the development literature has suggested, there is a connection between the modernization of Mexico's rural sector and the economic growth of the Mexican nation.

Unfortunately, little empirical research has been carried out in this area. Economists have tended to focus solely upon measuring macroeconomic trends in the Mexican economy and predicting future developments, while anthropologists have been concerned predominantly with writing ethnographies of individual communities. Though much of the anthropological community-study literature is concerned with social change and modernization, these studies do not attempt to undertake larger, comparative analyses between communities and regions over time. By their very nature, community studies restrict themselves to an examination of an individual community at a particular point in time. Indeed, one of the more commonly voiced criticisms of community studies is that they present a static portrait of an individual community as it existed only at the time of the study. Rarely do ethnographers reexamine a community after a significant time period in order to analyze the historical dimensions of social change.<sup>4</sup> Moreover, anthropology's ethnographic orientation has prevented its practitioners from discussing the larger issue of community change and national economic growth.

One of the few broadly based, comparative studies of the modernization of rural Mexico was undertaken in the early 1930s by Frank Tannenbaum in conjunction with the Mexican Department of Education and the Federal Census Office. Between 1931 and 1933, questionnaires were mailed to schoolteachers in 3,611 rural villages, and based upon their responses Tannenbaum attempted to measure systematically the degree of modernity, poverty, and isolation of rural Mexico as a whole. Unfortunately, he did not publish the data until 1946 and no follow-up study was ever done, denying him the opportunity to measure change historically. This lack of historical perspective gave rise to Tannenbaum's somewhat pessimistic notion that rural Mexico was change-

less, stuck in poverty and isolation:

This study was commenced in 1931 and completed in 1933; but the rural picture drawn here is substantially unchanged, has remained so for the past century, and will in the nature of the case, change but slowly in the future. Rural ways and traditions yield slowly. What we have [in 1946] is a description of the Mexico the Revolution was fought to improve and modernize; how great and how difficult the task the reader will discover for himself. [Tannenbaum 1946:366].

Methodologically, my study measures many of the same variables that interested Tannenbaum, specifically those that relate to cultural and economic isolation. However, some significant differences in approach should be noted. First, Tannenbaum's classic study, assuming lack of change, only presented a static picture of village Mexico; I measure change over time, from 1930 to 1970. Second, Tannenbaum's study utilized a detailed questionnaire; because of my interest in historical change, I rely on population census data and therefore am limited to fewer variables than Tannenbaum used. Finally, Tannenbaum did not attempt to construct an aggregate index of modernity for each individual community and to then compare relative levels of modernity between communities and regions over time; I seek not only to measure levels of modernity for individual rural communities, but also to compare the levels of their rate of change to those of urban and semiurban communities, and to relate these with regional and demographic trends. In short, I seek to add a comparative historical dimension to Tannenbaum's path-breaking work.

There is also a significant difference in the sampling techniques employed. Tannenbaum's questionnaire focused on rural localities; I focus on the municipio because the Mexican population census aggregates its data at the municipio rather than at the locality level. The municipio, the rough equivalent of a county in the United States, is the smallest administrative unit measured. Typically, eight to ten localities comprise each municipio, though some may have as few as one or as many as 100. Thus, the size of the sample for both studies is roughly equal. Tannenbaum gathered information on 4.3% of the extant localities in 1930 (3,611 out of a total of 84,448), while I gather data on 4.4% of the extant municipios in 1970 (103 out of a total of 2,367) (Unikel 1976:30; DGE 1974:1). The major difference between the samples is not the percentage of extant communities surveyed, but the variety of community types examined. As Tannenbaum conceded, his 3,611 localities were relatively homogeneous. All were medium-sized rural villages, small enough to be considered rural localities but large enough to have a school of their own. The nature of Tannenbaum's data base prevented him from undertaking any kind of comparative analysis between community types. This study, by sampling diverse community types, undertakes what Tannenbaum did not.

<sup>4</sup> There are, of course, several exceptions. These include Foster's two studies of Tzintzuntzan, Michoacán (1948 and 1967), Lewis's restudy of Tepoztlán, Morelos (1951), and Redfield's two studies of Chan-Kóm, Yucatán (1934 and 1950).

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The steps in my research were three. First, I selected for study a diverse group of municipios representing three general categories: the municipio in each state which in 1940 had the highest percentage of illiterates, assumed to be without educational facilities and therefore most probably a highly isolated rural village; the capital of each state, assumed to be one of the more socially dynamic communities; and a group of 40 municipios represented in the community-study literature. The latter group provides an interesting middle view between the two extremes and, in addition, allows us to cross-check and compare the national index developed here with the microlevel observations of the anthropologists.

Once the 103 sample municipios were chosen, they were divided into three functional categories for purposes of analysis. The first category, rural villages, is made up of all municipios which in 1930 had more than 50% of the population living in localities of less than 2,500 persons. The second category, semiurban communities, includes all the municipios not included in the first group, with the exception of the three industrial centers of Mexico City, Guadalajara, and Monterrey. These three cities are included in a separate urban category. This division yields 68 rural communities and 32 semiurban communities, in addition to the three urban centers (table 4000).

Third, a composite Social Modernization Index (SMI) was constructed using seven social indicators from the decennial national census. The SMI is based upon, but is not identical to, the Poverty Index constructed in 1967 by James W. Wilkie in *The Mexican Revolution: Federal Expenditures and Social Change Since 1910*. (Wilkie 1967:204-205). The SMI redefines social modernization as the extent to which communities have become part of the national cultural and economic mainstream. It is a measure of the degree to which a community has been modernized and urbanized. It is not a quality-of-life index, nor is it an index of social welfare or material well-being.

The Poverty Index and the SMI are also dissimilar in their chronological and geographic scope. Because Wilkie was interested in correlating social change with trends in the Mexican national budget, the Poverty Index is concerned with measuring change on the state and regional levels. In contrast, the SMI measures change on the community level, as well as state and regional trends. In chronological terms, the Poverty Index provides more extensive coverage than the SMI. Because the Mexican Dirección General de Estadística did not begin publishing data on municipios until the 1930 census, the SMI measures change only since 1930, in comparison to the Poverty Index which measures change back to 1910.

The components of the SMI and Poverty Index are similar. Though interpreted differently, six of the seven variables measured by the SMI are drawn directly from the Poverty Index, and the seventh is a derivation of one of the original variables measured by Wilkie. The SMI and Poverty Index both include population data on the following: geographic isolation (percentage living in localities of less than

2,500 inhabitants); linguistic isolation (percentage which speaks only an Indian language); educational level (percentage illiterate), traditional/modern patterns of dress (measured by two variables, percentage which goes barefoot and percentage which wears huaraches or sandals instead of shoes); and traditional/modern dietary patterns (percentage which eats tortillas in preference to wheat bread). The seventh variable, derived from the Poverty Index, is a measure of linguistic isolation: it measures the share of the population which is bilingual, speaking both an Indian language and Spanish. Finally, it should be noted that whereas the Poverty Index includes data on the accessibility of urban amenities (measured by the percentage of the population with sewage disposal in their homes), the SMI does not because data on sewerage were not published for the municipio level.

Table 4000

## SAMPLE COMMUNITIES BY RURAL, SEMIURBAN, AND URBAN CATEGORIES

## PART I: RURAL COMMUNITIES

State	Municipio	Code <sup>1</sup>	Population in 1970
Aguascalientes	Jesús María	B	16,674
Baja California Norte	Ensenada	C	115,423
	Mexicali	A,B	396,324
Baja California Territory	San Antonio	B	5,088
Campeche	Calkini	B	24,568
Chiapas	Amatenango del Valle	C	3,656
	Chamula	B,C	29,357
	Chenalhó	C	13,522
	Zinacantán	C	11,428
Chihuahua	Morelos	B	6,517
Coahuila	Matamoros	C	44,441
	Morelos	B	4,974
Colima	Coquimatlán	B	10,722
Distrito Federal	Cuajimalpa	B	36,200
	Milpa Alta	C	33,694
Durango	Tamazula	B	18,315
Guanajuato	Atarjea	B	4,152
Guerrero	Chilpancingo	A	59,087
	Cuajinicuilpa	C	15,404
	Metlatonoc	B	14,809
Hidalgo	Xochiatipan	B	10,745
Jalisco	Arandas	C	43,057
	Jilotlán de Delores	B	10,347
	Mezquitic	C	10,449
	Tonalá	C	24,648
México	Donato Guerra	C	13,548
	Texcoco	C	65,628
	Zacazonapan	B	1,770

Table 4000 (Continued)

SAMPLE COMMUNITIES BY RURAL, SEMIURBAN, AND URBAN CATEGORIES			
PART I: RURAL COMMUNITIES			
State	Municipio	Code <sup>1</sup>	Population in 1970
Michoacán	Erongaricuaró	C	9,470
	Jiquilpan	C	26,116
	Marcos Castellanos	C	6,834
	Patzcuaro	C	37,615
	Quiroga	C	16,004
	Tiquicheo	B	12,762
	Tzintzuntzan	C	9,139
	Zacapu	C	52,474
Morelos	Huitzilac	B	6,010
	Xochitepec	C	11,425
Nayarit	Huajicori	B	7,088
Nuevo León	Mier y Noriega	B	7,347
Oaxaca	San Bartolomé Zoogocho	C	965
	San José Estancia Grande	B	565
	San Juan Juquila Vijanos	C	1,383
	San Miguel Talea de Castro	C	2,654
	San Pablo Cuatro Venados	C	1,127
	San Pablo Etla	C	2,572
	San Pablo Villa de Mitla	C	6,296
	San Pedro y San Pablo Ayutla	C	4,636
	Santa Catarina Ixttepeji	C	2,219
Puebla	Chietla	C	27,032
	Eloxchitlán	B	4,832
	Jonotla	C	4,149
Querétaro	Cadereyta	B	28,554
	Querétaro	A	163,063
Quintana Roo	Felipe Carrillo Puerto	B	32,314
San Luis Potosí	Aquismón	B	23,480
Sinaloa	Choix	B	26,859
	Culiacán	A	360,412
Sonora	Quiriego	B	3,907
Tabasco	Tabasco (Centro)	A	163,514
	Nacajuca	B	21,806
Tamaulipas	Bustamente	B	7,527
Tlaxcala	Tlaxcala	A	21,808
Veracruz	Soteapan	C	12,427
	Texcatepec	B	5,270
Yucatán	Cantamayec	B	1,482
	Chan-Kom	C	2,771
Zacatecas	Villa García	B	8,607
Rural Community Average**		**	32,045

## PART II: SEMIURBAN COMMUNITIES

State	Municipio	Code <sup>1</sup>	Population in 1970
Aguascalientes	Aguascalientes	A	224,535
Baja California Territory	La Paz	A	51,521
Campeche	Campeche	A	81,155
Chiapas	Tuxtla Gutiérrez	A	70,999
Chihuahua	Chihuahua	A	277,099
	Ciudad Juárez	C	424,135
Coahuila	Saltillo	A	190,994
Colima	Colima	A	72,977
Durango	Durango	A	204,385
Guanajuato	Guanajuato	A	65,324
Hidalgo	Pachuca	A	91,549
México	Toluca	A	239,261
Michoacán	Cherán	C	10,239
	Morelia	A	218,083
	Zamora	C	82,943
Morelos	Cuernavaca	A	160,804
	Tepoztlán	C	12,855
Nayarit	Tepic	A	110,939
Oaxaca	Centro	A	116,388
	Hidalgo Yalalag	C	2,848
	Juchitán de Zaragoza	C	37,686
Puebla	Puebla	A	532,744
Quintana Roo	Payo Obispo	A	36,347
San Luis Potosí	San Luis Potosí	A	267,951
Sonora	Guaymas	C	86,808
	Hermosillo	A	208,164
Tamaulipas	Ciudad Victoria	A	95,785
Tlaxcala	San Pablo del Monte	B	20,198
Veracruz	Jalapa	A	130,380
Yucatán	Mérida	A	241,964
	Ticul	C	16,530
Zacatecas	Zacatecas	A	58,323
Semiurban Community Average**		**	138,810

## PART III: URBAN COMMUNITIES

State	Municipio	Code <sup>1</sup>	Population in 1970
Distrito Federal	Ciudad de México	A	2,901,969 <sup>a</sup>
Jalisco	Guadalajara	A	1,199,391 <sup>a</sup>
Nuevo León	Monterrey	A	858,107 <sup>a</sup>
Urban Community Average**		**	1,653,489

1. Code: A, State capitals; B, Most illiterate municipios;  
C, Communities studied by scholars.

a. City proper. Does not include population living in the greater metropolitan area.

SOURCE: Population data from *Censo General de Población, 1970*.

Both the Poverty Index and the SMI aggregate the component data by calculating the arithmetic average of the seven factors.<sup>5</sup> All components are weighted equally, there being no theoretical reason to assume that any one component is more important as a measure of modernization than the others. In any case, as we analyze the individual components of the SMI, it is important to keep in mind the collective nature of the index. My intention is not to present individual indicators of social and economic isolation, but to reveal general trends and relationships in the modernization process.

The components of the SMI were chosen so as to include indicators of geographic, economic, and social isolation. However, the selection of components was constrained by the data provided by the Mexican population census. Moreover, for the SMI to measure change historically, these data had to be included in each of Mexico's censuses. This means that factors which we might theoretically deem important indicators of social modernization cannot be measured. Others must be measured through indirect means, such as measuring the educational level of a population solely on the basis of literacy data. For this reason, the SMI is biased toward indicators of social isolation. Because of such limitations, the SMI should not be looked upon as an absolute measure of modernity for an individual community in an individual year, but rather as a proxy indicator of general trends in the relative level of modernity of a community over time. The SMI has no pretensions to being a flawless measure of a community's level of economic and social isolation. Given the available data, however, it is simply the best that can be done if we wish to construct a historical portrait of social modernization. Though far from perfect, it is still a better mode of analysis than the noncomparative, ahistorical accounts of passing travelers and anthropologists.

It should be noted that the Mexican census did not begin to gather data for three components (tortilla-eating population, barefoot population, and sandal-wearing population) until the 1940 census. However, as a group these components behave in much the same manner as the seven-item aggregate index from 1940 to 1970. Thus, I have been able to adjust the four-item 1930 index to reflect all seven factors.<sup>6</sup>

<sup>5</sup> Seven items, five values. The seven components of the SMI (illiterate persons, population living in localities of less than 2500, persons who habitually consume tortillas instead of wheat bread, individuals who go barefoot, population wearing sandals instead of shoes, non-Spanish-speaking population, and bilingual population) are condensed into five categories. Non-Spanish speakers and bilingual persons are both part of a larger category of Indian speakers, and barefoot persons and sandal wearers are subcategories of the larger category of shoeless persons. For this reason, the SMI divides the total percentage by five instead of seven. Thus, by its very nature, the SMI is based upon a scale from .0 to 100.0, with 100.0 representing non-modernity.

<sup>6</sup> Since the averages in the SMI consists of four items in 1940 which are included in the seven items from 1940 to 1970, and since the four items behave nationally in the same way as the seven for the

Because of space limitations it has not been possible to publish all of the component data for the 103 individual communities. Nevertheless, the data are presented in the broad categories of urban, semiurban, and rural. Aggregate SMI data are given for individual communities and for the broad categories.

In aggregating the SMI and its component data from individual communities into the three analytic categories, I have chosen not to weight the data by population. The purpose here is not to quantify the degree of modernity for rural Mexico as a whole, as Tannenbaum attempted to do, but to begin to understand how individual communities have fit into the modernization process. I assume that each community is equally representative of its associated category. Weighting the data by population would imply that larger communities are somehow more representative of that particular community type than are smaller communities.

#### Nonmodern Culture

Data on the percentage of the population over the age of six years which cannot read or write are included in the SMI because literacy is a rough measure of the access to education in a community. It is safe to assume that a community with a high rate of illiteracy most likely does not have a school, and that therefore this community is an isolated rural village. Moreover, the ability to read and write is an essential requisite for competing in the national mainstream of modern Mexican society. Illiterate persons have a far more difficult time defending their rights through the legal system, and are not as likely to share in the benefits of national economic growth as are literate persons.

It should be noted that the literacy data for 1930 are based upon the percentage of the population over the age of ten years which is illiterate. The Mexican Dirección General de Estadística converted the 1930 census to compare it to later years by adding all those in the six- to nine-year group to the number of illiterates. This produces a slight distortion in the time series, though it is not major.

Major changes have occurred in the access to education among all community types (table 4001). As one would expect, the rural villages had the greatest percentage of illiterates in 1930 as well as in 1970. However, further analysis of the data indicates a substantial drop in rural illiteracy over the forty-year period (table 4002). As expected, the urban centers of Mexico City, Monterrey, and Guadalajara had the lowest percentage of illiterates in 1930 and have maintained this position until the present. Indeed, between 1930 and 1970 illiteracy decreased by 61% in these industrial

years from 1940 to 1970, we may say that the four items of the 1940 index are representative of the seven had they been recorded prior to 1940. The variance between the seven-item average (seven items, five values) and the four-item average (four items, three values) in 1940 is used here to adjust the 1930 index to make it comparable to the 1940-1970 index.

centers. This rate of change is almost matched by that of the semiurban communities. The percentage of the population illiterate for this category decreased by more than half during the four-decade period, from 51.5% of the population in 1930 to 22.5% in 1970.

Table 4001

**ILLITERACY, BY RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>1</sup> 1930-70**

(%)<sup>a</sup>

Category <sup>2,3</sup>	1930 <sup>b</sup>	1940	1950	1960	1970
Selected Rural	73.5	71.0	57.1	55.6	43.4
Selected Semiurban	51.5	43.0	31.8	29.2	22.6
Selected Urban	33.1	22.1	16.6	16.1	12.9
National Average	66.5	58.0	42.5	37.8	28.3

1. Represents illiterate population age 6 and over.
2. Data for Selected Rural, Semiurban, and Urban represent arithmetic mean, not weighted by population. Each community, regardless of size, assumed to be equally representative of its associated category.
3. Selected Rural, based on a sample of 68 rural municipios. Selected Semiurban, based on a sample of 32 semiurban municipios. Selected Urban, based on a sample of 3 urban centers: Guadalajara, Mexico City, and Monterrey.  
National Average, entire Mexican nation. Not derived from community data.

- a. Percentage of the population in a given place at a given time. To find the average percentage living with modern characteristics in each case each year, subtract from 100.0%.
- b. Based upon illiterate population age 10 and over, adjusted to include all those in the 6 to 9 years category as illiterates.

SOURCE: Calculated from *Censo General de Población*, 1940, 1950, 1960, and unpublished data provided by the Mexican Dirección General de Estadística.

Table 4002

**PC<sup>1</sup> OF ILLITERACY, BY RURAL, SEMIURBAN, AND URBAN CATEGORIES<sup>2</sup> 1930-70**

Category <sup>3</sup>	1930-40 <sup>a</sup>	1940-50	1950-60	1960-70	1930-70
Selected Rural	-3.4	-19.6	-2.6	-21.9	-41.0
Selected Semiurban	-16.6	-26.0	-8.2	-22.6	-56.1
Selected Urban	-33.2	-24.9	-3.0	-19.9	-61.0
National Average	-12.8	-26.7	-11.1	-25.1	-57.4

1. Minus indicates improvement.
  2. Illiterate population age 6 and over.
  3. See notes 2 and 3, table 4001.
- a. Data for 1930 based upon illiterate population age 10 and over. Data adjusted to include all those in the 6 to 9 years age group.

SOURCE: Calculated from table 4001.

From the point of view of decennial rates of change, the pace of change for the urban centers has been slowing over time and that of the rural communities has been accelerating. For urban Mexico, the greatest strides came between 1930 and 1940 (a 33.2% decrease in illiteracy). However, this rate decelerated significantly thereafter, and by the 1960-1970 period had fallen to 19.9%. Rural Mexico displayed exactly the obverse, with the smallest gains occurring between 1930 and 1940 (3.4%) and the largest between 1960 and 1970 (21.9%). The semiurban communities display a pattern similar to that of the rural communities, though the contrast between this category and the urban areas is not as large. This pattern tends to conform to the usual pattern of public education programs. Public education is first made available in the more accessible urban areas, where scarce resources can be utilized most effectively, and then spread outward to the more inaccessible rural areas.

The strange pattern for the 1950-1960 period should be noted. All three categories witnessed major decreases in their respective rates of change. This is most likely a function of the fact that from 1940 to 1952 the Mexican government placed an extreme emphasis upon industrialization and economic growth and directed public funds toward this end. The fast growth rates for the 1940-1950 period are probably a function of President Cárdenas's support for social expenditures in the late 1930s. The deemphasizing of social expenditures in later years probably accounts for the laggardly rates of change.

#### Linguistic Isolation

Data on the percentage of the population over five years of age which speaks only an Indian language are included as a measure of the degree to which a person participates in national markets and culture. A person who does not speak Spanish is less able to participate in the national money economy, and is more likely to be tied to traditional local markets. Data on bilingual persons, those speaking both an Indian language and Spanish, are included because it is assumed that these persons, though more integrated than non-Spanish speakers, are still not functioning primarily within the national mainstream. They are a group in the process of becoming modern.

As would be expected, the rural communities had the greatest percentage of non-Spanish speakers both in 1930 and 1970. As with illiteracy, however, major changes have taken place over time. In 1930, 20.3% of the rural population spoke no Spanish (table 4003). By 1970 this figure had dropped to 10.5%, an overall decrease of 48.3%. Because the population census uncovered negligible numbers of non-Spanish speakers in the urban centers, it is not possible to compare rural and urban patterns. It should be noted, however, that even more rapid long-term gains were made by the semiurban communities. In 1930, 8.4% of the semiurban population spoke no Spanish. This percentage decreased to 2.0% by 1970, a 76.2% drop.

Table 4003

NON-SPANISH-SPEAKING POPULATION, BY RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>1</sup> 1930-70(%)<sup>a</sup>

Category <sup>2</sup>	1930	1940	1950	1960	1970
Selected Rural	20.3	19.2	20.3	15.7	10.5
Selected Semiurban	8.4	7.8	4.5	3.0	2.0
Selected Urban	.0	.0	.0	.0	.1
National Average	8.5	7.4	4.9	3.8	2.2

1. Population age 5 and over which speaks only an Indian language.
2. See notes 2 and 3, table 4001.

a. Percentage of the population in a given place at a given time. To find the average percentage living with modern characteristics in each case each year, subtract from 100.0%.

SOURCE: Calculated from *Censo General de Población*, 1930, 1940, 1950, 1960, 1970.

From the point of view of decennial rates of change, a pattern similar to that of illiteracy appears. The semiurban communities witnessed the most rapid rate of change between 1940 and 1950 (as they did for illiteracy), followed by a deceleration of the rate of change in the 1950-1960 and the 1960-1970 time periods (table 4004). Change in the percentage of non-Spanish speakers in the rural communities was extremely slow between 1930 and 1950, with an actual increase in the percentage of non-Spanish speakers during the period between 1940 and 1950. However, this pattern reversed itself between 1950 and 1960, and by the 1960-1970 time period the rate of change was equal to that of the semiurban communities.

Interestingly, over the long run little change occurred in the percentage of the population which is bilingual (see tables 4005 and 4006). Though the largest change occurred for the urban category, 400% between 1930 and 1970, it should be kept in mind that in 1970 only .5% of the population was bilingual, an almost negligible percentage. As expected, the rural communities had the largest percentage of all bilingual persons in both 1930 and 1970, 14.9% and 17.7%, respectively. This represents an 18.8% increase in the percentage of Spanish and Indian language speakers. Though the semiurban communities did not witness an increase in the percentage of the bilingual population, they did experience an almost negligible amount of change over the forty-year time period, from 12.8% in 1930 to 11.6% in 1970, or a 9.4% decrease in the percentage of the population speaking both Spanish and an Indian language. This pattern is most probably explained by the fact that as non-Spanish speakers move out of linguistic isolation they retain their Indian language skills and are counted by the census as bilingual, thus offsetting the decrease in the bilingual population due to mortality.

Table 4004

PC<sup>1</sup> OF NON-SPANISH-SPEAKING POPULATION BY RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>2</sup> 1930-70

Category <sup>3</sup>	1930-40	1940-50	1950-60	1960-70	1930-70
Selected Rural	-5.4	5.7	-22.7	-33.1	-48.3
Selected Semiurban	-7.1	-42.3	-33.3	-33.3	-76.2
Selected Urban	.0	.0	.0	.0	--
National Average	-12.9	-33.8	-22.4	-42.1	-74.1

1. Minus indicates improvement.
2. Population age 5 and over which speaks only an Indian language.
3. See notes 2 and 3, table 4001.

SOURCE: Calculated from table 4003.

Table 4005

BILINGUAL POPULATION, BY RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>1</sup> 1930-70(%)<sup>a</sup>

Category <sup>2</sup>	1930	1940	1950	1960	1970
Selected Rural	14.9	17.5	23.9	14.6	17.7
Selected Semiurban	12.8	12.0	9.6	11.8	11.6
Selected Urban	.1	.2	.3	.6	.5
National Average	7.6	7.5	7.6	7.6	5.6

1. Represents population age 5 and over which speaks both Spanish and an Indian language.
  2. See notes 2 and 3, table 4001.
- a. Percentage of the population in a given place at a given time. To find the average percentage living with modern characteristics in each case each year, subtract from 100.0%.

SOURCE: Calculated from *Censo General de Población*, 1930, 1940, 1950, 1960, 1970.

Table 4006

PC<sup>1</sup> OF BILINGUAL POPULATION, BY RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>2</sup> 1930-70

Category <sup>3</sup>	1930-40	1940-50	1950-60	1960-70	1930-70
Selected Rural	17.4	36.6	-38.9	21.2	18.8
Selected Semiurban	-6.3	-20.0	22.9	-1.7	-9.4
Selected Urban	100.0	50.0	100.0	-16.7	400.0
National Average	-1.3	1.3	.0	-26.3	-26.3

1. Minus indicates improvement.
2. Population age 5 and over which speaks both Spanish and an Indian language.
3. See notes 2 and 3, table 4001.

SOURCE: Calculated from table 4005.



### Geographic Isolation

Data on the percentage of the population living in localities of less than 2,500 inhabitants are included as a measure of the relative level of urbanity of a community. In addition, this component is also a measure of economic and cultural isolation. Persons in small, rural communities are less likely to be affected by government programs which, because of scarce resources, are generally established in large communities. Small villages are less likely to have access to agricultural credit, public health programs, or public education. In addition, persons living in such small localities are less likely to have access to a well developed markets (Wilkie 1967:215). Indeed, Tannenbaum found that only 7.2% of the localities he surveyed had a local market, while 21.2% had significant barter economies (Tannenbaum 1946:374).

Though all community types witnessed significant increases in level of urbanity, the pace of urbanization has been the most rapid in those communities that were the most urban to begin with (table 4007). Between 1930 and 1970 the percentage of the urban population living in localities of less than 2,500 persons decreased by 90.5%, from 2.1% in 1930 to .2% in 1970. The semiurban communities also registered a significant decrease in the percentage of the population living in localities of less than 2,500, dropping from 23.8% in 1930 to 16.1% in 1970, a change of 12.4% over the forty-year period. The rural communities had the slowest rate of urbanization, only 15.8% between 1930 and 1970. Massive rural out-migration in recent years most probably accounts for this laggardly rate of change.

From the perspective of decennial rates of change, the pace of urbanization jumped considerably following the 1930-1940 time period. For the rural and semiurban categories the rate of change during this period was almost negligible, .8% and 14.0%, respectively. As table 4008 shows, these rates were dwarfed by that of the urban communities. These disparate rates of change equilibrated somewhat after 1940, however, with major jumps occurring for the rural and semiurban categories. The urban areas also registered an increase in the rate of urbanization in the 1940-1950 period, though this increase was not as major as that for the rural and semiurban areas. Since 1940 the pace of urbanization for all three community types has been fairly constant.

### Nonmodern Diet

The percentage of the population which regularly eats tortillas in preference to wheat bread is included in the SMI because the tortilla is representative of rural Mexico's traditional diet of beans, chiles, tortillas, atole, and coffee (Wilkie 1967:226). Eating wheat bread is a hallmark of urbanity. Indeed, Oscar Lewis, in his study of Tepoztlán, Morelos, found that the social and economic position of a family was often judged in terms of the amount of wheat bread it consumed (Lewis 1951:188).

It should be noted that there is a slight distortion in the time series for the population eating tortillas. From 1940 to 1960 census takers asked people whether they regularly ate wheat bread. In 1970 the census asked how many days per week a person ate wheat bread. Faced with a change in the census categories, I have elected to count in the tortilla-eating group only those people who reported that they never ate wheat bread. Anyone responding that they consumed bread one or more times per week is calculated as a habitual eater.

Table 4007

### POPULATION LIVING IN LOCALITIES OF LESS THAN 2,500 PERSONS, BY RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>1</sup> 1930-70 (%)<sup>a</sup>

Category <sup>2</sup>	1930	1940	1950	1960	1970
Selected Rural	90.3	89.6	84.4	79.9	76.0
Selected Semiurban	23.8	23.7	21.5	17.9	16.1
Selected Urban	2.1	1.7	.8	.4	.2
National Average	66.5	64.9	57.4	49.3	41.3

1. Percentage of municipio population living in localities of less than 2,500 persons.
2. See notes 2 and 3, table 4001.
- a. Percentage of the population in a given place at a given time. To find the average percentage living with modern characteristics in each case each year, subtract from 100.0%.

SOURCE: Calculated from *Censo General de Población*, 1930, 1960, 1970.

Table 4008

### PC<sup>1</sup> OF POPULATION LIVING IN LOCALITIES OF LESS THAN 2,500 PERSONS, BY RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>2</sup> 1930-70

Category <sup>3</sup>	1930-40	1940-50	1950-60	1960-70	1930-70
Selected Rural	-.8	-5.8	-5.3	-4.9	-15.8
Selected Semiurban	-.4	-9.3	-16.7	-10.1	-32.4
Selected Urban	-38.1	-52.9	-50.0	-50.0	-90.5
National Average	-2.4	-11.6	-14.1	-16.2	-37.9

1. Minus indicates improvement.
2. Represents percentage of municipio population living in localities of less than 2,500 inhabitants.
3. See notes 2 and 3, table 4001.

SOURCE: Calculated from table 4007.

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As table 4009 indicates, the percentage of the population eating tortillas instead of wheat bread in the rural and semiurban communities has decreased markedly since 1940. Over the long run the percentage of the rural population habitually eating tortillas instead of wheat bread declined by 48.8%. The change in the dietary pattern of the semiurban population was equally dynamic, illustrated by a 51.5% decrease in tortilla eaters between 1940 and 1970. The rural population had the greatest percentage of non-bread eaters in both 1940 and 1970 (72.0% and 36.9%, respectively), followed by the semiurban population (33.6% and 16.3%, respectively), and the urban population (8.2% and 10.2%, respectively). This pattern is repeated for all the components measured, thus confirming the validity of our assumptions about the hallmarks of rurality. Interestingly, the percentage of the urban population habitually eating tortillas instead of wheat bread increased over the long run between 1940 and 1970. The data indicate that this increase occurred between 1960 and 1970, suggesting that most probably it was a function of the accelerating in-migration of rural folk to the urban areas. Table 4010 shows that whereas the rate of change per decade peaked for all three categories in the 1950-1960 time period, that of the rural category decreased the least of the three in the following decade. This mirrors the pattern displayed by tables 4002 and 4004 (illiteracy and non-Spanish speaking population). For these components the rate of change for the urban and semiurban categories outpaced that of the rural category early on, but declined significantly in later years, whereas the rate of change for the rural category either accelerated or continued apace.

Table 4009

**TORTILLA-EATING POPULATION, BY RURAL,  
SEMIURBAN, AND URBAN CATEGORIES,<sup>1</sup>  
1930-70**

(%)<sup>a</sup>

Category <sup>2</sup>	1930	1940	1950 <sup>b</sup>	1960	1970
Selected Rural	~	72.0	61.5	45.3	36.9
Selected Semiurban	~	33.6	27.4	16.3	16.3
Selected Urban	~	8.2	8.2	6.9	10.2
National Average	~	54.9	45.6	31.4	23.4

1. Population which regularly eats tortillas instead of wheat bread.
2. See notes 2 and 3, table 4001.

- a. Percentage of the population in a given place at a given time. To find the average percentage living with modern characteristics in each case each year, subtract from 100.0%.
- b. Does not include those under one year of age.

SOURCE: Calculated from *Censo General de Población*, 1940, 1950, 1960, 1970.

Table 4010

**PC<sup>1</sup> OF TORTILLA-EATING POPULATION, BY RURAL,  
SEMIURBAN, AND URBAN CATEGORIES,<sup>2</sup>  
1930-70**

Category <sup>3</sup>	1930-40	1940-50 <sup>a</sup>	1950-60	1960-70	1940-70
Selected Rural	~	-14.6	-26.3	-18.5	-48.8
Selected Semiurban	~	-18.5	-40.5	.0	-51.5
Selected Urban	~	.0	-15.9	47.8	24.4
National Average	~	-16.9	-31.1	-25.5	-57.4

1. Minus indicates improvement.
2. Population which regularly eats tortillas instead of wheat bread.
3. See notes 2 and 3, table 4001.

a. Data for 1950 do not include those under 1 year of age.

SOURCE: Calculated from table 4009.

### Nonmodern Dress

The percentage of the population over the age of one year which goes barefoot and the percentage which wears only huaraches or sandals instead of shoes are included for several reasons. As Cynthia Nelson noted in her study of Erongaricuaru, Michoacán, owning a pair of shoes is a symbol that one is no longer "a poor Indian" (Nelson 1971:48). According to Nelson, the first purchase an upwardly mobile villager would make, when provided the wherewithal, was a pair of shoes. Thus, we may deduce that the purchase of shoes is a sign that one is attempting to move into the mainstream of modern culture. In addition, owning shoes is an indication that one has access to the national market and participates in the national money economy.

The percentage of the Mexican population which goes barefoot has declined tremendously since 1940 (table 4011). During the three-decade period measured, the percentage of the rural population going barefoot decreased 57.4% (table 4012). As one would expect, and as the analysis of all the other components has thus far shown, the rural category had the greatest percentage of barefoot persons in both 1940 and 1970 (38.3% and 16.3%, respectively). The overall rate of change for the urban communities was almost equal to that of the rural communities (56.3% between 1940 and 1970), with the urban areas having the lowest percentage of barefoot persons of all three groups in both 1940 and 1970. The most dramatic long-run change occurred in the semiurban category, which witnessed an 80.4% drop in the population going barefoot.

From the point of view of decennial rates of change, the pace of change of the rural category has increased slightly over time, from 21.9% in the 1940-1950 time period to 27.2% in the 1960-1970 period (see table 4012). The semiurban category saw a more significant acceleration in its rate of change over time, moving from 33.9% in the 1940-1950

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period to 58.9% in the decade between 1960 and 1970. Though the overall rate of change for the urban category almost equaled that of the rural, the rate of change for the communities was characterized by wide swings from decade to decade. This was most pronounced in the 1950-1960 period and was most likely a function of accelerated rural out-migration during this period.

As tables 4013 and 4014 show, the decline in the percentage of the population wearing sandals or huaraches over the long run was not as great as that in the percentage going barefoot. This may be a function of the fact that the sandal

category has absorbed a good number of the people who formerly went barefoot. The number of people moving from wearing sandals to shoes was probably offset by people moving from going barefoot to wearing sandals. In this sense, the pattern displayed by the sandal-wearing group is similar to that displayed by the bilingual group. Both are transitional groups, absorbing people from the non-Spanish-speaking and barefoot groups, and at the same time losing people to the shoe-wearing and non-Indian-speaking groups. This would account both for the laggardly overall rates of change and the swings in the rates of change between decades.

**Table 4011**  
BAREFOOT POPULATION, BY RURAL, SEMIURBAN,  
AND URBAN CATEGORIES,<sup>1</sup> 1930-70  
(%)<sup>a</sup>

Category <sup>2</sup>	1930	1940 <sup>b</sup>	1950	1960	1970
Selected Rural	~	38.3	29.9	22.4	16.3
Selected Semiurban	~	18.9	12.5	9.0	3.7
Selected Urban	~	1.6	1.2	2.5	.7
National Average	~	26.6	19.1	14.3	6.8

1. Population age 1 and over which goes without shoes or sandals.
2. See notes 2 and 3, table 4001.

- a. Percentage of the population in a given place at a given time. To find the average percentage living with modern characteristics in each case each year, subtract from 100.0%.
- b. Includes those under one year of age.

SOURCE: Calculated from *Censo General de Población*, 1940, 1950, 1960, 1970.

**Table 4012**  
PC<sup>1</sup> OF BAREFOOT POPULATION, BY RURAL,  
SEMIURBAN, AND URBAN CATEGORIES,<sup>2</sup>  
1930-70

Category <sup>3</sup>	1930-40 <sup>a</sup>	1940-50	1950-60	1960-70	1940-70
Selected Rural	~	-21.9	-25.1	-27.2	-57.4
Selected Semiurban	~	-33.9	-28.0	-58.9	-80.4
Selected Urban	~	-25.0	108.3	-72.0	-56.3
National Average	~	-28.2	-25.1	-52.4	-74.4

1. Minus indicates improvement.
  2. Population age 1 and over which goes without shoes or sandals.
  3. See notes 2 and 3, table 4001.
- a. Data for 1940 include those under 1 year of age.

SOURCE: Calculated from table 4011.

**Table 4013**  
SANDAL-WEARING POPULATION, BY RURAL,  
SEMIURBAN, URBAN CATEGORIES,<sup>1</sup>  
1930-70  
(%)<sup>a</sup>

Category <sup>2</sup>	1930	1940 <sup>b</sup>	1950	1960	1970
Selected Rural	~	30.9	39.8	39.0	28.9
Selected Semiurban	~	13.8	17.4	14.8	10.0
Selected Urban	~	2.0	2.4	3.9	1.4
National Average	~	23.6	26.6	23.4	13.1

1. Population age 1 and over which wears sandals instead of shoes.
2. See notes 2 and 3, table 4001.

- a. Percentage of the population in a given place at a given time. To find the average percentage living with modern characteristics in each case each year, subtract from 100.0%.
- b. Includes those under one year of age.

SOURCE: Calculated from *Censo General de Población*, 1940, 1950, 1960, 1970.

**Table 4014**  
PC<sup>1</sup> OF SANDAL-WEARING POPULATION, BY RURAL,  
SEMIURBAN, AND URBAN CATEGORIES,<sup>2</sup>  
1930-70

Category <sup>3</sup>	1930-40	1940-50 <sup>a</sup>	1950-60	1960-70	1940-70
Selected Rural	~	28.8	-2.0	-25.9	-6.5
Selected Semiurban	~	26.1	-14.9	-32.4	-27.5
Selected Urban	~	20.0	62.5	-64.1	-30.0
National Average	~	12.7	-12.0	-44.0	-44.5

1. Minus indicates improvement.
2. Population age 1 and over which wears sandals instead of shoes.
3. See notes 2 and 3, table 4001.

- a. Data for 1940 include those under 1 year of age.

SOURCE: Calculated from table 4013.

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Analysis of the SMI

The SMI mirrors the basic patterns displayed by the component data. The rural communities consistently had the least favorable values on the aggregate index, followed by the semiurban and urban communities (table 4015). As one would expect, the rural communities as a group are significantly less modern, less a part of the national social and economic mainstream than are the semiurban and urban communities.

What is surprising, however, are the relative rates at which the SMI has been changing for the different community types. Though over the long run the rural communities did not experience a rate of change as rapid as that of the semiurban and urban communities, they were by no means stagnant. As table 4015 and figure 1 demonstrate, the rural communities as a group experienced a significant decline in level of social and economic isolation, moving from 69.1 on the SMI in 1930 to 46.2 in 1970, a 33.1% change over the forty-year period. Of the 68 rural communities for which data were gathered, all but one were touched by the modernization process. (See tables 4016 through 4018 for individual community data.) In short, rural Mexico is not as changeless and tradition-bound as a great deal of the literature purports.

Equally interesting are the relative rates of change for the urban and semiurban communities. Though in absolute terms the aggregate SMI was consistently higher for the semiurban communities than for the urban communities, the rate of change for both categories was relatively equal, 51.5% and 50.5%, respectively. Over the long run, Mexico's medium-sized state and regional centers have experienced a rate of social modernization as dynamic as that of the urban, industrial metropolises. In short, modernization has not been confined solely to the major urban centers, but has affected, with very few exceptions, almost every community throughout Mexico.

This rapid, broadly based rate of modernization is a sine qua non of continued industrialization and economic growth. Indeed, for Mexico's impressive rates of economic growth to continue this would have to be the case, as rising levels of production require larger and larger markets. Clearly, the urban markets of Mexico City, Guadalajara, and Monterrey are not broad enough to provide sufficient demand for the wealth of manufactures they produce. This has necessitated that increasing numbers of rural communities be drawn into the national market. In this sense, the process of modernization is both a cause and an effect of economic growth. At once it serves to maintain increasingly higher levels of aggregate demand, thus fueling industrial growth, and at the same time it is itself a by-product of that growth, for it is industrialization and economic growth that provide the wherewithal to build the infrastructure (roads, schools, and the like) which fuels the process of modernization.

Table 4015

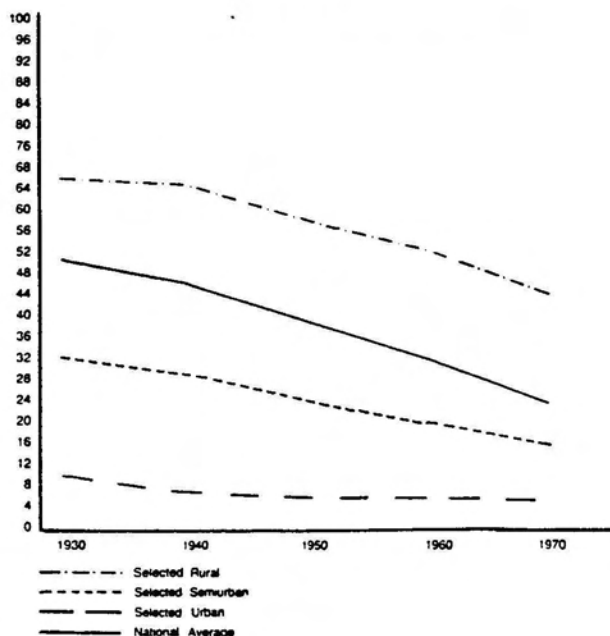
SMI, FOR RURAL, SEMIURBAN, AND URBAN CATEGORIES,<sup>1</sup> 1930-70

Category <sup>2</sup>	1930 <sup>a</sup>	1940	1950	1960	1970
Selected Rural	69.1	67.7	61.1	54.6	46.2
Selected Semiurban	34.0	30.8	25.6	20.7	16.5
Selected Urban	10.5	7.2	5.9	6.1	5.2
National Average	52.6	48.6	40.7	33.5	24.1

1. Seven items, five values. The SMI divides the total of seven components by five values instead of seven because non-Spanish speakers and bilingual persons are both part of a larger category of Indian speakers, and barefoot persons and sandal-wearers are subcategories of the larger category of shoeless persons.
2. See notes 2 and 3, table 4001.
- a. Variance between seven-item average (seven items, five values) and four-item average (four items, three values) in 1940 is used to link the 1930 index to make it comparable to the post-1940 index.

SOURCE: Calculated from component data by communities. Component data available from the author upon request. National average data calculated from tables 4001, 4003, 4005, 4007, 4009, 4011, and 4013.

Figure 1  
SMI FOR RURAL, SEMIURBAN, AND URBAN CATEGORIES, 1930-70  
(100 = Nonmodern Characteristics)



SOURCE: Table 4015.

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Table 4016  
SMI FOR RURAL COMMUNITIES,<sup>1</sup> 1930-70

State	Municipio	Code <sup>2</sup>	1930 <sup>3</sup>	1940	1950	1960	1970
Aguascalientes	Jesús María	B	65.7	61.4	57.3	45.5	31.6
Baja California Norte	Ensenada	C	20.3	19.0	13.4	10.5	12.1
	Mexicali	A,B	17.9	17.5	15.6	12.5	13.0
Baja California Territory	San Antonio	B	57.7	56.3	39.2	36.4	37.6
Campeche	Calkini	B	69.0	60.8	53.3	52.0	38.4
Chiapas	Amatenango del Valle	C	~	82.6	82.8	78.1	70.5
	Chamula	B,C	98.0	98.6	99.0	92.9	83.4
	Chenalhó	C	85.7	87.2	92.3	90.3	78.2
	Zinacantan	C	96.5	96.5	95.3	84.9	73.7
Chihuahua	Morelos	B	65.4	62.5	67.3	61.2	60.1
Coahuila	Matamoros	C	49.4	44.7	30.7	33.0	24.9
	Morelos	B	44.1	40.7	13.0	13.5	9.9
Colima	Coquimatlán	B	51.1	50.8	41.5	38.2	33.1
Distrito Federal	Cuajimalpa	B	60.2	55.0	26.8	27.4	11.0
	Milpa Alta	C	74.3	68.9	53.5	25.8	16.4
Durango	Tamazula	B	70.8	67.8	66.3	55.3	60.0
Guanajuato	Atarjea	B	78.7	78.4	76.7	73.6	48.9
Guerrero	Chilpancingo	A	53.8	50.7	41.8	34.7	22.5
	Cuajinicuilpa	C	81.4	76.3	76.3	61.7	62.0
	Metlatonoc	B	97.4	99.7	99.2	99.1	91.8
Hidalgo	Xochiatipan	B	96.8	93.8	90.7	83.3	77.4
Jalisco	Arandas	C	53.2	52.3	48.7	40.5	30.3
	Jilotlán de Delores	B	72.9	72.9	71.5	65.4	53.6
	Mezquitic	C	78.5	65.0	76.1	75.9	63.2
	Tonalá	C	52.0	51.6	46.4	35.8	22.2
México	Donato Guerra	C	80.9	79.3	77.8	73.5	54.3
	Texcoco	C	51.5	51.8	42.8	34.8	19.3
	Zacazonapan	B	74.8	73.7	73.6	66.4	48.1
Michoacán	Erongaricuaró	C	69.5	70.4	64.4	53.8	43.2
	Jiquilpan	C	50.2	47.4	41.5	35.5	24.6
	Marcos Castellanos	C	~	~	~	~	27.2
	Pátzcuaro	C	52.0	45.0	43.1	34.2	28.1
	Quiroga	C	70.2	69.9	56.8	41.7	31.4
	Tiquicheo	B	63.7	62.8	62.5	56.0	53.0
	Tzintzuntzan	C	~	78.9	75.3	62.5	54.4
	Zacapu	C	51.2	48.8	33.6	26.0	16.9
Morelos	Huitzilac	B	58.4	55.5	45.0	45.3	46.0
	Xochitepec	C	64.8	53.1	45.8	35.2	25.9
Nayarit	Huajicori	B	62.7	61.9	64.1	64.6	60.3
Nuevo León	Mier y Noriega	B	57.6	58.3	60.5	55.2	48.1
Oaxaca	San Bartolomé Zoogocho	C	94.7	93.5	85.8	74.5	67.9
	San José Estancia Grande	B	72.6	80.0	73.2	59.8	49.6
	San Juan Juquila Vijanos	C	95.6	98.8	91.8	68.8	68.0
	San Miguel Talea de Castro	C	95.4	90.8	83.5	74.7	64.2
	San Pablo Cuatro Venados	C	82.6	95.1	90.0	75.8	65.1
	San Pablo Etla	C	65.0	64.8	52.4	51.4	32.6
	San Pablo Villa de Mitla	C	74.0	71.1	61.3	54.7	35.5
	San Pedro y San Pablo Ayutla	C	87.4	93.3	89.5	89.3	87.3
	Santa Catarina Ixtepeji	C	79.6	67.6	66.9	44.3	35.6
	Puebla	Chietla	C	47.0	50.8	37.0	31.5
Eloxchitlán		B	84.0	96.6	79.2	90.7	83.2
Jonotla		C	72.2	80.3	69.7	61.1	57.8

Table 4016 (Continued)  
SMI FOR RURAL COMMUNITIES,<sup>1</sup> 1930-70

State	Municipio	Code <sup>2</sup>	1930 <sup>a</sup>	1940	1950	1960	1970
Querétaro	Cadereyta	B	77.3	75.9	72.8	67.8	56.4
	Querétaro	A	49.4	45.6	30.8	23.5	13.8
Quintana Roo	Felipe Carrillo Puerto	B	89.9	84.5	81.0	67.8	63.2
San Luis Potosí	Aquismón	B	87.9	77.1	75.1	71.6	62.6
Sinaloa	Choix	B	64.9	63.1	64.0	49.6	51.1
	Culiacán	A	47.2	44.9	29.5	24.6	22.9
Sonora	Quiriego	B	59.8	62.2	43.9	42.8	44.7
Tabasco	Tabasco (centro)	A	53.4	46.0	37.3	27.7	22.1
	Nacajuca	B	82.4	76.8	70.5	64.5	58.1
Tamaulipas	Bustamente	B	65.1	63.5	58.2	54.7	38.5
Tlaxcala	Tlaxcala	A	62.8	41.7	33.9	28.6	19.7
Veracruz	Sotepan	C	96.5	98.4	88.4	78.8	68.2
	Texcatepec	B	88.0	95.8	80.3	82.7	72.5
Yucatán	Cantamayec	B	86.8	82.6	70.3	63.5	61.4
	Chan-Kóm	C	~	68.9	69.2	61.8	72.0
Zacatecas	Villa García	B	64.3	58.4	55.5	56.1	33.1

1. Seven items, five values. All components weighted equally.

2. A, State capitals; B, Most illiterate municipio in state in 1940; C, Community study site.

a. Data for tortilla-eating population, barefoot population, and sandal-wearing population estimated on the basis of their performance as a group from 1940 to 1970.

SOURCE: Derived from unpublished component data. Data available upon request.

This is not to say, however, that over the long run the pace of social modernization for rural Mexico has outstripped that of Mexico's urban and semiurban communities. Indeed, the SMI can be interpreted to show that the social gap between rural and urban is widening. Table 4019 develops an index of inequality which compares change for the Mexican nation as a whole to that of the rural, urban, and semiurban categories. The overall SMI for the nation in each year is employed in this index as a constant against which the three community categories are compared.

Over the long run, rural Mexico has fallen behind the rest of the nation. (See table 4019 and figure 2). As would be expected, the urban and semiurban communities have on the other hand, kept pace with the rate of national change. Thus, one may argue that the social distance between rural and urban is widening, and that village Mexico is less a part of the national mainstream now than it was in 1930. Moreover, a linear projection suggests that this gap will grow wider over time.

Further analysis indicates, however, that these conclusions are somewhat premature. It stands to reason that the more accessible, more urban areas will be the first to be drawn into the national network of social and economic

relationships. Thus, we can expect to see a significant time lag between modernization in the urban and semiurban areas and modernization in the rural sector. This is the period during which the so-called gap develops. However, this does not necessarily mean that the gap will continue to grow. In fact, the data indicate that, if anything, this trend is reversing.

Table 4020 and figure 3 develop an index of decennial rates of change for the SMI and show that the pace of change for the rural communities has accelerated over time. Between 1930 and 1940 the percent change for the rural category was 2.0%, compared to 31.4% for the urban category. By the decade between 1960 and 1970, the pace of change for the rural category had accelerated to 15.4%. At the same time, with a continually greater proportion of its population already a part of the national mainstream, the pace of modernization in the urban areas had decelerated. By the 1960-1970 period the pace of change in the urban communities had fallen to 14.8%. The pattern displayed by the semiurban communities also appears to fit this model. For the semiurban category the rate of change has gradually increased over time, rising from 9.4% in the 1930-1940 period to 20.3% in the period from 1960 to 1970.

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Table 4017

SMI FOR SEMIURBAN COMMUNITIES,<sup>1</sup> 1930-70

State	Municipio	Code <sup>2</sup>	1930 <sup>a</sup>	1940	1950	1960	1970
Aguascalientes	Aguascalientes	A	28.1	21.0	21.1	16.9	13.2
Baja California Territory	La Paz	A	32.7	25.8	16.4	12.1	10.1
Campeche	Campeche	A	19.9	19.6	16.3	13.2	11.8
Chiapas	Tuxtla Gutiérrez	A	40.7	31.5	24.6	19.2	12.7
Chihuahua	Chihuahua	A	17.7	13.5	8.7	9.6	7.5
	Ciudad Juárez	C	12.0	8.7	6.3	7.1	5.0
Coahuila	Saltillo	A	29.2	25.4	20.3	12.8	12.8
Colima	Colima	A	25.8	21.6	21.6	19.7	16.7
Durango	Durango	A	32.8	31.6	25.1	20.4	15.6
Guanajuato	Guanajuato	A	42.5	39.4	35.9	32.3	23.2
Hidalgo	Pachuca	A	16.3	13.9	11.8	9.4	7.2
México	Toluca	A	41.7	36.4	32.7	24.6	14.1
	Cherán	C	65.8	57.6	55.2	46.3	35.3
	Morelia	A	34.3	34.7	29.8	23.0	17.0
Michoacán	Zamora	C	26.4	26.5	25.6	24.2	17.9
	Cuernavaca	A	31.5	25.2	17.1	17.5	8.2
Morelos	Tepoztlán	C	81.4	65.9	45.4	37.4	29.0
	Tepic	A	34.2	29.4	23.2	19.0	12.7
Nayarit	Tepic	A	34.2	29.4	23.2	19.0	12.7
Oaxaca	Centro	A	18.4	17.7	16.8	14.1	8.5
	Hidalgo Yalalag	C	78.1	78.6	68.3	45.4	30.0
	Juchitán de Zaragoza	C	59.1	62.8	55.3	40.7	38.8
Puebla	Puebla	A	17.9	13.5	10.3	7.6	8.7
Quintana Roo	Payo Obispo	A	32.7	34.2	20.1	18.8	18.9
San Luis Potosí	San Luis Potosí	A	26.3	24.2	18.4	16.6	11.9
Sonora	Guaymas	C	18.2	19.0	14.3	15.9	16.9
	Hermosillo	A	16.8	16.9	9.5	8.9	11.0
Tamaulipas	Ciudad Victoria	A	27.1	22.3	16.9	10.4	10.0
Tlaxcala	San Pablo del Monte	B	77.5	75.9	74.0	43.0	34.0
Veracruz	Jalapa	A	14.7	13.3	10.2	9.7	8.1
Yucatán	Mérida	A	20.6	17.3	13.3	10.4	13.8
	Ticul	C	42.1	42.3	36.8	40.5	36.2
Zacatecas	Zacatecas	A	24.1	21.1	18.1	17.0	11.8

1. Seven items, five values. All components weighted equally.

2. A, State capitals; B, Most illiterate municipio in state in 1940; C, Community study site.

a. Data for tortilla-eating population, barefoot population, and sandal-wearing population estimated on the basis of their performance as a group from 1940 to 1970.

SOURCE: Derived from unpublished component data. Data available upon request.

Table 4018  
SMI FOR URBAN COMMUNITIES,<sup>1</sup> 1930-70

State	Municipio	Code <sup>2</sup>	1930 <sup>a</sup>	1940	1950	1960	1970
Distrito Federal	Ciudad de México	A	8.6	6.6	4.4	4.4	3.5
Jalisco	Guadalajara	A	13.0	9.0	8.7	8.6	6.3
Nuevo León	Monterrey	A	10.0	5.9	4.7	5.4	5.7

- Seven items, five values. All components weighted equally.
- A, State capitals; B, Most illiterate municipio in state in 1940; C, Community study site.
- a. Data for tortilla-eating population, barefoot population, and sandal-wearing population estimated on the basis of their performance as a group from 1940 to 1970.

SOURCE: Derived from unpublished component data. Data available upon request.

Table 4019  
SMI INDEX OF INEQUALITY,<sup>1</sup> BY RURAL,  
SEMIURBAN, AND URBAN CATEGORIES,  
1930-70

Category <sup>2</sup>	1930	1940	1950	1960	1970
Selected Rural	131.3	139.3	150.4	162.8	191.5
Selected Semiurban	64.6	63.5	62.9	61.9	68.5
Selected Urban	20.0	14.8	14.6	18.3	21.4
National Average	100.0	100.0	100.0	100.0	100.0

- Calculated by dividing the SMI for each category in each year by the SMI for the nation as a whole in that year.
- See notes 2 and 3, table 4001.

SOURCE: Calculated from table 4015.

Table 4020  
PC<sup>1</sup> OF SMI, BY RURAL, SEMIURBAN, AND URBAN  
CATEGORIES,<sup>2</sup> 1930-70

Category <sup>3</sup>	1930-40	1940-50	1950-60	1960-70	1930-70
Selected Rural	-2.0	-9.7	-10.6	-15.4	-33.1
Selected Semiurban	-9.4	-16.9	-19.1	-20.3	-51.5
Selected Urban	-31.4	-18.1	3.4	-14.8	-50.5
National Average	-7.6	-16.3	-17.7	-28.1	-45.8

- Minus indicates improvement.
- Seven items, five values (see table 4015).
- See notes 2 and 3, table 4001.

SOURCE: Calculated from table 4015.

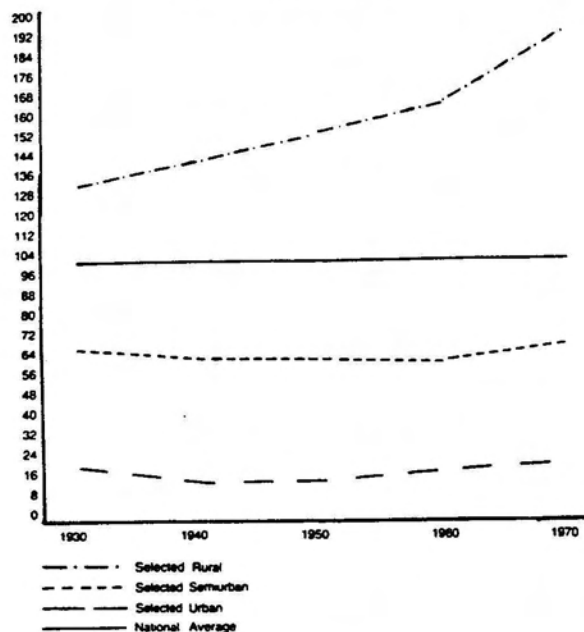
Overall, it appears that the pace of change in the more marginal areas has accelerated over time. As the urban centers became increasingly integrated into the national mainstream, the relatively less urban areas began to be drawn in as well. Thus, the pace of modernization peaked for urban Mexico between 1930 and 1940. Table 4020 shows that the pace of change for the semiurban areas may well have peaked between 1960 and 1970. Empirical verification of this will have to await publication of the 1980 population census, though semiurban Mexico's rate of change appears to be increasing at a consistently less dynamic pace. The pace of change for the rural communities, on the other hand, has not slowed over time. Rather, as seen in figure 3, the rural communities have exhibited a continually accelerating rate of change.

This does not mean that each and every rural community has necessarily exhibited an equally dynamic rate of change. In fact, the data indicate that within the rural category there are significant differences in the overall rate of change. These differences underline regional and demographic patterns. Table 4021 isolates the ten least dynamic rural communities sampled here. For the most part, they are sparsely populated, highland Indian communities located in the least modern states of Mexico. Utilizing Wilkie's Geo-Social Regions<sup>7</sup> (Wilkie 1967:235), one sees that fully half

<sup>7</sup>Wilkie divided Mexico into seven regions based upon geographic and social characteristics. The Northern Region includes the states of Baja California, Chihuahua, Coahuila, Nuevo León, Sonora and Tamaulipas. The Western Region includes the states of Aguascalientes, Baja California Territory, Colima, Durango, Jalisco, Nayarit, and Sinaloa. The West-Central Region is made up of the states of Guanajuato, México, Michoacán, and Morelos, while the East-Central Region is composed of Hidalgo, Puebla, Querétaro San Luis Potosí, Tlaxcala, and Zacatecas. The Southern Region includes Chiapas, Guerrero, and Oaxaca. The remaining states, with the exception of the Distrito Federal, make up the Gulf Region. They are Campeche, Quintana Roo, Tabasco, Veracruz, and Yucatán. The Distrito Federal is counted as a region unto itself.

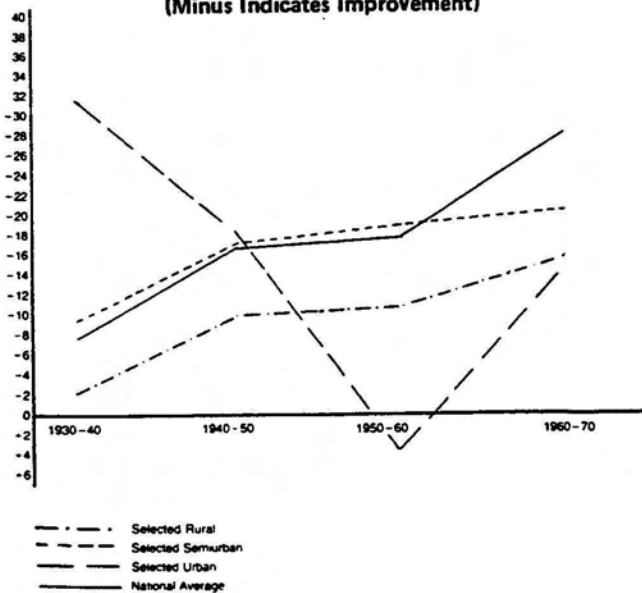


Figure 2  
SMI OF INEQUALITY, BY RURAL, SEMIURBAN,  
AND URBAN CATEGORIES, 1930-70  
(National Average = 100)



SOURCE: Table 4019.

Figure 3  
SMI DECENNIAL RATES OF CHANGE, BY RURAL,  
SEMIURBAN, AND URBAN CATEGORIES,  
1930-70  
(Minus Indicates Improvement)



SOURCE: Table 4020.

of these communities are in the South. Three alone are in the state of Chiapas. In addition to a geographic bias toward the more inaccessible and remote areas of Mexico, these communities also display a demographic bias. As a group, the average population of these communities in 1970 was barely one-third that of the overall rural-community average for that year. Thus, of Mexico's rural communities, these are among the smallest.

These patterns stand out in even sharper relief when compared to those of the ten most dynamic rural communities sampled here. As can be interpreted from table 4022, for the most part these communities are all extremely accessible, heavily populated communities located in central Mexico. Two alone are in the Distrito Federal, while three more are located in the nearby states of Tlaxcala, México, and Morelos. Only one community, Chilpancingo, Guerrero, is located in the southern Geo-Social region. Moreover, Chilpancingo is a heavily populated, relatively accessible state capital. This underlines another basic commonality of this group: all are relatively well populated communities. On the average their 1970 population was roughly double that of the overall rural-community average for that year (table 4022).

This is not to say that the most remote parts of rural Mexico will continue to remain isolated. As noted earlier, an analysis of the SMI indicates that relatively more remote communities simply experience a time lag with respect to their entry into the national mainstream. As tables 4023 and 4024 suggest, the most remote and inaccessible communities of rural Mexico did not begin to be affected to any significant extent by the modernization process until the decade between 1960 and 1970. The pace of change for these extremely remote communities has been accelerating over time, as shown in figure 4. Further analysis of these communities will have to await the publication of the 1980 population census.

In a very general way there is a similarity between the model of change developed here and Redfield's folk-urban continuum (Redfield 1941). Both models acknowledge the spatial dimensions of cultural change and both seek to analyze the gradient of economic and social modernity from a historical perspective. It should be kept in mind however, that Redfield based his analysis upon an investigation of four communities in relatively close geographical proximity to each other. In addition, the almost total isolation of the area studied (the Yucatán peninsula) meant that Redfield's four communities could not be affected by exogenous modifying influences. Because the geographic scope of my study is the entire Mexican nation, and because it is not possible to identify and weight the various modifying influences which have affected the sample communities over time, I cannot hope to linearly project an unbroken geographic continuum of nonmodernity as Redfield did. All that the SMI data suggest is that as one moves progressively farther south from Mexico City, one is more likely to encounter

Table 4021

**RURAL MEXICO'S TEN LEAST DYNAMIC SAMPLE COMMUNITIES  
ACCORDING TO REGIONAL AND DEMOGRAPHIC  
CHARACTERISTICS, 1930-70**

(In Descending Order According to the SMI)<sup>1</sup>

Community	State	Geo-Social Region <sup>2</sup>	Population in 1930	Population in 1970	Population As % of 1970 Rural Average <sup>3</sup>
Chan-Kóm	Yucatán	Gulf	1,614 <sup>a</sup>	2,771	8.4
Ayutla	Oaxaca	South	2,168	4,636	14.1
Eloxchitlán	Puebla	East-Central	1,980	4,832	14.7
Huajicori	Nayarit	West	3,405	7,088	21.5
Metlatonoc	Guerrero	South	6,424	14,809	45.0
Morelos	Chihuahua	North	3,064	6,517	20.0
Chenalhó	Chiapas	South	3,958	13,522	41.1
Amatenango del Valle	Chiapas	South	2,136 <sup>a</sup>	3,656	11.1
Chamula	Chiapas	South	8,667	29,357	89.2
Tamazula	Durango	West	18,197	18,135	55.6
Ten-Community Average			5,161	10,301	32.0

1. For individual community SMI values, see table 4016. For ten-community average SMI values compared to the rural average, see table 4023.

2. For a discussion of Mexico's Geo-Social Regions see J. Wilkie (1967:235).

3. Rural Average given in table 4000.

a. For 1940; 1930 data not available.

SOURCE: *Censo General de Población*, 1930, 1970.

communities which can be characterized as increasingly remote, isolated, and on the average drawn into the national network of social and economic relationships at a progressively later date. There are simply too many exceptions and inconsistencies to chart a spatial continuum of nonmodernity for all of Mexico with the certainty that Redfield did for the Yucatán peninsula.

#### Summary

I hypothesized that village Mexico had to have been drawn into the national mainstream between 1930 and 1970 in order for Mexico's economic growth to have continued apace. To test this hypothesis I developed a historical index of modernization from population census indicators which measures change on the municipio level. This index differs from past efforts to assess change at the local level in that it measures change over time and samples diverse community types. Previous studies have been ahistorical and have lacked a comparative dimension. An analysis of the SMI indicates the following:

(1) The "timeless Mexico" of Hudson Strode (Strode 1944) is a fiction. Almost every community throughout Mexico, no matter how remote, has been touched by the modernization process.

(2) It is not entirely accurate to speak of an urban-rural dichotomy in terms of the modernization process. There is a vast middle group of semiurban communities which must be taken into account as well. In fact, it is these state and regional centers that have experienced the most dynamic rate of change. In addition, an analysis of Mexico's rural communities shows that there are subgroups and subcategories within each community type. Thus, to analyze Mexico from this simple, dualistic model is to ignore the complexity of the Mexican nation.

(3) The data suggest the development of a social gap between rural Mexico and the rest of the nation. Further analysis indicates, however, that this pattern probably will not continue. In fact, the SMI suggests that the rate of change for Mexico's rural communities has been accelerating over time.

Table 4022

**RURAL MEXICO'S TEN MOST DYNAMIC SAMPLE COMMUNITIES  
ACCORDING TO REGIONAL AND DEMOGRAPHIC  
CHARACTERISTICS, 1930-70**

(In Descending Order According to the SMI)<sup>1</sup>

Community	State	Geo-Social Region <sup>2</sup>	Population in 1930	Population in 1970	Population As % of 1970 Rural Average <sup>3</sup>
Cuajimalpa	Distrito Federal	Distrito Federal	5,406	36,200	113.0
Milpa Alta	Distrito Federal	Distrito Federal	12,608	33,694	105.2
Morelos	Coahuila	North	2,691	4,974	15.6
Querétaro	Querétaro	East-Central	76,051	163,063	509.0
Tlaxcala	Tlaxcala	East-Central	6,878	21,808	68.1
Zacapu	Michoacán	West-Central	13,990	52,474	163.8
Texcoco	México	West-Central	21,517	65,628	204.8
Xochitepec	Morelos	West-Central	4,069	11,425	35.7
Tabasco (Centro)	Tabasco	Gulf	48,613	163,514	510.4
Chilpancingo	Guerrero	South	19,663	59,087	184.4
Ten-Community Average			19,379	61,187	191.0

1. For individual community SMI values, see table 4016. For ten-community average SMI values compared to the rural average, see table 4023.

2. For a discussion of Mexico's Geo-Social Regions, see J. Wilkie (1967:235).

3. Rural Average given in table 4000.

SOURCE: *Censo General de Población*, 1930, 1970.

Table 4023

**SMI FOR RURAL MEXICO'S TEN LEAST DYNAMIC  
COMMUNITIES AND TEN MOST DYNAMIC  
COMMUNITIES, COMPARED TO THE  
RURAL AVERAGE, 1930-70**

Category	1930	1940	1950	1960	1970
Least Dynamic <sup>1</sup>	81.5 <sup>a</sup>	82.0	80.9	78.3	74.7
Most Dynamic <sup>1</sup>	56.6	50.2	35.9	27.7	17.8
Rural Average <sup>2</sup>	69.1	67.7	61.1	54.6	46.2

1. Arithmetic mean, not weighted by population.

2. Calculated from 68-community average.

a. Eight-community average; no data for Chan-Kóm, Yucatán, and Amatenango del Valle, Chiapas.

SOURCE: Calculated from table 4016.

Table 4024

**PC<sup>1</sup> OF SMI BY RURAL MEXICO'S TEN LEAST  
DYNAMIC COMMUNITIES AND TEN MOST  
DYNAMIC COMMUNITIES, COMPARED  
TO THE RURAL AVERAGE, 1930-70**

Category	1930-40	1940-50	1950-60	1960-70	1930-70
Least Dynamic <sup>2</sup>	.6	-1.3	-3.2	-4.6	-8.3
Most Dynamic <sup>2</sup>	-11.3	-28.5	-22.8	-35.7	-68.6
Rural Average <sup>3</sup>	-2.0	-9.7	-10.6	-15.4	-33.1

1. Minus indicates improvement.

2. Arithmetic mean; not weighted by population.

3. Calculated from 68-community average.

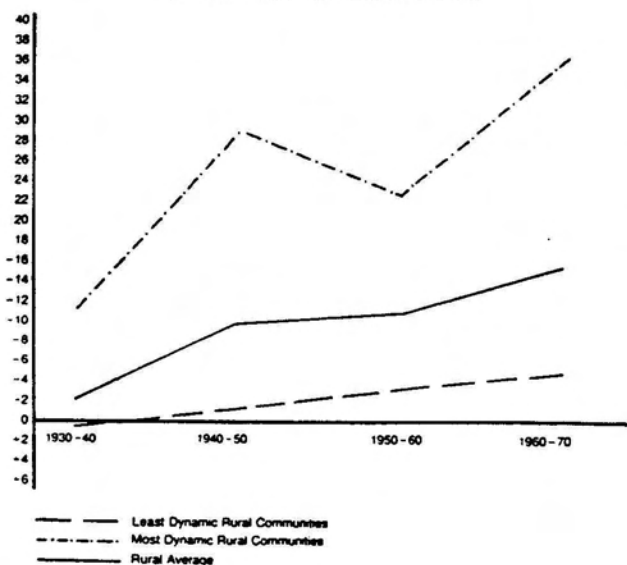
SOURCE: Calculated from tables 4023 and 4016.

(954)

Figure 4

**SMI DECENNIAL RATES OF CHANGE BY RURAL MEXICO'S TEN LEAST DYNAMIC AND TEN MOST DYNAMIC SAMPLE COMMUNITIES, COMPARED TO THE RURAL AVERAGE, 1930-70**

(Minus Indicates Improvement)



SOURCE: Table 4024.

(4) Mexico's most remote and isolated communities, though displaying laggardly rates of change by national standards, have been affected by the modernization process. These communities have certain geographic and demographic commonalities. In addition, though their pace of change has been extremely undynamic, they do fit the model of change developed in this study: The more remote and inaccessible a community, the longer the time lag between its modernization and that of the least remote, most accessible communities. Modernization does not occur everywhere at once, but happens in stages. Thus, rural Mexico's most isolated communities did not begin to be drawn into the national mainstream until the 1960-1970 time period. Further study of change in these communities will have to await the publication of the 1980 census.

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