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ABSTRACT

A recent trend in American economic life has been the location of industrial complexes in traditionally rural areas. When this occurs, there are often accompanying rapid and sometimes traumatic changes in the rural community. These changes, in part, result from investment of new and massive amounts of capital, new employment opportunities, in-migration of new workers, and demands for new and more services. New values, attitudes, and patterns of behavior are introduced, and the established patterns of community life are disrupted. The basic trends of development in the social system of an experimental and control area are being studied in terms of the Jones-Laughlin Steel Corporation (J&L), which in 1965 began the development of a major production complex in the Hennepin area of Putnam County, Illinois. The impact of the J&L installation is being explored by an interdisciplinary team of social scientists at the University of Illinois. The study project, known as the Rural Industrial Development Project, will investigate the impact of the installation in adjacent counties as well. The document includes an explanation of the theoretical framework of the study and 59 tables. (EJ)

BEFORE INDUSTRIALIZATION: A RURAL SOCIAL SYSTEM BASE STUDY

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INDUSTRIALIZATION AND URBANIZATION ARE FAMILIAR phenomena in American economic life. Usually, industrial and urban growth have developed around established population centers. The problems of adjustment in the rural-urban fringe areas have been studied by economists, sociologists, political scientists, city planners, and agriculturalists.[1]

A recent trend has been the location of industrial complexes in traditionally rural areas some distance from established urban-industrial centers. When the location of industrial plants in rural-agricultural areas occurs, it is often accompanied by sudden, rapid, and sometimes traumatic changes in the rural community. These changes, in part, result from the investment of new and massive amounts of capital, new employment opportunities, in-migration of new workers, and demands for new and more services. New values, attitudes, and patterns of behavior are introduced; the old social power structure is threatened and altered, traditional economic and established patterns of community life and employment are disrupted.

In the spring of 1965 Jones-Laughlin Steel Corporation (J&L) announced plans for the development of a major production complex in the Hennepin area of Putnam County, Illinois. Phase I of their building plan is now complete. The plant is in production with a payroll of approximately 600 in 1968. In addition to their own construction, Jones-Laughlin has purchased several thousand acres of adjoining land which it plans to lease to steel consumers for associated plant sites.

Putnam County, and the adjacent area, is primarily an agricultural region in north central Illinois. The influence of the plant will undoubtedly extend beyond Putnam County into the adjacent portions of Marshall, LaSalle, Bureau, and Stark counties. The emergence of a commercial-industrial complex (including development of transportation companies, material suppliers, commercial businesses, and service enterprises) to support the plant and its labor force would be expected in this area which has been essentially dependent upon agriculture and related industry.

Impact of the J&L installation is being studied by an interdisciplinary team of social scientists at the University of Illinois. The study project has become known as the Rural Industrial Development Project.

The anticipated development provides the project staff with an excellent opportunity for the study of a "natural experiment" in the processes and consequences of sudden industrialization. To take advantage of the opportunity, the Rural Industrial Development Project has instituted a longitudinal study. The Hennepin region is viewed as the "experimental region" and a portion of Iroquois County, Illinois, is being used as the "control region." The aim of this design is to overcome the limited scope of most community-change studies. The project allows the specialists in

[1] Thanks are given to Professor C. B. Baker and Assistant Professor J. C. van Es for their review of and helpful suggestions on this publication.

several social science disciplines to use their particular research skills, theoretical scheme, and sources of research funds in understanding the changes taking place. Even so, the overall conceptual scheme of the community as a functioning social system is sufficiently general to allow a collation and integration of the findings of specialized studies.

Perhaps it should be noted here that the selection of a portion of Iroquois County as the control community hinged on several factors. The staff wanted a community about equidistant from the major urban influence in the area, Chicago, with somewhat equivalent access to that urban area by major highway and railway arteries; a rural, agricultural community centered around a county seat town like Princeton in the experimental region; and an area with comparable population characteristics. Of several areas considered, the control region being utilized best fit the profile of desired characteristics.

The primary objective of this report is to provide an understanding of the existing basic systems before impact of industrialization. Background material will be provided for establishing existing trends and base lines from which changes in the systems can be viewed in years to come. The report will focus primarily on the economy of the area, although some data will also be presented on the ecological, demographic, governmental, and educational systems.

All data presented in this report have been gathered from secondary sources. In this respect, they may be viewed as an attempt to demonstrate the usefulness of secondary data in analyzing the social changes accompanying industrialization in rural areas in the United States.

One problem concerning the data utilized in the paper must be mentioned at this point. A great percentage of the data published in governmental and other statistical publications and reports is compiled only at the county level. The experimental area covers one county and parts of three others, while the control area covers only a portion of one county. Thus where it was unavoidable, data in this paper are gross county figures. At other points community or township data are available. Special care should be taken in comparing figures from different tables in the text to see that comparable units are being reported.

A secondary objective of this report is the application of the theoretical systems orientation to the material presented. It is anticipated that such an application may provide a focal point around which much of the later project reporting may revolve.

The theoretical framework is presented in the first section of the report. It is followed by sections on the demographic and ecological environments of the areas under consideration. A fourth section analyzes the economy of the areas. The fifth section attempts to provide some insights into the interrelationships between the economy and the governmental and educational sectors of the survey area. A brief summation is presented in the final section.

THEORETICAL ORIENTATION

Usually the choice of a theoretical framework for any social scientific study is complicated by the fact that there is some difficulty in agreeing on what the function and substance of theory ought to be. The researchers associated with the Rural Industrial Development Project are attempting to integrate the various parts of the study into a structural-functional theoretical framework.

The choice of theory seems particularly advantageous for three reasons:

First, the structural-functional orientation is well adapted to the need to establish relative integration of a number of studies being conducted from different social science discipline perspectives. This integrative function can be performed by structural-functional theory through the provision of a consistent, logical taxonomy which brings some semblance of order to the diverse and specialized investigations that will be developed within the project.

Second, the Rural Industrial Development Project was developed with the idea that the location of a huge industrial plant in a relatively rural area would lead to changes throughout the social and economic life of the area. Structural-functional theory is particularly well adapted to the tracing out of possible interrelationships between different segments of society through which changes would take place. For example, in this publication, the structural-functional theory is most helpful in sorting out the possible kinds of interrelationships between the economy and other segments of social life in the area.

Third, the taxonomy of structural functional theory is used in selecting and categorizing the secondary data available on different aspects of the area.

Though the status of structural-functional theory might be questionable in terms of the criteria for theory developed by propositional theorists such as Hans Zetterberg,[1] it is valid for an overall integrating theoretical model which will allow cross-disciplinary cooperation and which will admit a variety of data in an analysis of the social life of an area. The particular interpretation of the structural-functional position that forms the basis for this discussion is that of Irwin T. Sanders.[2]

Sanders' basic contention is that the sociologist should concentrate on the social relationships that become patterned in groups and social systems. He defines sociology, along with Alex Inkeles, as "the study of the structure and functioning of social systems — that is, relatively enduring systems of action shared by groups of people, large or small."[3]

[1] Hans L. Zetterberg. On Theory and Verification in Sociology. Bedminister Press. Totowa, N.J. 1965.

[2] Irwin T. Sanders. The Community: An Introduction to a Social System, 2nd ed. Ronald Press, New York. Copyright 1966.

[3] *Ibid.*, p. 19.

With attention focused on social relationships and interactions, the demographic, ecological, cultural, and personality factors become part of the environment in which the social system operates. Time would also constitute part of this environment. Comprehensive study of any social system thus would entail an analysis of the relationships of the system with its environment as the latter continually changes and forces new adaptive responses within the system and as the system itself seeks to modify its environment to attain its ends more successfully.

This last statement is not meant to reify the social system in relation to its environment. The interaction between the two takes place through myriads of separate decisions and actions as individuals make decisions about proper ways to relate to environmental factors in the context of their social setting. The next section of this report describes the recent history and present condition of the environment of the two areas under consideration. In that section, the kinds of interrelationships that develop between the social system and its environments should become more apparent.

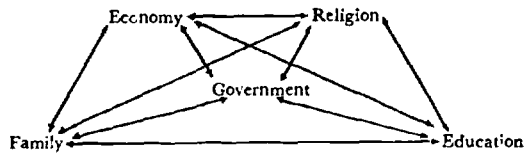
The identification of any particular geographical area as a social system assumes that there is some kind of interdependence of the social units in that area. These units may be linked indirectly through long sequences of action and reaction, but they are linked, and change in one unit ultimately means change in the others. There is a sort of "moving equilibrium" of units. The identification of the forms of interdependence between the units is a vital part of the work of any analyst operating with a structural-functional theory. "Insight into ways in which the units or components are fitted together in the performance of their activities gives us a picture of community structure."[1]

Sanders speaks of the mapping of social structures through the identification of significant system components and their interaction.[2] His general organization of the components of a community system is reproduced in Figure 1. This kind of organization provides a helpful taxonomy of the data that the Project will generate.

An obvious problem exists when it is proposed that the area being studied in the Project be treated as a "social system." It is apparent, for example, that the area around Hennepin does not constitute a "system" in the same sense in which small communities or even single urban areas may constitute a system. Certainly the area is not the kind of entity Sanders has in mind when he describes the community as a social system. The application of his "community system" model to an area that includes a number of small rural communities, several former mining communities, and a few urbanized industrial areas thus may be considered somewhat problematical.

[1] *Ibid.*, p. 20.
[2] *Ibid.*, p. 21.

COMMUNITY SYSTEM



Major System (Institutionalized unit meeting basic human needs)	Family	Economy	Government	Religion	Education and Public Information
Subsystem (Widespread social network)		Transportation Banking Industry Commerce Agriculture Medicine Organized labor	Political Party Officialdom	Various religious bodies	School Press Radio and TV
Social Grouping (Categories of people with common characteristics)	Parents with preschool children	Cotton-growing farmers Homeowners	Aliens	Churchgoers	University graduates
Social Group (3 or more people in social contact)	The household	A hospital staff A construction crew Members of a law firm	Local League of Women Voters	Ministerial association	Members of adult education course
Social Relationships (2 people or units in social contract)	Parent-child	Merchant-consumer	Official-citizen	Clergyman-member	Teacher-pupil
The Person (as a type)	Parent	Consumer	Citizen	Member or adherent	Teacher

Taken from Irwin T. Sanders, The Community — An Introduction to a Social System, Second Edition, Copyright © 1966, The Ronald Press Company, New York, N.Y. (Fig. 1)

What is being analyzed in the experimental area is a number of small community systems which happen to lie in close physical proximity to one another. They can be analytically considered a system in that they are close enough to the J&L industrial establishment to be vitally affected and changed by its presence. In this sense they are interdependent and probably will become more so as the Illinois River Valley becomes industrialized. It is in this sense that the experimental area may be said to constitute a social system. Analyzing responses of one component of the system to changes in another will demand that one remain sensitive to the problem of the existence of many small subsystems within the social system in a physical sense as well as in a structural sense.

Thus it can be argued that the social system model is a viable one for use in this project. The same kinds of components are to be found in the "system" being considered here as are to be found in a small community. The identification of these components and their interrelationships will, of course, be more complex.

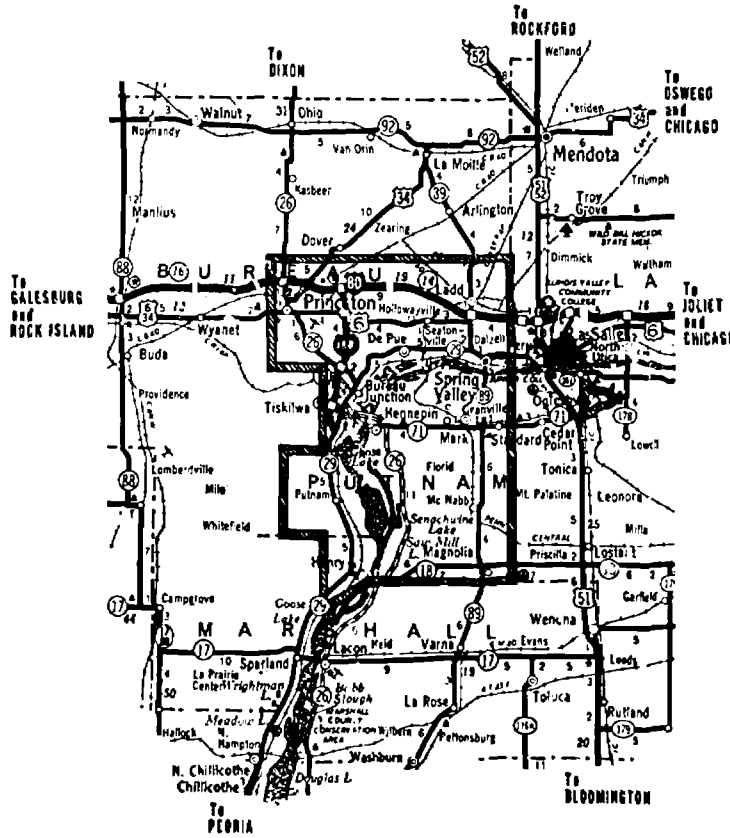
This publication deals primarily with the economic system where, it is hypothesized, major effects of the J&L plant will occur. Data describing the trends and present conditions of the economic system and its sectors (subsystems) are presented in a later section. Also in a following section the education and government systems are described with some attempt to trace the interrelations between them and the economic system.

Sanders' kind of theoretical approach is not to be taken as a static system model. Sanders remains aware that certain sets of activities must be undertaken in order for the system to survive as a viable entity and that, indeed, the identity of the system is constantly in flux. Activities by which the system maintains some viability are called "operations." Thus the full study of any social system necessarily entails the examination of such dynamic processes as recruitment of members, socialization, communication, differentiation and status allocation, allocation of resources, allocation of goods and services, social control, allocation of prestige, allocation of power, social mobility, and integration.[1] As these processes unfold there is a continual potential for competition, conflict, and even dissolution.

Although this publication will not consider these operations as such, it should be apparent that changes in the economic system will result from the building of the steel plant and that such changes, in turn, will have multiple effects in the kinds and number of operations through which the major systems are integrated and maintained.

A final note of caution about the use of a systems model in the present context must be introduced. There are obvious difficulties in applying such a model to a "system" for which the boundaries have been artificially determined by the probable extent of influence of a particular instance of economic change and which includes a number of

[1] *Ibid.*, pp. 37-38.



The experimental area. (Fig. 2)

individual community social systems not naturally bound together at the present time. There is the further difficulty, however, of the haziness of boundaries between the area being considered as a system here and the larger society in which it is found. One must always be aware that the observed patterns may result from change in contiguous systems in the larger society, as well as from sources internal to the social system under analysis. For example, there is always the possibility of fluctuation in the national economic system affecting the local economy.

Therefore, caution is necessary in the empirical implementation of the structural-functional theory. But this is always true when a theoretical model is assumed as a guide to the empirical world. Among the various theoretical models available for use as a guide, Sanders' interpretation of structural-functional theory seems most efficacious for this research project.

ECOLOGICAL FACTORS

Describing the ecological character of a social system environment involves the analysis of three sorts of processes: (1) the settlement pattern of the area in which the system exists, (2) the competition for space within the area in which the system exists, and (3) the establishment of the boundaries of the system.[1]

The "Experimental" Area

(1) The settlement pattern. The Hennepin area is located in north central Illinois, about 100 miles southwest of Chicago. The "experimental" area encompasses portions of four counties: Bureau, LaSalle, Marshall, and Putnam (Fig. 2). The site for the Jones-Laughlin Steel Company plant lies just northeast of and contiguous to the village of Hennepin in Putnam County.

The most dominant geographical feature in the development of the area has been the Illinois River. Transportation and communication networks have tended to cluster around the river and have given the settlement pattern of the area much of its character.

The river has furnished transportation between Chicago and St. Louis and points beyond, and the settlement of people along its banks has led to the development of both highways and railroads through the region. This transportation system and the settlement pattern along the river, along with the presence of some significant mineral resources, has led to the establishment of a number of mining and transportation points along the river, such as Henry, Putnam, Hennepin, Bureau, Depue, and Spring Valley. The now nonfunctional Illinois and Mississippi Canal joins the Illinois River a short distance north of Hennepin. Just east of the experimental area lie the more industrial towns of LaSalle, Oglesby, and Peru. A portion of Oglesby is included in the experimental area. The river was an important factor in the founding of these communities.

[1] *Ibid.*, p. 57.

The other communities in the experimental area seem to have developed initially as mining and then as farm service communities (Magnolia, McNabb, Mark, Granville, Standard, Seatonville, and Ladd). Princeton developed mainly as a town of landowners and a farm service center.

In addition to the natural advantages of the river, the railroads linking the area with Chicago, Peoria, and Rock Island-Davenport are good. The Chicago, Rock Island, and Pacific Railroad follows the Illinois River eastward to Chicago and southward to Peoria. The same road extends westward to Rock Island and Davenport.

Several important U.S. highways and state highways cut through the region, providing good trucking links with most of the state. U.S. Interstate Highway 80 to Chicago and Rock Island lies just north of the experimental area.

(2) Competition for space. Coal mining in the experimental area was confined to shaft mining and therefore was never highly competitive for space as strip mining has been in other areas of the state. Coal mining became unprofitable and there is now no shaft mining. A number of gravel pits in the area are profitable, especially with the expansion of highway construction in the immediate area. The gravel is mainly terrace gravel along the Illinois River.

The St. Peter's sandstone layer outcrops on the north side of the Illinois River at points just east of the experimental area. Several important sand mines in the St. Peter's sandstone layer provide silica sand for the glass industry. Just above the sandstone is a special type of shale clay which is strip-mined and used in the manufacture of two specialized products: fire brick for steel furnaces and an expanded lightweight aggregate to replace gravel in concrete where weight is a problem.

South of the river, on the east edge of the study area, also overlaying the St. Peter's sandstone, is a layer of limestone that is strip-mined for the manufacture of cement.

Most of the flat upland that begins two to three miles back from the river is highly productive agricultural land. This soil is mainly deep loess over Wisconsin calcareous till. Most of the soil is of the Muscatine-Tama series and other soils of the same catena. These soil types are considered by most agronomists to be the best for corn and soybean production in the state. Up to this time there has been considerable effort by farmers to gain control of this upland area either by ownership or by rental. There are also some very highly productive alluvial soils, owned by the Hennepin high school south of Hennepin on the east side of the river, which are highly sought after by the farmers in the community.

With increasing population in the region, recreational development could become more important because of the availability of natural resources. There is now a considerable amount of almost unused land in scrub timber, hills, ravines, and overflow land. This land is contiguous with the Illinois River and follows along the river on both sides. Several sportsmen's clubs own tracts of overflow land and some open water south of Hennepin where there are several small, shallow lakes on the west side

of the main river channel. These are found mainly in Senachwine Township. Ducks are the main game of interest to sportsmen in the river bottom area. Pheasants are important game birds in the upland area.

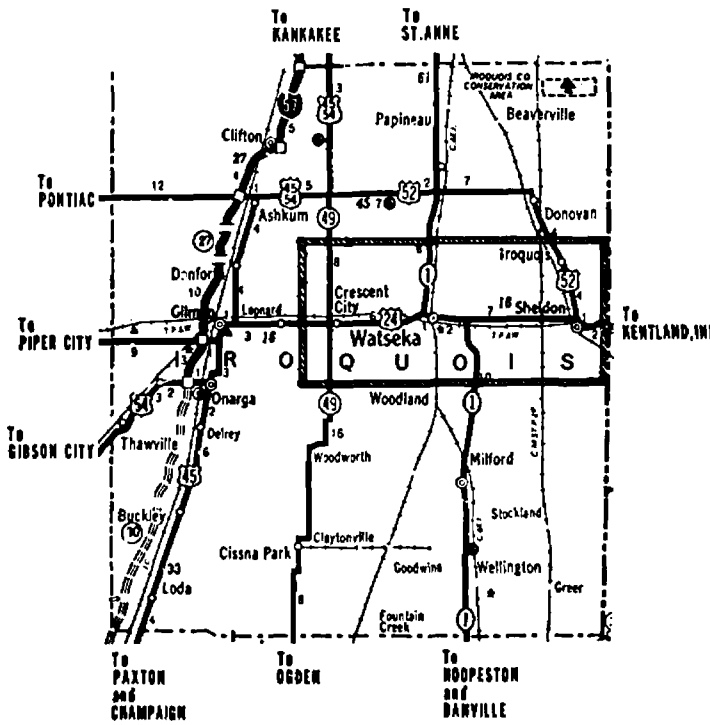
Residential and commercial development are not seen as being highly competitive with agricultural land use in the area. Competition for space for residential or other construction development has never been a problem for two reasons: residential and commercial construction have higher value priorities than any of the other previous or current uses of space in the area, and there has been substantial out-migration from the area. Even with an increase in such development, there appears to be ample nonagricultural land (hills and timber terrain) that is more desirable for this use than open farmland for at least the near future. Competition for residential and commercial space is most likely to develop in some locations because of transportation patterns. The desire to be near certain highways or railroads puts much greater restriction on space available for commercial development. However, until the site purchase by J&L, there was little space competition for residential or commercial development.

(3) Establishment of boundaries. This problem was mentioned in the preceding section and need not be considered at length here. However, three important considerations were: (1) the river, (2) the highway system, and (3) existing political units. An extended industrial complex may develop along the river, stretching from Oglesby to Hennepin and further south to Henry, in the not too distant future. Such a complex would tend to draw people from the surrounding rural areas and small towns for employment, service facilities, and so forth, and would unite the area into a more viable system. This development would surely be influenced by available commuting routes. Thus, existing highway routes were considered in locating boundaries for the study area. To permit maximum use of secondary source data, township boundaries were used to delineate the area.

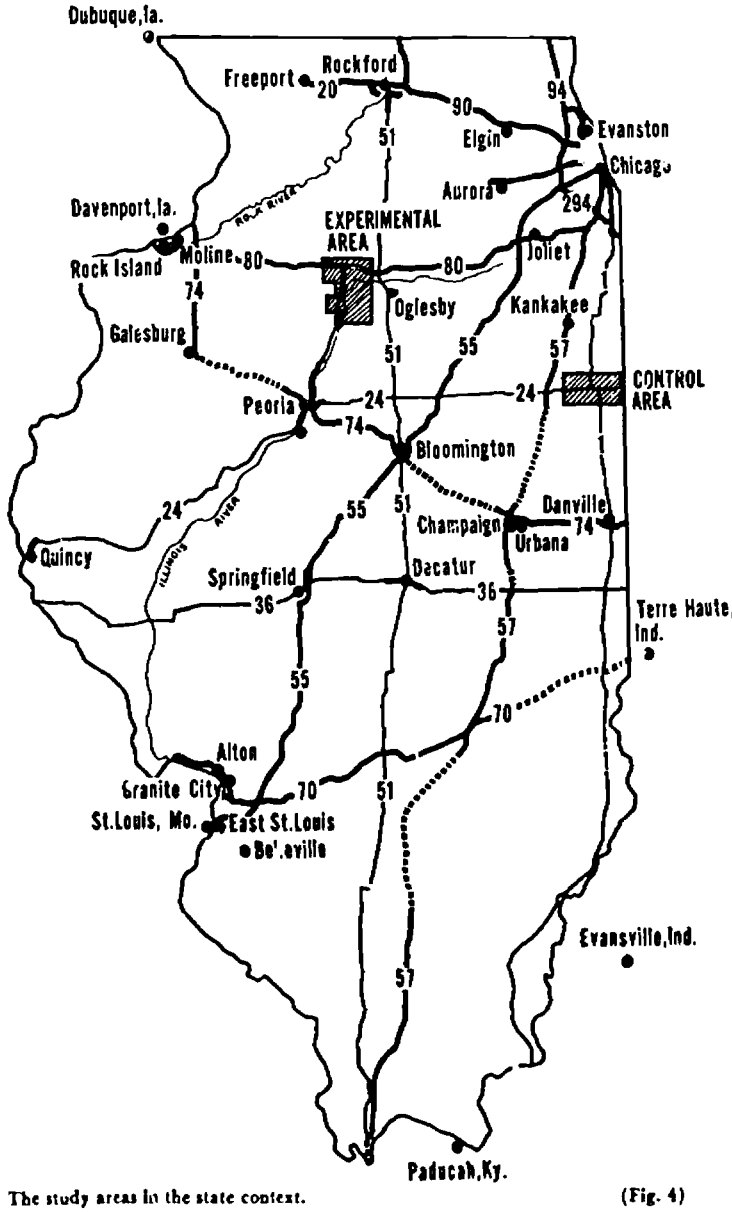
The "Control" Area

(1) The settlement pattern. An ecological description of the "control" area in Iroquois County cannot center on anything as dramatic as the Illinois River in the experimental area. The dominant community in the control area is Watseka, the county seat. It lies close to the confluence of Sugar Creek and the Iroquois River (neither river is navigable) and at the intersection of two railroads, the Chicago and Eastern running north and south and the T&W running east and west. It also lies at the junction of the two major highways in the area, U.S. 24 and Illinois 1. Thus a blend of early natural and developed transportation and communication networks tends to place Watseka in a dominant position in the area. It has developed naturally as a service community to the comparably rich farming area around it (Fig. 3 and 4).

(2) Competition for space. Space competition in the control area around Watseka has been limited almost entirely to agriculture and the



The control area. (Fig. 3)



The study areas in the state context. (Fig. 4)

support needed by agriculture. The area is essentially flat prairie soil that is a light loess covering over relatively heavy Wisconsin till. With proper management the soils are highly productive for corn and soybeans, but not as highly productive as the upland soils in the experimental area. There is a small amount of light industry in Watseka, but thus far there has been practically no difficulty in getting land at reasonable prices for either residential or commercial development. The control area has also been one where out-migration has been the rule.

(3) Establishment of boundaries. Six townships surrounding the county seat, Watseka, were selected for inclusion. Several considerations led to this choice. The townships formed something of a natural system since they contained primarily farmland dependent on Watseka as a service center. Further, it was desirable to have an area with demographic and economic characteristics comparable to the experimental area prior to industrialization. Also, it was thought that the control area should include a county seat town and that the two areas should be located equally distant from Chicago.

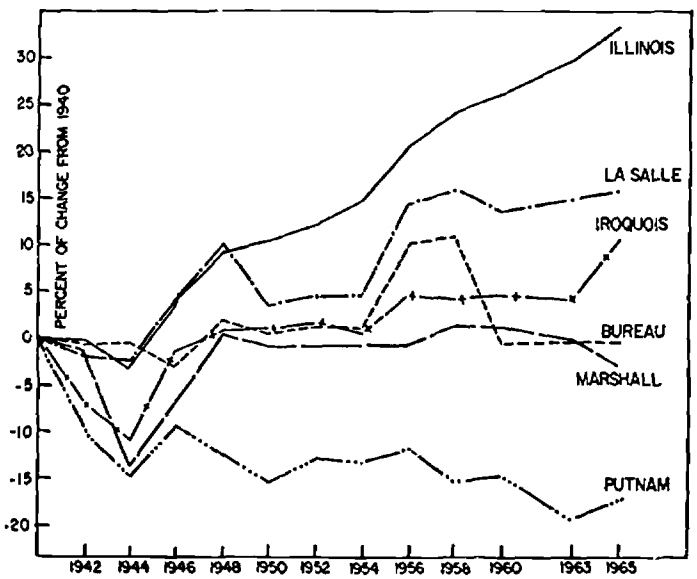
DEMOGRAPHIC ENVIRONMENT

The demographic characteristics of the areas under investigation are easily traced through secondary sources. The growth or decline of the population in the experimental and control areas is portrayed in Tables 1, 2, and 3. Of the counties with portions in the experimental area, only LaSalle has shown any significant increase in population since 1940 (Table 1). Its growth has been steady if not spectacular and probably reflects the dominance in the county of the urban area of LaSalle-Oglesby-Peru. On the other hand, Putnam County shows the greatest decline in population; a decline that occurred mainly in the middle 1940's, but that continued in abated form to 1965 (Fig. 5).

The fluctuations of population within the counties has not been evenly spread (Table 2). In Bureau County, Princeton Township and the city of Princeton (Tables 2 and 3) have shown a definite divergence from the county growth pattern, maintaining a rate of growth closer to that of the state. In Leepertown and Selby townships and in Bureau, Depue, Hollowayville, and Seatonville, the decline in population has been dramatic. Princeton's development as a county seat and a farm service community and its attraction as a good transportation base in mid-Illinois probably explain its variation from the rest of the county.

In LaSalle County the county growth figure of 15.7 percent since 1940 is most misleading for the portion of the county in the experimental area. LaSalle Township lost population in the period while Peru gained. LaSalle itself had a considerable loss of population, while Oglesby had moderate gains, and Peru significant population gains.

The portion of Marshall County in the study area has shown considerably more growth than the county as a whole because of the influence of Henry Township.



Population trends by county and state. (Data for the following townships are included: Bureau County — Hall, Leepertown, Princeton, and Selby townships; LaSalle County — LaSalle and Peru townships; Marshall County — Henry Township; Putnam County — all townships; and Iroquois County — Belmont, Concord, Crescent, Iroquois, Middleport, and Sheldon townships.) (Fig. 5)

In Putnam County all townships have shown loss of population with the greatest loss coming in Magnolia and Senachwine townships in the southern portion of the county. On the community level (Table 3), Magnolia, Mark, and Standard have shown the most population losses, while Granville and Hennepin have come close to maintaining their population in the sixties after showing losses in the fifties.

In the control area in Iroquois County, there is the same kind of inner-county variation in population change. The county as a whole has shown steady growth, except for a few years in the early fifties. However, the more rural townships of Concord and Iroquois have shown population losses. The most significant population growth has occurred in the Watseka area and around Crescent City. On the whole then the county seems to portray the typical rural pattern in population change in recent decades — a slow move from the more rural areas to the more important farm service communities along with a slow decline or bare maintenance of the smaller service communities. Only Watseka has kept pace with state increases for the last two decades.

Table 1. — Population in Study Counties and State, 1940, 1950, 1960, and 1965, With Percent of Increase, 1940 to 1965[a]

	1940	1950	1960	1965[b]	Percent of increase 1940-1965
Experimental area					
Bureau	37,600	37,711	37,594	37,000	− 1.6
LaSalle	97,801	100,610	110,800	113,200	15.7
Marshall	13,179	13,025	13,334	12,800	− 2.9
Putnam	5,289	4,746	4,570	4,400	−16.8
Totals	153,869	156,092	166,298	167,400	8.8
Control area					
Iroquois	32,496	32,348	33,562	35,500	9.2
Illinois	7,897,000	8,721,000	10,081,000	10,650,000	34.9

[a] Source: U.S. Bureau of the Census.
[b] Source: Illinois, Vital Statistics.

Table 2. — Population in Study Areas, Townships and State, 1940, 1950, and 1960, With Percent of Increase, 1940 to 1960

	1940	1950	1960	Percent of increase 1940-1960
Experimental area				
Bureau County				
Hall	7,763	7,810	8,086	4.2
Leepertown	569	559	468	−17.8
Princeton	6,181	6,720	7,474	20.9
Shelby	3,051	2,884	2,583	−15.3
LaSalle County				
LaSalle	17,792	17,205	17,185	− 3.4
Peru	9,296	9,003	10,845	16.7
Marshall County				
Henry	2,145	2,204	2,523	17.6
Putnam County				
Granville	2,536	2,339	2,345	− 7.5
Hennepin	957	829	869	− 9.2
Magnolia	1,312	1,187	1,050	−20.0
Senachwine	484	391	306	−36.8
Totals	52,086	51,131	53,734	3.2
Control area				
Iroquois County				
Belmont	1,738	1,790	2,262	30.1
Concord	813	727	741	− 8.9
Crescent	817	771	844	3.3
Iroquois	686	651	640	− 6.7
Middleport	3,637	3,964	4,505	23.9
Sheldon	1,610	1,669	1,648	2.4
Totals	9,301	9,572	10,640	14.4
Illinois	7,897,000	8,712,000	10,081,000	27.7

Source: U.S. Bureau of the Census.

Table 3. — Population in Incorporated Places and Unincorporated Places of 1,000 or More in the Study Areas, 1940, 1950, and 1960, With Percent of Increase, 1940 to 1960

	1940	1950	1960	Percent of increase 1940-1960
Experimental area				
Bureau County				
Bureau Junction	483	480	401	−17.0
Dalzell	496	543	496	0.0
Depue	2,296	2,163	1,920	−16.4
Hollowayville	112	89	96	−14.3
Ladd	1,156	1,224	1,255	8.6
Princeton	5,224	5,765	6,250	19.6
Seatonville	415	405	363	−12.5
Spring Valley	5,010	4,916	5,371	7.2
LaSalle County				
LaSalle	12,812	12,083	11,897	− 7.1
Oglesby	3,938	3,922	4,215	7.0
Peru	8,983	8,653	10,460	16.4
Marshall County				
Henry	1,877	1,966	2,278	21.4
Putnam County				
Granville	1,036	978	1,048	1.0
Hennepin	396	312	391	− 1.3
McNabb	...	...	176	...
Magnolia	329	285	245	−25.5
Mark	529	449	445	−15.9
Standard	334	290	282	−15.6
Totals	45,428	44,523	47,589	4.8
Control area				
Iroquois County				
Crescent	332	324	393	18.4
Iroquois	242	232	231	− 4.5
Sheldon	1,036	1,114	1,137	9.7
Watseka	3,744	4,285	5,219	39.4
Woodland	334	334	344	3.0
Totals	5,668	6,239	7,324	28.8
Illinois	7,897,000	8,712,000	10,081,600	27.7

Source: U.S. Bureau of the Census.

LaSalle County has shown the greatest increase in population of any of the counties considered here, although its growth has been only about half that of the state as a whole. The only county that has a significant loss of population is Putnam, although the trend there seems to have been arrested in the early 1960's.

Population changes seem to result mainly from migration and not from radical changes in birth and death rates (Table 4). There seem to be higher death rates and lower birth rates in the experimental area than in the state as a whole. In the control area the death rates have tended to fall closer to the state level, while birth rates have remained below the state level.

Table 4. — Births and Deaths per 1,000 Population, Number and Rates, by County and State for 1950, 1955, 1960, 1965

	1950		1955		1960		1965	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bureau								
Births	700	18.7	801	20.8	474	19.9	468	17.5
Deaths	426	11.3	440	11.6	475	11.0	497	13.4
LaSalle								
Births	2,356	23.1	2,509	24.1	3,554	23.1	1,951	17.2
Deaths	1,138	11.3	1,168	11.3	1,218	11.0	1,175	10.4
Marshall								
Births	275	21.1	292	20.9	266	18.9	215	16.8
Deaths	145	11.1	139	10.7	170	12.7	140	10.9
Putnam								
Births	95	21.1	119	26.4	86	18.8	89	20.2
Deaths	60	12.6	56	11.7	56	12.2	61	13.9
Iroquois								
Births	692	21.3	668	19.9	688	20.5	577	17.3
Deaths	333	10.2	355	10.3	331	9.9	351	10.5
Illinois (000)								
Births	190	21.7	221	23.6	239	23.7	208	19.5
Deaths	92	10.6	96	10.1	103	10.2	108	10.2

Source: Illinois, Vital Statistics.

Part of the explanation of this pattern in growth rates is explained by the population composition of the areas in question. When the composition of the population by counties by sex and age in 1960 is compared with that of 1940, several trends are apparent. All of the counties in the experimental area show an aging of the population in the two decades. A greater proportion of the population was above the age of 55 in 1960 than in 1940. An increase in the proportion of the population between ages 1 and 14 is also noticeable. However, the population between ages 15 and 34 has shown considerable decline, with males showing more loss than females. Thus, the lament of rural people in general would seem to be realistic here — that they are losing their young people to other areas. Once they are out of high school, the males especially seem to move. The change in rural population composition has been more dramatic than for the total county populations.

Iroquois County has shown the same general change in population composition in the 20-year period, though not in the same degree as the counties in the experimental area.

The state as a whole has shown the most marked increase in population between ages 1 and 14 and above 55. In contrast to the pattern in the experimental area, the population also has increased at all other age levels, except for the 15-to-24 age category, which has declined slightly.

A final kind of demographic characteristic that should be considered is the occupational distribution of the population. The best estimate of

this distribution in Illinois is to be found in the U.S. Census data. The occupational and industry classifications of employed persons for the counties under consideration are reproduced for the years 1940, 1950, and 1960 in Tables 5 and 6.

The decline of people employed in agriculture is the most striking trend. It is clear that agriculture *as a source of employment* was considerably less important in 1960 than it was in 1940. In Bureau, Marshall, and Putnam counties, the number of people employed in this sector of the economy declined between 1940 and 1960 from close to half to about a fourth of employed persons. The same kind of decline is to be noted in Iroquois County. In LaSalle County, where manufacturing accounted for a higher proportion of employment to begin with, a similar decline in the proportion of people in agriculture occurred. Not only is the proportion of the total labor force in agriculture declining, the absolute number of people finding employment in agriculture also is declining.

Manufacturing has shown the greatest increase as a source of employment. Mining and transportation industries have shown a slight decline in the proportion employed, while construction industries have shown some small increases in all the counties. The proportion employed in public administration has not increased markedly over the years in Bureau, Iroquois, and Marshall counties and has declined in LaSalle and Putnam counties.

All the counties except LaSalle differ radically from the state in terms of the high proportion of people still employed in agriculture and the relatively low number employed in manufacturing. However, the discrepancy between state and county totals is decreasing most rapidly in the manufacturing category.

A look at the population distribution in occupational categories adds more perspective. The trend is for the proportion of professional and semi-professional personnel to be increasing in all the counties although only in Putnam County does the proportion in 1960 approximate that of the state as a whole.

Clerical and sales personnel proportions increased considerably everywhere in the study area except in Putnam County. This proportion decreased somewhat in the state totals. Although service personnel constitute a smaller proportion of the employed people in the state as a whole than in the study areas, these employees have increased slightly in all the counties being considered. The proportion of proprietors, managers, and officials is less in all locations. The proportion of craftsmen, foremen, and kindred workers is up in all the counties, except LaSalle. Operators and kindred constitute a smaller proportion of the total in Illinois than in the study areas. Bureau, Putnam, and Iroquois counties show a large increase in this category. In LaSalle County the proportion of operators and kindred workers increased in the decade from 1941 to 1950, but remained about the same in the more recent decade.

The number of farmers and farm managers, as well as farm laborers and foremen, has decreased radically in all the counties. The proportion

Table 5 — Employed Persons and Percent of Total in Selected Industry Groups by County, 1940, 1950, and 1960, With Change in Percent, 1940 to 1960

	1940		1950		1960		Change in percent, 1940-1960
	Number	Percent of total	Number	Percent of total	Number	Percent of total	
Bureau County							
Total	12,460		14,154		13,914		
Agriculture	4,715	37.8	4,066	28.7	3,170	22.8	−15.0
Mining	375	3.0	85	.6	62	.4	− 2.6
Construction	542	4.3	916	6.5	806	5.8	+ 1.5
Manufacturing	1,557	12.5	2,724	19.2	3,197	23.0	+10.5
Transportation	538	4.3	653	4.6	575	4.1	− .2
Public administration	NR*	NR	131	.9	121	.9	...
LaSalle County							
Total	33,478		40,221		41,099		
Agriculture	6,012	18.0	5,038	12.5	3,718	9.0	− 9.0
Mining	786	2.3	512	1.3	574	1.4	− .9
Construction	1,319	3.9	2,001	5.0	1,933	4.7	+ .8
Manufacturing	10,805	32.3	15,159	37.7	16,074	39.1	+ 6.8
Transportation	1,368	4.1	1,618	4.0	1,351	3.3	− .8
Public administration	NR	NR	822	2.0	1,092	2.7	...
Marshall County							
Total	4,544		4,973		4,814		
Agriculture	1,858	40.9	1,607	32.3	1,227	25.5	−15.4
Mining	69	1.5	46	.9	12	.2	− 1.3
Construction	174	3.8	285	5.7	205	4.3	+ .5
Manufacturing	596	13.1	882	17.7	1,100	22.8	+ 9.7
Transportation	182	4.0	213	4.3	177	3.7	− .3
Public administration	NR	NR	111	2.2	132	2.7	...
Putnam County							
Total	1,491		1,727		1,663		
Agriculture	752	50.4	674	39.0	453	27.2	−22.8
Mining	53	3.6	8	.5	...	.0	− 3.6
Construction	79	5.3	76	4.4	75	4.5	− .8
Manufacturing	74	5.0	311	18.0	420	25.3	+20.3
Transportation	46	3.1	64	3.7	114	6.9	+ 3.8
Public administration	NR	NR	49	2.8	36	2.2	...
Iroquois County							
Total	11,068		11,734		12,835		
Agriculture	5,393	48.7	4,672	39.8	3,318	25.9	−22.8
Mining	4	.0	...	.0	...	.0	...
Construction	599	5.4	771	6.6	658	5.1	− .3
Manufacturing	554	5.0	1,280	10.9	2,685	20.9	+15.9
Transportation	445	4.0	571	4.9	501	3.9	− .1
Public administration	NR	NR	313	2.7	409	3.2	...
Illinois (000)							
Total	2,874		3,546		3,899		
Agriculture	284	9.9	251	7.1	171	4.4	− 5.5
Mining	49	1.7	44	1.2	22	.6	− 1.1
Construction	117	4.1	174	4.9	190	4.9	+ .8
Manufacturing	821	28.6	1,136	32.0	1,241	31.8	+ 3.2
Transportation	186	6.6	239	6.7	209	5.3	− 1.3
Public administration	NR	NR	133	3.8	153	3.9	...

Source: U.S. Bureau of the Census.
* NR means the data were not reported in the census.

Table 6. — Occupational Group of Employed Persons and Percent of Total for Counties and State, 1940, 1950, and 1960, With Change in Percent, 1940 to 1960

	1940		1950		1960		Change in percent, 1940-1960
	Number	Percent of total	Number	Percent of total	Number	Percent of total	
Bureau County							
Professional and semi-professional	805	3.8	941	6.6	1,123	8.1	+ 4.3
Clerical and sales	1,203	6.8	1,709	12.1	1,983	14.3	+ 7.5
Service (except domestic)	578	3.0	864	6.1	1,166	8.4	+ 5.4
Proprietors, managers, and officials	1,118	9.6	1,106	7.8	950	6.8	− 2.8
Craftsmen, foremen, and kindred	960	9.2	1,660	11.7	1,711	12.3	+ 3.1
Operators and kindred	1,561	12.7	2,406	17.0	2,532	18.2	+ 5.5
Laborers, except farm	1,018	9.1	947	6.7	724	5.2	− 3.9
Farmers and farm managers	2,982	28.8	2,913	20.6	2,419	17.4	−11.4
Farm laborers (wage) and foremen	1,279	12.4	866	6.1	662	4.8	− 7.6
Others[a]	956	4.5	742	5.2	644	4.6	+ .1
Total[b]	12,460	99.9	14,154	99.9	13,914	100.1	...
LaSalle County							
Professional and semi-professional	2,300	6.9	2,657	6.6	3,542	8.9	+ 1.9
Clerical and sales	4,805	14.4	6,220	15.5	7,227	18.0	+ 3.6
Service (except domestic)	2,103	6.3	2,749	6.8	3,404	8.5	+ 2.2
Proprietors, managers, and officials	2,902	8.7	3,210	8.0	2,681	6.7	− 2.0
Craftsmen, foremen, and kindred	3,559	10.6	5,781	14.4	6,091	15.1	− 3.9
Operators and kindred	7,278	21.7	10,311	25.6	10,365	25.8	+ 4.1
Laborers, except farm	3,281	9.8	3,229	8.0	2,447	6.1	− 3.7
Farmers and farm managers	3,928	11.7	3,799	9.4	2,869	7.1	− 4.6
Farm laborers (wage) and foremen	1,397	4.2	921	2.3	716	1.8	− 2.4
Others[a]	1,929	5.8	1,344	3.3	781	2.0	− 3.8
Total	33,482	100.1	40,221	99.9	40,123	100.0	...
Marshall County							
Professional and semi-professional	279	6.1	278	5.6	401	8.3	+ 2.2
Clerical and sales	385	8.5	582	11.7	716	14.9	+ 6.4
Service (except domestic)	190	4.2	296	6.0	345	7.2	+ 3.0
Proprietors, managers, and officials	389	8.6	368	7.4	280	5.8	− 2.8
Craftsmen, foremen, and kindred	334	7.3	536	10.8	452	9.4	...
Operators and kindred	651	14.3	870	17.5	889	18.5	+ .1
Laborers, except farm	255	5.6	271	5.4	236	4.9	− .7
Farmers and farm managers	1,211	26.7	1,157	23.3	917	19.0	− 7.7
Farm laborers (wage) and foremen	402	8.8	335	6.7	286	5.9	− 2.9
Others[a]	443	9.7	280	5.6	292	6.1	− 3.6
Total	4,539	99.8	4,973	100.9	4,814	100.0	...

Table 6. — Occupational Group of Employed Persons and Percent of Total for Counties and State, 1940, 1950, and 1960, With Change in Percent, 1940 to 1960 (concluded)

	1940		1950		1960		Change in percent, 1940-1960
	Number	Percent of total	Number	Percent of total	Number	Percent of total	
Putnam County							
Professional and semi-professional	100	6.7	85	4.9	174	10.5	+ 3.8
Clerical and sales	82	5.5	149	8.6	146	8.8	+ 3.3
Service (except domestic)	58	3.9	86	5.0	135	8.1	+ 4.2
Proprietors, managers, and officials	149	10.0	163	9.4	97	5.8	− 4.2
Craftsmen, foremen, and kindred	73	4.9	131	7.6	153	9.2	+ 4.3
Operators and kindred	152	10.2	256	14.8	384	23.1	+12.9
Laborers, except farm	74	5.0	140	8.1	102	6.1	+ 1.1
Farmers and farm managers	477	32.0	491	28.4	315	18.9	−13.1
Farm laborers (wage) and foremen	182	12.2	136	7.9	111	6.7	− 5.5
Others[a]	144	9.7	90	5.2	46	2.8	− 6.9
Total	1,491	100.1	1,727	99.9	1,663	100.0	...
Iroquois County							
Professional and semi-professional	689	6.2	641	5.5	918	7.2	+ 1.0
Clerical and sales	912	8.2	1,277	10.9	1,971	15.4	+ 7.2
Service (except domestic)	538	4.9	678	5.8	1,098	8.6	+ 3.7
Proprietors, managers, and officials	851	7.7	878	7.5	769	6.0	− 1.7
Craftsmen, foremen, and kindred	749	6.8	1,134	9.7	1,337	10.4	+ 3.6
Operators and kindred	768	6.9	1,461	12.5	2,198	17.1	+10.2
Laborers, except farm	690	6.2	629	5.4	666	5.2	− 1.0
Farmers and farm managers	3,577	32.3	3,413	29.1	2,541	19.8	−12.5
Farm laborers (wage) and foremen	1,148	10.4	920	7.8	643	5.0	− 5.4
Others[a]	1,146	10.4	703	6.0	694	5.4	− 5.0
Total	11,068	100.0	11,734	100.2	12,835	100.1	...
Illinois (000)							
Professional and semi-professional	223	7.8	318	9.0	417	10.7	+ 2.9
Clerical and sales	621	21.6	799	22.5	931	23.9	+ 2.3
Service (except domestic)	255	8.9	293	8.3	329	8.4	− .5
Proprietors, managers, and officials	248	8.6	315	8.9	302	7.7	− .9
Craftsmen, foremen, and kindred	374	13.0	529	14.9	547	14.0	+ 1.0
Operators and kindred	572	19.9	748	21.1	735	18.8	− 1.1
Laborers, except farm	186	6.5	201	5.7	171	4.4	− 2.1
Farmers and farm managers	187	6.5	173	4.9	122	3.1	− 3.4
Farm laborers (wage) and foremen	65	2.2	51	1.4	40	1.0	− 1.2
Others[a]	144	5.0	119	3.3	303	7.8	+ 2.8
Total	2,875	100.0	3,546	100.0	3,897	99.8	...

Source: U.S. Bureau of the Census.
[a] "Others" includes domestic service, unpaid family farm laborers, and not reported.
[b] Total percent not equal to 100 percent because of rounding error.

of nonfarm laborers is down about a third, except in Bureau County where their proportion has increased.

The trends in terms of the total number employed are about the same for three counties, Bureau, Putnam, and Marshall. In these three counties the total number employed increased in 1941 to 1950, but decreased in 1951 to 1960. In LaSalle the trend has been a small continuous climb in the number employed. In Iroquois the same upward trend is noted. None of the counties approached the kind of increase in number employed that the state as a whole was experiencing during the 20-year period.

In summation, the ecological environment of the experimental area has been influenced greatly by the Illinois River. Though most land on either side of the river is still used for farming, power and transportation facilities have developed naturally, drawing some industry to the river valley. These facilities seem destined to draw much more industry. Certainly, J&L's decision to locate near Hennepin cannot be explained without consideration of the ecological environment.

The ecological environment of the control area is still dominated by agriculture, although some industry has located in and near Watseka. Primarily, the area remains a prosperous farm county with a well-located county seat and service area.

A declining rural population and slow growth in more industrialized areas characterize the demographic environment of the experimental area. The population is generally aging with the process more accentuated in the rural areas. The proportion employed in farming and mining has declined rapidly in the last two decades, with people in manufacturing, professional and semi-professional, and clerical and sales occupations growing rapidly in numbers.

The demographic environment of the control area shows many of the same characteristics except that, because of the prosperity of Watseka, it has shown significant population growth during the last two and a half decades. The population is not aging as rapidly as in the experimental area.

The environmental setting can now be related to the economic system.

THE ECONOMIC SYSTEM

While the experimental and control areas are viewed as social systems, the economy of each area also can be considered as a system which can then be analyzed by economic sectors. These economic sectors are defined in terms of the major segments of the total economy and include, in Sanders' work, agriculture, industry, commerce, finance, transportation and utilities, and organized labor.[1] The structure and function of each of these sectors of an economy differ considerably. In this section the professions are treated separately in terms of the economic sector within which they occur or with which they are most intimately connected. Also,

[1] Sanders, *op. cit.*, p. 211.

organized labor is not treated as a separate sector of the economy, although it obviously would have to be considered an important part of the total economic social system.

Three economic sectors are added to Sanders' list on the premise that the economic system cannot be fully described without them. The three sectors added are construction, services, and government. Although governmental bodies will be treated as a system in a following section, government expenditures are so important a part of the economic system that governmental bodies are also treated here as a sector of the economic system.

Table 7. — Personal Income Estimates by Source for Bureau County, 1950, 1960, and 1965, With Change in Percent of Income, 1950 to 1965

	1950		1960		1965		Change in percent, 1950-1965
	Income ($000)	Percent of total	Income ($000)	Percent of total	Income ($000)	Percent of total	
Total personal income[a]	50,433	99.9	60,382	100.3	90,456	100.5	
Wage and salary disbursements	16,820	33.3	24,131	40.1	36,179	40.2	+ 6.9
Farms	1,571	3.1	1,667	2.8	1,172	1.3	− 1.8
Mining	197	.4	61	.1	58	.1	− .3
Contract construction	888	1.8	1,375	2.3	3,054	3.4	+ .5
Manufacturing	4,298	8.5	7,060	11.7	13,991	15.5	+ 7.0
Trade	2,950	5.8	5,060	8.4	6,232	6.9	+ 1.1
Finance, insurance, real estate	288	.6	595	1.0	932	1.0	+ .4
Transportation	1,382	2.7	1,444	2.4	1,200	1.3	− 1.4
Communication, public utilities	589	1.2	703	1.2	926	1.0	− .2
Services	957	1.9	1,386	2.3	1,946	2.2	+ .3
Government	3,641	7.2	4,586	7.6	6,459	7.2	.0
Other industries	59	.1	194	.3	209	.2	+ .1
Other labor income	407	.8	1,147	1.9	2,243	2.5	+ 1.7
Proprietors' income	21,238	42.1	20,830	34.6	32,801	36.4	− 5.7
Farm	15,091	29.9	12,556	20.8	23,507	25.9	− 4.0
Nonfarm	6,147	12.2	8,274	13.7	9,494	10.5	− 1.7
Property income	9,333	18.5	9,449	15.7	13,070	14.5	− 4.0
Transfer payments[b]	3,002	5.9	5,785	9.6	7,546	8.4	+ 2.5
LESS: Personal contributions for social insurance	367		960		1,383		

Source: Herbert Lyon and Neil Ford. Personal Income in Illinois Counties, 1950-2020. Illinois Department of Business and Economic Development.

[a] Total personal income = Wages and salary disbursements, plus other labor income, plus proprietors' income, plus property income, plus transfer payments, minus personal contributions for social insurance.

[b] Transfer Payments. "This category is composed of payments to persons from government and business for which no services are performed or expected. Government transfers consist of federal, state, and local government payments, including such items as Old-Age and Survivors' Insurance; unemployment benefits; public employee pensions; direct relief; and pension, disability, and related payments to military veterans. Individual bad debts to businesses are counted as business transfers along with corporate gifts to private nonprofit institutions, cash prizes, and several other minor items." Ford and Lyon, p. 9.

As a general measure of the magnitude of the whole economic system, data on personal income have been obtained from two sources: the Illinois Department of Business and Economic Development and the Illinois Department of Labor.

The data given in Tables 7-12 are from the Illinois Department of Business and Economic Development. These data not only give the total personal income figures, which indicate the general magnitude of the economic system, but they also have the personal income subdivided by source of income. Each income source is given as a percent of the total, indicating the relative importance of the various income sources.

Table 6. — Personal Income Estimates by Source for LaSalle County, 1950, 1960, and 1965, With Change in Percent of Income, 1950 to 1965

	1950		1960		1965		Change in percent, 1950-1965
	Income ($000)	Percent of total	Income ($000)	Percent of total	Income ($000)	Percent of total	
Total personal income[a]	171,851	100.1	252,656	100.1	321,029	99.9	
Wage and salary disbursements	104,558	60.9	160,501	63.4	191,053	59.4	− 1.5
Farms	1,751	1.0	1,707	.7	1,312	.4	− .6
Mining	2,640	1.5	3,754	1.5	3,572	1.1	− .4
Contract construction	4,275	2.5	10,908	4.3	9,983	3.1	+ .6
Manufacturing	59,306	34.5	85,940	34.0	103,683	32.2	− 2.3
Trade	14,266	8.3	21,269	8.4	24,157	7.5	− .8
Finance, insurance, real estate	1,521	2.6	3,290	1.3	4,043	1.4	− 1.2
Transportation	5,016	2.9	8,337	3.3	9,665	3.1	+ .2
Communication, public utilities	1,608	.9	3,399	1.3	5,157	1.6	+ .7
Services	5,335	3.1	8,399	3.3	10,745	3.3	+ .2
Government	8,703	5.1	13,136	5.2	17,486	5.4	+ .4
Other industries	137	.1	362	.1	450	.1	+ .1
Other labor income	2,950	1.7	9,031	3.6	13,674	4.3	+ 2.6
Proprietors' income	35,664	20.8	39,006	15.4	55,209	17.2	− 3.6
Farm	17,189	10.0	14,778	5.9	26,203	8.1	− 1.9
Nonfarm	18,475	10.8	24,228	9.6	29,006	9.0	− 1.8
Property income	22,206	12.9	30,610	12.1	44,169	13.7	+ .8
Transfer payments[b]	8,173	4.8	19,135	7.6	23,824	7.4	+ 2.6
LESS: Personal contributions for social insurance	1,700		5,627		6,900		

Source: Herbert Lyon and Neil Ford, Personal Income in Illinois Counties, 1950-2020. Illinois Department of Business and Economic Development.

[a] Total personal income = Wages and salary disbursements, plus other labor income, plus proprietors' income, plus property income, plus transfer payments, minus personal contributions for social insurance.

[b] Transfer Payments. "This category is composed of payments to persons from government and business for which no services are performed or expected. Government transfers consist of federal, state, and local government payments, including such items as Old-Age and Survivors' Insurance; unemployment benefits; public employee pensions; direct relief; and pension, disability, and related payments to military veterans. Individual bad debts to businesses are counted as business transfers along with corporate gifts to private nonprofit institutions, cash prizes, and several other minor items." Ford and Lyon, p. 9.

Table 9. — Personal Income Estimates by Source for Marshall County, 1950, 1960, and 1965, With Change in Percent of Income, 1950 to 1965

	1950		1960		1965		Change in percent, 1950-1965
	Income ($000)	Percent of total	Income ($000)	Percent of total	Income ($000)	Percent of total	
Total personal income[a]	17,430	100.1	20,273	100.0	28,986	100.0	
Wage and salary disbursements	5,240	30.1	8,313	41.0	10,550	36.4	+ 6.3
Farms	540	3.1	572	2.8	374	1.3	− 1.8
Mining	104	.6	54	.3	64	.2	− .4
Contract construction	225	1.3	357	1.8	530	1.8	+ .5
Manufacturing	1,097	6.3	2,329	11.5	3,210	11.1	+ 4.8
Trade	1,103	6.3	1,922	9.5	2,169	7.5	+ 1.2
Finance, insurance, real estate	130	.7	190	.9	335	1.2	+ .5
Transportation	302	1.7	378	1.9	552	1.9	+ .2
Communication, public utilities	87	.5	598	2.9	588	2.0	+ 1.5
Services	229	1.3	507	2.5	724	2.5	+ 1.2
Government	1,392	8.0	1,363	6.7	1,940	6.7	− 1.3
Other industries	31	.2	43	.2	64	.2	.0
Other labor income	124	.7	415	2.1	719	2.5	+ 1.8
Proprietors' income	6,096	39.6	6,678	32.9	11,482	39.6	.0
Farm	5,186	29.8	4,243	20.9	8,228	28.4	− 1.4
Nonfarm	1,710	9.8	2,435	12.0	3,254	11.2	+ 1.4
Property income	4,246	24.4	3,094	15.3	4,083	14.1	−10.3
Transfer payments[b]	1,041	6.0	2,073	10.2	2,574	8.9	+ 2.9
LESS: Personal contributions for social insurance	117		300		422		

Source: Herbert Lyon and Neil Ford. Personal Income in Illinois Counties, 1950-2020. Illinois Department of Business and Economic Development.

[a] Total personal income = Wages and salary disbursements, plus other labor income, plus proprietors' income, plus property income, plus transfer payments, minus personal contributions for social insurance.

[b] Transfer Payments. "This category is composed of payments to persons from government and business for which no services are performed or expected. Government transfers consist of federal, state, and local government payments, including such items as Old-Age and Survivors' Insurance; unemployment benefits; public employee pensions; direct relief; and pension, disability, and related payments to military veterans. Individual bad debts to businesses are counted as business transfers along with corporate gifts to private nonprofit institutions, cash prizes, and several other minor items." Ford and Lyon, p. 9.

Table 10. — Personal Income Estimates by Source for Putnam County, 1950, 1960, and 1965, With Change in Percent of Income, 1950 to 1965

	1950		1960		1965		Change in percent, 1950-1965
	Income ($000)	Percent of total	Income ($000)	Percent of total	Income ($000)	Percent of total	
Total personal income[a]	5,519	100.7	6,969	99.7	10,394	100.1	
Wage and salary disbursements	1,311	23.7	2,297	32.8	2,920	28.1	+ 4.4
Farms	231	4.2	209	3.0	145	1.4	− 2.8
Mining	5	.1	3	.1	12	.1	.0
Contract construction	21	.4	107	1.5	134	1.3	+ .9
Manufacturing	4	.1	0	.0	74	.7	+ .6
Trade	317	5.7	462	6.6	559	5.4	− .3
Finance, insurance, real estate	15	.3	53	.8	69	.7	+ .4
Transportation	65	1.2	203	2.9	286	2.8	+ 1.6
Communication, public utilities	21	.4	504	7.2	625	6.0	+ 5.6
Services	44	.8	148	2.1	185	1.8	+ 1.0
Government	579	10.5	575	8.2	803	7.7	− 2.8
Other industries	9	.2	33	.5	28	.3	+ .1
Other labor income	19	.3	101	1.4	152	1.5	+ 1.1
Proprietors' income	2,672	48.4	2,749	39.3	4,892	47.1	− 1.3
Farm	2,061	37.3	1,649	23.6	3,420	32.9	− 4.4
Nonfarm	611	11.1	1,100	15.7	1,472	14.2	+ 3.1
Property income	1,151	20.8	1,139	16.3	1,613	15.5	− 5.3
Transfer payments[b]	402	7.3	781	11.2	956	9.2	+ 1.9
LESS: Personal contributions for social insurance	36		98		139		

Source: Herbert Lyon and Neil Ford, Personal Income in Illinois Counties, 1950-2020. Illinois Department of Business and Economic Development.

[a] Total personal income = Wages and salary disbursements, plus other labor income, plus proprietors' income, plus property income, plus transfer payments, minus personal contributions for social insurance.

[b] Transfer Payments. "This category is composed of payments to persons from government and business for which no services are performed or expected. Government transfers consist of federal, state, and local government payments, including such items as Old-Age and Survivors' Insurance; unemployment benefits; public employee pensions; direct relief; and pension, disability, and related payments to military veterans. Individual bad debts to businesses are counted as business transfers along with corporate gifts to private nonprofit institutions, cash prizes, and several other minor items." Ford and Lyon, p. 9.

Table 11. — Personal Income Estimates by Source for Iroquois County, 1950, 1960, and 1965, With Change in Percent of Income, 1950 to 1965

	1950		1960		1965		Change in percent, 1950-1965
	Income ($000)	Percent of total	Income ($000)	Percent of total	Income ($000)	Percent of total	
Total personal income[a]	47,866	100.1	56,557	100.2	78,127	100.0	
Wage and salary disbursements	13,201	27.6	21,671	38.4	27,578	35.3	+ 7.7
Farms	1,802	3.8	1,412	2.5	776	1.0	− 2.8
Mining	72	.2	1	.0	11	.1	− .1
Contract construction	873	1.8	1,531	2.7	1,930	2.5	+ .7
Manufacturing	1,685	3.5	6,162	10.9	8,068	10.3	+ 6.8
Trade	2,730	5.7	5,077	9.0	6,260	8.0	+ 2.3
Finance, insurance, real estate	264	.6	484	.9	971	1.2	+ .6
Transportation	1,044	2.2	1,141	2.0	1,194	1.5	− .7
Communication, public utilities	243	.5	386	.7	536	.7	+ .2
Services	687	1.4	1,301	2.3	1,751	2.2	+ .8
Government	3,407	7.1	4,027	7.1	5,839	7.5	+ .4
Other industries	394	.8	149	.3	244	.3	− .5
Other labor income	295	.6	1,009	1.8	1,745	2.2	+ 1.6
Proprietors' income	21,755	45.5	19,860	35.2	29,893	38.3	− 7.2
Farm	17,190	35.9	13,125	23.2	21,719	27.8	− 8.1
Nonfarm	4,565	9.5	6,735	11.9	8,174	10.5	+ 1.0
Property income	10,749	22.5	9,526	16.9	13,035	16.7	− 5.8
Transfer payments[b]	2,156	4.5	5,357	9.5	6,961	8.9	+ 4.4
LESS: Personal contributions for social insurance	290		866		1,085		

Source: Herbert Lyon and Neil Ford, Personal Income in Illinois Counties, 1950-2020. Illinois Department of Business and Economic Development.

[a] Total personal income = Wages and salary disbursements, plus other labor income, plus proprietors' income, plus property income, plus transfer payments minus personal contributions for social insurance.

[b] Transfer Payments. "This category is composed of payments to persons from government and business for which no services are performed or expected. Government transfers consist of federal, state, and local government payments, including such items as Old-Age and Survivors' Insurance; unemployment benefits; public employee pensions; direct relief; and pension, disability, and related payments to military veterans. Individual bad debts to businesses are counted as business transfers along with corporate gifts to private nonprofit institutions, cash prizes, and several other minor items." Ford and Lyon, p. 9.

Tables 13-18 give the number of employees and total wages paid, as well as the percent of the total for the various categories listed by the Illinois Unemployment Compensation Act. These employment categories are not the same as the employment categories listed in Tables 7-12. Thus, the data are not directly comparable. The data available from the Illinois Unemployment Compensation Act do not include proprietor income or personal income from property or other investment sources.

Table 12. — Personal Income Estimates by Source for Illinois, 1950, 1960, and 1965, With Change in Percent of Income, 1950 to 1965

	1950		1960		1965		Change in percent, 1950-1965
	Income ($000,000)	Percent of total	Income ($000,000)	Percent of total	Income ($000,000)	Percent of total	
Total personal income[a]	15,985	100.0	26,564	100.3	34,903	100.0	
Wage and salary disbursements	10,832	67.8	18,541	70.0	23,763	68.2	+ .4
Farms	90	.6	92	.3	68	.2	− .4
Mining	171	1.1	154	.6	190	.5	− .6
Contract construction	552	3.5	1,132	4.3	1,361	3.9	+ .4
Manufacturing	4,244	26.6	6,789	25.5	8,901	25.5	− 1.1
Trade	2,099	13.1	3,569	13.4	4,291	12.3	− .8
Finance, insurance, real estate	468	2.9	920	3.5	1,184	3.4	+ .5
Transportation	800	5.0	1,160	4.4	1,358	3.9	− 1.1
Communication, public utilities	314	2.0	531	2.0	657	1.9	− .1
Services	986	6.2	1,914	7.2	2,658	7.6	+ 1.4
Government	1,096	6.9	2,255	8.5	3,066	8.8	+ 1.9
Other industries	12	.1	25	.1	29	.1	.0
Other labor income	289	1.8	760	2.9	1,296	3.7	+ 1.9
Proprietors' income	2,206	13.8	2,653	10.0	3,504	10.1	− 3.7
Farm	707	4.4	564	2.1	1,003	2.9	− 1.5
Nonfarm	1,499	9.4	2,089	7.9	2,501	7.2	− 2.2
Property income	2,040	12.8	3,433	12.9	5,045	14.5	+ 1.7
Transfer payments[b]	804	5.0	1,774	6.7	2,149	6.2	+ 1.2
LESS: Personal contributions for social insurance	186		597		854		

Source: Herbert Lyon and Nel Ford, Personal Income in Illinois Counties, 1950-2020. Illinois Department of Business and Economic Development.

[a] Total personal income = Wages and salary disbursements, plus other labor income, plus proprietors' income, plus property income, plus transfer payments, minus personal contributions for social insurance.

[b] Transfer Payments. "This category is composed of payments to persons from government and business for which no services are performed or expected. Government transfers consist of federal, state, and local government payments, including such items as Old-Age and Survivors' Insurance; unemployment benefits; public employee pensions; direct relief; and pension, disability, and related payments to military veterans. Individual bad debts to businesses are counted as business transfers along with corporate gifts to private nonprofit institutions, cash prizes, and several other minor items." Ford and Lyon, p. 9.

Table 13. — Business Establishments Covered by the Illinois Unemployment Compensation Act, Employees and Quarterly Wages by Type in Bureau County, 1947, 1955, and 1965

	1947[a] Employees				1955[b] Employees				1965[c] Employees			
	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total
Mining	108	3.5	67	4.2	75	2.0	98	2.7	6	.1	5	.1
Contract construction	105	3.4	87	5.5	270	7.1	296	8.1	255	5.5	378	7.3
Manufacturing	1,892	61.7	969	61.0	2,061	54.2	2,099	57.7	2,592	55.3	3,100	59.9
Transportation, communication, and public utilities	193	6.3	105	6.7	215	5.7	207	5.7	225	4.9	255	4.9
Wholesale and retail trade	521	17.0	258	16.3	751	19.7	604	16.6	1,176	25.5	1,014	19.6
Finance, insurance, and real estate	45	1.5	33	2.1	68	1.8	91	2.5	144	3.1	169	3.3
Service and miscellaneous	201	6.6	65	4.0	365	9.6	240	6.6	262	5.7	247	4.8
Total	3,065	100.0	1,585	99.8	3,805	100.1	3,635	99.9	4,618	100.1	5,168	99.9

Source: Illinois Department of Labor, Illinois State Employment Service, Division of Unemployment Compensation, Research and Statistics Section. Monthly Employment and Annual Payrolls of Firms Covered by the Illinois Unemployment Compensation Act, by Industry, and Covered Employment and Wages by Size of Establishment and by County. (Excludes data for farms, railroads, non-profit institutions, domestic service, self-employment, and firms with less than four workers, unless they have voluntarily elected coverage or are subject to the Federal Unemployment Tax Act.)

[a] 1947 data: Average employment for first three months; Wages published for year only, but one quarter of the annual wages total is reported here for comparative purposes.

[b] 1955 data: Average monthly employment for the second half of 1955; Wages published as total for second half, but one half of that figure is reported here for comparative purposes.

[c] 1965 data: Average monthly employment for first quarter and wages for first quarter.

Table 14. — Business Establishments Covered by the Illinois Unemployment Compensation Act, Employees and Quarterly Wages by Type in LaSalle County, 1947, 1955, and 1965

	1947[a] Employees				1955[b] Employees				1965[c] Employees			
	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total
Mining	774	3.4	566	3.5	622	2.1	941	3.0	464	1.7	786	2.2
Contract construction	772	3.4	1,070	6.7	1,666	5.7	1,953	6.3	977	3.6	1,405	4.0
Manufacturing	17,333	68.5	11,102	69.6	19,116	65.6	21,722	69.8	16,477	60.9	23,808	67.8
Transportation, communication, and public utilities	1,196	4.7	656	4.1	1,494	5.1	1,570	5.0	1,743	6.4	2,636	7.5
Wholesale and retail trade	3,751	14.8	1,896	11.9	4,610	15.8	3,702	11.9	5,073	18.8	4,404	12.5
Finance, insurance, and real estate	272	1.1	180	1.1	427	1.5	463	1.5	651	2.4	908	2.6
Service and miscellaneous	1,202	4.7	473	3.0	1,209	4.1	774	2.5	1,658	6.1	1,181	3.4
Total	25,300	100.0	15,943	99.9	29,144	99.9	31,125	100.0	27,043	99.9	35,128	100.0

Source: Illinois Department of Labor, Illinois State Employment Service, Division of Unemployment Compensation, Research and Statistics Section. Monthly Employment and Annual Payrolls of Firms Covered by the Illinois Unemployment Compensation Act, by Industry, and Covered Employment and Wages by Size of Establishment and by County. (Excludes data for farms, railroads, non-profit institutions, domestic service, self-employment, and firms with less than four workers, unless they have voluntarily elected coverage or are subject to the Federal Unemployment Tax Act.)

[a] 1947 data: Average employment for first three months; Wages published for year only, but one quarter of the annual wages total is reported here for comparative purposes.

[b] 1955 data: Average monthly employment for the second half of 1955; Wages published as total for second half, but one half of that figure is reported here for comparative purposes.

[c] 1965 data: Average monthly employment for first quarter and wages for first quarter.

Table 15. — Business Establishments Covered by the Illinois Unemployment Compensation Act, Employees and Quarterly Wages by Type in Marshall County, 1947, 1955, and 1965

	1947[a] Employees				1955[b] Employees				1965[c] Employees			
	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total
Mining	18	2.2	26	6.5	0	.0	0	.0	0	.0	0	.0
Contract construction	14	1.7	13	3.3	28	2.7	25	2.7	17	1.2	34	2.4
Manufacturing	449	54.8	218	54.7	599	56.9	519	57.1	676	46.0	727	50.3
Transportation, communication, and public utilities	31	3.8	10	2.5	55	5.2	35	3.8	139	9.5	178	12.3
Wholesale and retail trade	279	34.0	121	30.4	275	26.1	226	24.9	510	34.7	401	27.8
Finance, insurance, and real estate	8	1.0	4	1.0	24	2.3	38	4.2	37	2.5	46	3.2
Service and miscellaneous	21	2.6	6	1.5	71	6.7	65	7.1	90	6.1	59	4.1
Total	820	100.1	398	99.9	1,052	99.9	908	99.8	1,469	100.0	1,445	100.1

Source: Illinois Department of Labor, Illinois State Employment Service, Division of Unemployment Compensation, Research and Statistics Section, Monthly Employment and Annual Payrolls of Firms Covered by the Illinois Unemployment Compensation Act, by Industry, and Covered Employment and Wages by Size of Establishment and by County. (Excludes data for farms, railroads, non-profit institutions, domestic service, self-employment, and firms with less than four workers, unless they have voluntarily elected coverage or are subject to the Federal Unemployment Tax Act.)

[a] 1947 data: Average employment for first three months: Wages published for year only, but one quarter of the annual wages total is reported here for comparative purposes.

[b] 1955 data: Average monthly employment for the second half of 1955: Wages published as total for second half, but one half of that figure is reported here for comparative purposes.

[c] 1965 data: Average monthly employment for first quarter and wages for first quarter.

Table 16. — Business Establishments Covered by the Illinois Unemployment Compensation Act, Employees and Quarterly Wages by Type in Putnam County, 1947, 1955, and 1965

	1947[a] Employees				1955[b] Employees				1965[c] Employees			
	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total
Mining	0	.0	0	.0	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
Contract construction	0	.0	0	.0	[d]	[d]	[d]	[d]	6	2.4	11	3.4
Manufacturing	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
Transportation, communication, and public utilities	0	.0	0	.0	99	44.2	123	57.2	88	35.3	148	38.3
Wholesale and retail trade	17	22.1	5	14.3	35	15.6	30	13.9	77	30.9	64	19.9
Finance, insurance, and real estate	60	77.9	30	85.7	[d]	[d]	[d]	[d]	15	6.0	16	5.0
Service and miscellaneous	0	.0	0	.0	90	40.2	62	28.8	63	25.3	82	25.5
Total	77	100.0	35	100.0	224	100.0	215	99.9	249	99.9	321	100.2

Source: Illinois Department of Labor, Illinois State Employment Service, Division of Unemployment Compensation, Research and Statistics Section. Monthly Employment and Annual Payrolls of Firms Covered by the Illinois Unemployment Compensation Act, by Industry, and Covered Employment and Wages by Size of Establishment and by County. (Excludes data for farms, railroads, non-profit institutions, domestic service, self-employment, and firms with less than four workers, unless they have voluntarily elected coverage or are subject to the Federal Unemployment Tax Act.)

[a] 1947 data: Average employment for first three months; Wages published for year only, but one quarter of the annual wages total is reported here for comparative purposes.

[b] 1955 data: Average monthly employment for the second half of 1955; Wages published as total for second half, but one half of that figure is reported here for comparative purposes.

[c] 1965 data: Average monthly employment for first quarter and wages for first quarter.

[d] Not reported to protect identity of individual businesses.

Table 17. — Business Establishments Covered by the Illinois Unemployment Compensation Act, Employees and Quarterly Wages by Type in Iroquois County, 1947, 1955, and 1965

	1947[a] Employees				1955[b] Employees				1965[c] Employees			
	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total	Number	Percent of total	Quarterly wages ($000)	Percent of total
Mining	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
Contract construction	55	3.2	69	7.5	308	9.6	292	12.6	208	5.5	250	6.5
Manufacturing	870	50.4	471	50.9	1,456	45.2	1,056	45.5	1,591	42.2	1,828	47.5
Transportation, communication, and public utilities	123	7.1	53	5.7	187	5.8	123	5.3	223	5.9	241	6.3
Wholesale and retail trade	573	33.1	291	31.4	993	30.8	621	26.8	1,248	33.1	1,042	27.1
Finance, insurance, and real estate	56	3.2	28	3.0	64	2.0	74	3.2	147	3.9	184	4.8
Service and miscellaneous	49	2.8	18	1.9	215	6.7	155	6.7	356	9.4	300	7.8
Total	1,726[e]	99.8[e]	930[e]	100.4[e]	3,223[e]	100.1[e]	2,321[e]	100.1[e]	3,773[e]	100.0[e]	3,845[e]	100.0[e]

Source: Illinois Department of Labor, Illinois State Employment Service, Division of Unemployment Compensation, Research and Statistics Section, Monthly Employment and Annual Payrolls of Firms Covered by the Illinois Unemployment Compensation Act, by Industry, and Covered Employment and Wages by Size of Establishment and by County. (Excludes data for farms, railroads, non-profit institutions, domestic service, self-employment, and firms with less than four workers, unless they have voluntarily elected coverage or are subject to the Federal Unemployment Tax Act.)

[a] 1947 data: Average employment for first three months: Wages published for year only, but one quarter of the annual wages total is reported here for comparative purposes.

[b] 1955 data: Average monthly employment for the second half of 1955: Wages published as total for second half, but one half of that figure is reported here for comparative purposes.

[c] 1965 data: Average monthly employment for first quarter and wages for first quarter.

[d] Not reported to protect identity of individual businesses.

[e] Total does not include "not reported" data.

Table 18. — Business Establishments Covered by the Illinois Unemployment Compensation Act, Employees and Quarterly Wages by Type in Illinois, 1947, 1955, and 1965

	1947 Employees				1955 Employees[a]				1965 Employees[b]			
	Number (000)	Percent of total	Quarterly wages ($000,000)	Percent of total	Number (000)	Percent of total	Quarterly wages ($000,000)	Percent of total	Number (000)	Percent of total	Quarterly wages ($000,000)	Percent of total
Mining	NR[c]	NR	NR	NR	30	1.2	38	1.3	24	.9	42	1.0
Contract construction	NR	NR	NR	NR	146	5.7	211	7.1	127	4.6	227	5.5
Manufacturing	NR	NR	NR	NR	1,267	49.6	1,550	52.0	1,267	45.7	2,039	49.4
Transportation, communication, and public utilities	NR	NR	NR	NR	177	6.9	215	7.2	188	6.8	323	7.8
Wholesale and retail trade	NR	NR	NR	NR	596	23.3	615	20.7	721	26.0	917	22.2
Finance, insurance, and real estate	NR	NR	NR	NR	132	5.2	150	5.0	166	5.9	250	6.1
Service and miscellaneous	NR	NR	NR	NR	209	8.2	200	6.7	277	10.0	330	8.0
Total	NR	NR	NR	NR	2,558	100.1	2,980	100.0	2,770	99.9	4,128	100.0

Source: Illinois Department of Labor, Illinois State Employment Service, Division of Unemployment Compensation, Research and Statistics Section. Monthly Employment and Annual Payrolls of Firms Covered by the Illinois Unemployment Compensation Act by Industry, and Covered Employment and Wages by Size of Establishment and by County. (Excludes data for farms, railroads, non-profit institutions, domestic service, self-employment, and firms with less than four workers, unless they have voluntarily elected coverage or are subject to the Federal Unemployment Tax Act.)

[a] 1955 data: Average monthly employment for the second half of 1955: Wages published as total for second half, but one-half of that figure is reported here for comparative purposes.

[b] 1965 data: Average monthly employment for first quarter and wages for first quarter.

[c] NR = Not reported.

The Agricultural Sector

As was noted in the ecological analysis of the experimental and control areas, the number of persons employed in agriculture has decreased steadily during the past two decades; however, farm proprietors' income still accounts for about a quarter of the personal income in Bureau and Marshall counties and for a third in Putnam County.

The list below shows the percentage of personal income in 1965 from the agricultural sector for each county in the study area and for the state.

Putnam	34.3
Marshall	29.7
Iroquois	28.8
Bureau	27.2
LaSalle	8.5
Illinois	3.1

Add to this wages paid on farms and the farm share of the property income, and a very substantial part of the total income in these counties would come from farming. In LaSalle County, the farm proprietors' share of the total income is much smaller, about 8 percent, and for the state of Illinois as a whole it is only about 3 percent. Thus from most of the experimental area agricultural income still is the most important segment of the economy, though its importance relative to other sources of income is declining.

In Iroquois County farm proprietors' income accounts for about 30 percent of the total income. Add to this the farm income from property and farm wages within the county, and the total income attributable to farming would likely be almost half of the total income in the county.

Several agricultural trends can be seen in the study areas (Table 19). Farms in both the experimental and control areas have followed the general pattern of becoming fewer in number and larger in size. The average value of land and buildings per farm has increased much more than farm size in all counties concerned. Of course, there has been general inflation in the economy during this period. The average value of products sold per farm has increased, but not as much as the rise in land values. Development of larger machinery for field work has resulted in lower labor requirements in the aggregate. Thus many farm operators have completely left the farm.

Other farmers who were unable to expand their farming operation, but who remained in farming, have looked for and often found part-time off-farm jobs. Many farm operators have held down full-time off-farm jobs while continuing their farming operation.

The number of farms in all farm sizes below 260 acres (Tables 20-25) has declined from 1950 to 1964 in all the counties studied by this project. And in Putnam County even the size group 260 to 499 acres has had a decline in farm numbers since 1959. Before that time the number of farms in that size group was increasing in Putnam County.

Table 19. — Agricultural Trends by County and for Illinois, 1950, 1954, 1959, and 1964

	1950	1954	1959	1964	Percent change, 1950-1964
Bureau County					
Number of farms	2,904	2,735	2,585	2,237	−23.0
Percent of land in farms	93.6	91.2	94.5	92.6	− 1.0
Average size of farms (acres)	179.1	185.2	203.2	230.0	28.4
Average value of land and buildings per farm	$41,814	$57,575	$72,258	$ 85,877	105.4
Acres harvested	372,000	369,000	392,000	358,000	− 3.8
Average value of products sold per farm	$10,576	$12,874	$17,129	$ 22,026	108.3
Farm operators working off farms 100 or more days	218	186	279	221	1.4
Total value of products sold (millions of dollars)	$ 30.7	$ 35.2	$ 44.3	$ 49.3	60.6
LaSalle County					
Number of farms	3,730	3,487	3,233	2,765	−25.9
Percent of land in farms	89.8	90.0	90.4	89.0	− .8
Average size of farms (acres)	177.8	190.4	206.3	237.7	33.7
Average value of land and buildings per farm	$45,245	$60,081	$87,373	$102,336	126.2
Acres harvested	516,000	517,000	536,000	496,000	− 3.9
Average value of products sold per farm	$ 9,607	$12,152	$15,868	$ 21,098	119.6
Farm operators working off farms 100 or more days	372	390	481	422	13.4
Total value of products sold (millions of dollars)	$ 35.8	$ 42.4	$ 51.3	$ 58.3	62.8
Marshall County					
Number of farms	1,190	1,111	1,029	914	−23.2
Percent of land in farms	91.4	89.8	90.3	89.1	− 2.3
Average size of farms (acres)	194.2	204.4	221.7	246.5	26.9
Average value of land and buildings per farm	$43,842	$66,925	$83,176	$102,294	133.3
Acres harvested	162,000	161,600	164,000	159,000	− 1.9
Average value of products sold per farm	$ 9,390	$11,529	$13,720	$ 20,574	119.1
Farm operators working off farms 100 or more days	133	96	110	124	− 6.8
Total value of products sold (millions of dollars)	$ 11.2	$ 12.8	$ 14.1	$ 18.8	67.9

Table 19. — Agricultural Trends by County and for Illinois, 1950, 1954, 1959, and 1964 (concluded)

	1950	1954	1959	1964	Percent change, 1950-1964
Putnam County					
Number of farms	468	437	395	346	−26.1
Percent of land in farms	87.8	84.2	86.9	84.4	− 3.4
Average size of farms (acres)	199.5	204.7	233.7	259.0	29.8
Average value of land and buildings per farm	$38,534	$54,502	$92,823	$ 95,347	147.4
Acres harvested	60,000	58,000	61,000	61,000	1.7
Average value of products sold per farm	$ 9,669	$11,375	$16,548	$ 23,061	138.0
Farm operators working off farms 100 or more days	44	40	59	58	31.8
Total value of products sold (millions of dollars)	$ 4.5	$ 5.0	$ 6.5	$ 8.0	77.8
Iroquois County					
Number of farms	3,526	3,094	2,976	2,507	−28.9
Percent of land in farms	94.6	90.3	94.0	94.1	− .5
Average size of farms (acres)	192.3	209.7	226.8	269.6	39.8
Average value of land and buildings per farm	$43,883	$60,671	$90,126	$112,124	155.5
Acres harvested	559,000	532,000	565,000	546,000	− 2.3
Average value of products sold per farm	$ 8,889	$12,162	$12,712	$ 22,541	153.6
Farm operators working off farms 100 or more days	240	231	405	313	30.4
Total value of products sold (millions of dollars)	$ 31.3	$ 37.6	$ 37.8	$ 56.5	80.5
Illinois					
Number of farms	195,268	176,543	155,644	133,822	−31.8
Percent of land in farms	86.5	84.9	84.7	83.7	− 2.8
Average size of farms (acres)	158.6	173.2	196.1	225.5	42.2
Average value of land and buildings per farm	$28,357	$40,967	$63,944	$ 80,894	185.3
Acres harvested (000,000)	20	21	21	20	0
Average value of products sold per farm	$ 6,976	$ 8,577	$11,708	$ 18,880	170.6
Farm operators working off farms 100 or more days	33,846	32,750	35,765	18,212	−46.2
Total value of products sold (millions of dollars)	$ 1,360	$ 1,509	$ 1,814	$ 2,511	84.6

Source: U.S. Census of Agriculture.

Table 20. — Number of Farms by Acreage Size Group, Bureau County, 1950, 1954, 1959, and 1964

	1950	1954	1959	1964	Percent change, 1950-1964
Number of farms	2,904	2,735	2,585	2,237	−23.0
Acres					
Under 10	125	140	73	39	−68.8
10- 49	182	153	165	117	−35.7
50- 69	52	33	41	34	−34.6
70- 99	260	220	161	153	−41.2
100-139	397	336	266	196	−50.6
140-179	663	639	555	419	−36.8
180-219	385	355	348	259	−32.7
220-259	337	355	343	288	−14.5
260-499	456	447	560	628	37.7
500-999	44	55	72	96	118.2
Above 999	3	2	1	8	166.7

Source: U.S. Census of Agriculture.

There has been a substantial increase in the numbers of farms in the 500- to 999-acre group in all counties studied, ranging from 166 percent in Marshall County to 211 percent in Iroquois County. Farm numbers in the farm size over 1,000 acres have increased from 85 percent in Iroquois County to 400 percent in LaSalle County. The absolute increase in numbers was also largest in LaSalle County. The increase in farm numbers has speeded up since 1959 in the larger size groups.

Table 21. — Number of Farms by Acreage Size Group, LaSalle County, 1950, 1954, 1959, and 1964

	1950	1954	1959	1964	Percent change, 1950-1964
Number of farms	3,730	3,487	3,233	2,765	−25.9
Acres					
Under 10	176	105	73	59	−66.5
10- 49	268	221	222	135	−49.6
50- 69	67	59	54	53	−20.9
70- 99	311	282	243	176	−43.4
100-139	427	394	332	225	−47.3
140-179	913	797	634	439	−51.9
180-219	448	443	387	288	−35.7
220-259	462	462	438	389	−15.8
260-499	613	671	773	868	41.6
500-999	43	51	72	123	186.0
Above 999	2	2	5	10	400.0

Source: U.S. Census of Agriculture.

Table 22. — Number of Farms by Acreage Size Group, Marshall County, 1950, 1954, 1959, and 1964

	1950	1954	1959	1964	Percent change, 1950-1964
Number of farms	1,190	1,111	1,029	914	−23.2
Acres					
Under 10	81	53	19	25	−69.1
10- 49	70	69	62	44	−37.1
50- 69	21	18	15	13	−38.1
70- 99	97	84	79	52	−46.4
100-139	86	76	71	62	−27.9
140-179	273	241	200	157	−42.5
180-219	126	113	96	80	−36.5
220-259	151	165	166	129	−14.6
260-499	259	260	277	295	13.9
500-999	25	32	42	54	116.0
Above 999	1	0	2	3	200.0

Source: U.S. Census of Agriculture.

The increase of farm operators working off their farms 100 days or more (Table 19) shows the importance of the trend to larger farms. This trend should be increasingly important with the creation of additional employment possibilities in industry in the community.

Farm operators in the experimental and control areas are in a stronger agricultural position than farmers in Illinois as a whole (Tables 19 to 25).

Table 23. — Number of Farms by Acreage Size Group, Putnam County, 1950, 1954, 1959, and 1964

	1950	1954	1959	1964	Percent change, 1950-1964
Number of farms	468	437	395	346	−26.1
Acres					
Under 10	19	20	4	5	−73.7
10- 49	31	32	27	24	−22.6
50- 69	11	13	12	13	18.2
70- 99	39	33	24	19	−51.3
100-139	63	51	37	29	−54.0
140-179	85	76	72	51	−40.0
180-219	56	51	41	36	−35.7
220-259	56	50	57	45	−19.6
260-499	89	89	94	86	− 3.4
500-999	17	21	23	34	100.0
Above 999	2	1	4	4	100.0

Source: U.S. Census of Agriculture.

Table 24. — Number of Farms by Acreage Size Group, Iroquois County, 1950, 1954, 1959, and 1964

	1950	1954	1959	1964	Percent change, 1950-1960
Number of farms	3,526	3,094	2,976	2,507	−28.9
Acres					
Under 10	190	122	119	65	−65.8
10- 49	198	132	155	97	−51.0
50- 69	44	28	40	19	−56.8
70- 99	242	196	182	132	−45.5
100-139	402	318	226	163	−59.5
140-179	801	670	556	377	−52.9
180-219	438	383	323	231	−47.3
220-259	434	419	389	288	−33.6
260-499	703	728	836	913	29.9
500-999	67	92	143	209	211.9
Above 999	7	6	7	13	85.7

Source: U.S. Census of Agriculture.

The average size of farm was larger in the study areas in 1950 and 1964 than in the state as a whole; the average value of land and buildings was greater; the average value of products sold per farm was greater; and although farm numbers have decreased less rapidly than in the state as a whole, average farm size and products sold were still larger in the study area than in the state as a whole. Some of the differences come from higher agricultural productivity in the study area than in other parts of the state.

Table 25. — Number of Farms by Acreage Size Group, Illinois, 1950, 1954, 1959, and 1964

	1950	1954	1959	1964	Percent change, 1950-1964
Number of farms	195,268	175,543	154,644	132,822	−32.0
Acres					
Under 10	14,009	11,225	6,245	4,380	−68.7
10- 49	27,966	21,883	18,668	14,418	−48.4
50- 69	8,537	6,893	5,973	4,953	−42.0
70- 99	20,551	17,135	14,106	11,367	−44.7
100-139	25,002	20,912	16,392	12,939	−48.2
140-179	31,709	28,354	22,653	16,866	−46.8
180-219	19,404	18,443	15,875	12,375	−36.2
220-259	16,140	16,264	15,279	12,481	−22.7
260-499	27,654	29,504	32,689	33,214	20.1
500-999	3,849	4,504	6,190	8,919	129.3
Above 999	408	426	574	910	123.0

Source: U.S. Census of Agriculture.

A summary of the general importance of the agricultural sector in the economic system of each of the counties being studied here can be ascertained by figuring the percent of total income derived from agriculture for farm proprietors' income and farm wages. The percentages are as follows: Putnam, 34.3 percent; Marshall, 29.7 percent; Iroquois, 28.8 percent; Bureau, 27.2 percent; LaSalle, 8.5 percent; and the state as a whole, 3.1 percent. If the agricultural share of income due to properties and investments was added to these figures they would likely be substantially higher in the more rural counties, such as the first four listed, but it is likely that the counties would still be listed in the same order for percent of income which is derived from agriculture.

With industrialization and greater local job opportunities, the decline in farm numbers in the smaller size groups may be arrested. Farms up to 180 acres are generally considered less than a full-time one-man job. Farm operators in these size groups could have a full-time off-farm job and still continue farming. In the size group from 180 to 260 acres, a full-time off-farm job would be hard to hold while doing a good job of farming. In the next size group (260 to 499 acres), a full-time off-farm job would not be possible along with the farm work without a great deal of hired farm labor. Operators of farms over 500 acres are not expected to seek off-farm work except on a part-time seasonal basis on grain farms.

Thus a slowdown of decline in farm numbers in the size groups below 180 acres, a continued decline in farm numbers in the size groups from 180 to 499 acres, and a continued but slower increase in number of farms over 500 acres in size may be expected. For farms to expand much above 600 acres, the farm operator must begin hiring labor. Since the local price of labor will rise with industrialization, increase in large farms will likely be slowed, more capital substitution for labor will occur, and substitution of less labor-intensive farm enterprises will occur (e.g., grain farming instead of livestock farming).

The Contract-Construction Sector

The percentages of total personal income (Tables 7 to 12) provided in 1965 by contract-construction were as follows:

Illinois	3.8
LaSalle	3.1
Iroquois	2.1
Bureau	2.2
Marshall	1.7
Putnam	1.2

These figures reflect only wages paid for contract-construction work in the study areas and may not accurately reflect other kinds of capital investment being made there. Still, the ranking would seem to indicate that more construction is taking place in the state as a whole or in industrialized areas like LaSalle County than in more rural areas. For example,

the rank order of percentage of total personal income contributed by contract construction is almost the inverse of that noted for agriculture. The relative contribution of contract-construction work to the economy of Putnam County will probably increase sharply in the figures for 1966 and later because of construction associated with the J&L plant.

In all counties the number of contract-construction employees increased rapidly between 1947 and 1955, but declined between 1955 and 1965 (Tables 13 to 18). The state shows the same pattern. The pattern may be due to the monthly employment levels from which the average monthly employments were computed in the different years (entire year, 1947; second six months, 1955; first quarter, 1965). The pattern does, however, seem to be verified in the estimates of personal income figures (Table 7 to 12).

The amount of contract construction is closely related to the economic growth rate in an area. Since construction for any specific investment is a one-time-only expenditure, a continuing high level of construction is indication of an expanding economy. In subsequent years the effect of construction is a multiplier effect assuming continued full employment of facilities. The general economic growth in following years is dependent on preceding levels of construction.

One of the most important recent construction jobs (before the J&L plant) that will have long-run effects is the limited-access highway U.S. 80 which passes east and west through the north edge of the experimental area. This highway greatly reduces truck and auto travel time between the Chicago metropolitan area and the tri-city area (Rock Island, Moline, and Davenport).

The Manufacturing (and Mining) Sector

Since mining income has dwindled to a very small proportion of the income in all the counties being considered and in Illinois as a whole, it is being aggregated here with income derived from manufacturing.

Personal income from mining is not a very good measure of the contribution of mining to the economy because of high mechanization in the mining industry. Most of the remaining mining in the area is surface mining of gravel and cement lime. Both of these are as highly mechanized as other strip-mining types of operations.

The ranking for the proportion of income derived from manufacturing and mining in 1965 (Tables 7 to 12) would then be:

La Salle	33.4
Illinois	26.0
Bureau	16.0
Marshall	10.9
Iroquois	10.3
Putnam	.8

The remarkable change found in the data on proportion of income accounted for by manufacturing and mining from 1955 to 1965 is the unexpected increase in the rural counties of Bureau, Marshall, and Iroquois (Tables 7, 9, 11). In previously industrialized LaSalle County, the period 1947 to 1963 showed a small decline in people employed in manufacturing (Table 31) while the proportion of income received within the county from manufacturing remained about the same (Table 8). In Putnam County, on the other hand, there has never been much manufacturing and at some points in time no persons appear to have been employed by manufacturing plants (Table 31).

When these figures are compared with U.S. census figures on the industry groups of employed people (Table 5), the only conclusion one can reach is that a good deal of commuting across county lines to manufacturing jobs must be taking place. In 1960, for example, 420 persons listed their industry group as manufacturing in Putnam County where reports for total personal income paid out in the county show no manufacturing income. The same kind of discrepancies are noted in Marshall and Bureau counties, though to a much smaller degree. Accounting for the interregional transfer of income from its source or production to the place of expenditure is easy when countries or relatively large regions are the units of analysis, but becomes difficult with smaller units such as counties. The use of secondary data in conjunction with sample surveys can specify such patterns of interchange,[1] but unfortunately the latter were not available for this analysis.

Data on kinds of manufacturing plants and numbers of employees (Tables 26 to 30) make possible the following descriptive summaries of manufacturing in each of the counties.

In Bureau County (Table 26) there has been a sharp decline in number of food industry plants along with some decline in apparel and related products plants. Lumber and wood products industry completely disappeared from the county between 1954 and 1963, along with stone, clay, and glass products manufacturing. However, the county has managed to show overall industrial growth, especially in fabricated metal products production. Though there were no such plants in 1947, there were 13 in 1963. Also, six machinery plants were opened in the early 1950's.

Although the total number of plants has declined, the number of employees engaged in manufacturing has increased. This has occurred because there has been a large enough increase in numbers of plants hiring between 20 and 99 employees and those hiring 100 or more employees to offset the decline in number of plants hiring 19 employees or less. This change in the structure of the manufacturing sector shows up in the food, printing and publishing, and machinery industries. This structural

[1] Scott Keyes and Betty C Churchill. Intra-County Allocation of County Income Estimates: A Potential Tool for Local Economic Studies. University of Illinois at Urbana-Champaign Bureau of Community Planning. 1967.

Table 26. — Manufacturing Plants by Product and Number of Employees, Bureau County, 1947, 1954, and 1963

	1947 Employees			1954 Employees			1963 Employees		
	1-19	20-99	Over 99	1-19	20-99	Over 99	1-19	20-99	Over 99
Ordnance and accessories	0	0	0	0	0	0	0	0	0
Food and kindred	15	1	0	11	2	0	1	3	1
Tobacco manufactures	0	0	0	1	0	0	0	0	0
Textile mill products	0	0	0	0	0	0	0	0	0
Apparel and related	2	2	0	0	1	0	1	1	0
Lumber and wood	3	1	0	3	2	0	0	0	0
Furniture and fixtures	0	0	0	0	0	0	1	0	0
Paper and allied	0	0	0	0	0	0	1	0	1
Printing and publishing	7	1	0	3	1	0	2	1	0
Chemicals and allied	1	0	1	2	0	1	0	0	0
Petroleum and coal products	0	0	0	0	0	0	0	0	0
Rubber and plastics	1	0	0	0	1	0	0	1	0
Stone, clay, and glass	6	1	0	4	1	0	0	0	0
Primary metals	0	0	1	0	1	1	1	0	0
Fabricated metal	0	0	0	1	1	1	8	4	1
Machinery (except electrical)	0	0	0	4	2	0	2	2	2
Electrical machinery	0	0	1	0	0	0	0	0	0
Transportation equipment	0	0	1	0	0	0	1	0	0
Instruments and related	0	0	0	0	0	1	0	0	0
Miscellaneous	1	1	0	0	0	0	1	0	1
Total	36	7	4	29	12	4	19	12	6

Source: U.S. Census of Manufactures.

change in the manufacturing sector parallels the structural change in the farm sector where total number of farms is declining, but farm output is increasing as average farm size increases.

In LaSalle County (Table 27) the largest number of plants has been concentrated in the food products category. However, the stone, clay, and glass industry group still is probably the real mainstay of manufacturing in the county, with the number of plants remaining about the same and nine of them numbering over 100 employees in 1963. In fact, at least two of these plants had over 1,000 employees. The small number of apparel, lumber and wood, furniture, and paper and allied products manufacturers has remained about the same since 1947. The few chemical plants have remained much the same since 1947. There has been a slow decline in primary metal plants, with only five remaining in 1963, while the number of fabricated metal products plants has remained about the same. The slow increase in non-electrical machinery manufacturing has brought the number of plants in that category to 18 in 1963. There are several larger electrical machinery plants as well.

Overall, in the 16-year period, there has been a proliferation of smaller industrial plants in the county with some decline in the number of larger ones. However, several of the large plants have increased in size substantially. One plant in Ottawa, for example, has increased from less than 1,000 to over 2,000 employees, with output much more than doubled because of investment in improved equipment.

In Marshall County (Table 28) the overall number of industrial plants is up slightly, but the character of manufacturing in the county has changed. The change in character has resulted from the addition of new industry rather than the decline of existing industrial plants. Since 1954, the county has opened its first chemical, rubber or plastic, fabricated metal, non-electrical machinery, and transportation equipment plants. The number of stone, clay, or glass plants has grown to three.

In Putnam County (Table 29) only one industrial plant was reported through 1954, a printing and publishing plant. Between 1954 and 1963 a food plant, a paper or allied products plant, and a stone, clay, or glass plant appeared, all having fewer than 20 employees.

Table 27. — Manufacturing Plants by Product and Number of Employees, LaSalle County, 1947, 1954, and 1963

	1947 Employees			1954 Employees			1963 Employees		
	1-19	20-99	Over 99	1-19	20-99	Over 99	1-19	20-99	Over 99
Ordnance and accessories	0	0	0	0	0	0	0	0	1
Food and kindred	18	12	0	25	7	3	21	10	2
Tobacco manufactures	2	0	0	0	0	0	0	0	0
Textile mill products	0	0	0	0	0	0	3	1	0
Apparel and related	1	4	2	4	2	2	2	4	0
Lumber and wood	3	2	0	1	2	0	1	2	0
Furniture and fixtures	0	1	1	0	2	0	1	0	1
Paper and allied	1	1	2	0	0	2	1	0	2
Printing and publishing	11	4	1	15	4	1	12	4	1
Chemicals and allied	3	2	1	0	3	1	3	3	1
Petroleum and coal products	1	0	1	0	0	1	0	0	0
Rubber and plastics	0	0	0	0	0	0	0	0	1
Stone, clay, and glass	11	3	10	10	3	10	11	2	9
Primary metals	3	2	3	2	1	3	2	2	1
Fabricated metal	4	3	2	9	4	2	7	4	2
Machinery (except electrical)	7	8	1	8	6	2	10	7	1
Electrical machinery	1	0	2	0	0	3	1	1	3
Transportation equipment	1	1	1	2	0	1	4	1	1
Instruments and related	0	0	2	0	0	1	1	1	1
Miscellaneous	2	0	1	2	1	1	5	0	0
Total	69	43	30	78	35	33	83	42	27

Source: U.S. Census of Manufactures.

Table 28. — Manufacturing Plants by Product and Number of Employees, Marshall County, 1947, 1954, and 1963

	1947 Employees			1954 Employees			1963 Employees		
	1-19	20-99	Over 99	1-19	20-99	Over 99	1-19	20-99	Over 99
Ordnance and accessories	0	0	0	0	0	0	0	0	0
Food and kindred	3	1	0	4	1	0	2	1	0
Tobacco manufactures	0	0	0	0	0	0	0	0	0
Textile mill products	0	0	0	0	0	1	0	0	1
Apparel and related	0	1	0	0	3	0	0	1	0
Lumber and wood	0	0	0	3	0	0	1	0	0
Furniture and fixtures	0	0	0	0	0	0	0	0	0
Paper and allied	0	0	0	0	0	0	0	0	0
Printing and publishing	4	0	0	3	0	0	3	0	0
Chemicals and allied	0	0	0	0	0	0	0	1	0
Petroleum and coal products	0	0	0	0	0	0	0	0	0
Rubber and plastics	0	0	0	0	0	0	1	0	0
Stone, clay, and glass	1	1	0	1	1	0	2	1	0
Primary metals	0	0	0	0	0	0	0	0	0
Fabricated metal	0	0	0	0	0	0	1	0	0
Machinery (except electrical)	1	0	0	0	0	0	2	0	0
Electrical machinery	0	0	0	0	0	0	0	0	0
Transportation equipment	0	0	0	0	0	0	1	0	0
Instruments and related	0	0	0	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0	0	0	0
Total	9	3	0	11	5	1	13	4	1

Source: U.S. Census of Manufactures.

Iroquois County (Table 30) has shown an overall increase in the number of small manufacturing plants. However, the number of food-producing plants dropped from eight to four between 1947 and 1963. In 1963 only one apparel plant was left. On the growth side, there has been a slow increase in the number of lumber and wood products plants to five. The number of printing and publishing plants has remained the same, although now one of these has changed from the 20- to 99-employee size group to the over 100-employee size group. There are now two chemical plants, as well as six new, small non-electrical machinery plants and two new transportation equipment plants. One large fabricated metal products plant has grown to employ over 100 persons, while the other still employes less than 20.

Gains recorded in LaSalle County in payroll and value added between 1947 and 1963 are under those of the state as a whole and far below the large gains in Bureau, Iroquois, and Marshall counties (Table 31). Further,

capital expenditures in relation to value added is most striking in Iroquois County for 1963 where the ratio is 12 to 1, while it is almost 20 to 1 in the other counties and in the state. There are several possible explanations for this finding, none of which can be adequately tested with the data available. First, the low ratio could be due to recent heavy investment in two large electrical machinery plants (Table 30) which by 1963 had not begun to produce returns large enough to offset the initial expenditure. Second, the presence of labor-intensive industry could contribute to the same result. Finally, with a relatively low capital investment base new expenditures would initially have a negative impact on the ratio.

Manufacturing establishments were of considerable importance to the economy in LaSalle County, of increasing importance to the economies in Bureau, Marshall, and Iroquois counties, and were virtually unimportant in Putnam County in 1963.

Table 29. — Manufacturing Plants by Product and Number of Employees, Putnam County, 1947, 1954, and 1963

	1947 Employees			1954 Employees			1963 Employees		
	1-19	20-99	Over 99	1-19	20-99	Over 99	1-19	20-99	Over 99
Ordnance and accessories	0	0	0	0	0	0	0	0	0
Food and kindred	0	0	0	0	0	0	1	0	0
Tobacco manufactures	0	0	0	0	0	0	0	0	0
Textile mill products	0	0	0	0	0	0	0	0	0
Apparel and related	0	0	0	0	0	0	0	0	0
Lumber and wood	0	0	0	0	0	0	0	0	0
Furniture and fixtures	0	0	0	0	0	0	0	0	0
Paper and allied	0	0	0	0	0	0	1	0	0
Printing and publishing	1	0	0	1	0	0	0	0	0
Chemicals and allied	0	0	0	0	0	0	0	0	0
Petroleum and coal products	0	0	0	0	0	0	0	0	0
Rubber and plastics	0	0	0	0	0	0	0	0	0
Stone, clay, and glass	0	0	0	0	0	0	1	0	0
Primary metals	0	0	0	0	0	0	0	0	0
Fabricated metal	0	0	0	0	0	0	0	0	0
Machinery (except electrical)	0	0	0	0	0	0	0	0	0
Electrical machinery	0	0	0	0	0	0	0	0	0
Transportation equipment	0	0	0	0	0	0	0	0	0
Instruments and related	0	0	0	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	3	0	0

Source: U.S. Census of Manufactures.

The Trade and Commercial Sector

There are more data available on trade than any other sector of the economy except the government. The percentages of total personal income provided in 1965 by trade were (Tables 7 to 12):

Illinois	12.2
Iroquois	8.0
LaSalle	7.5
Marshall	7.2
Bureau	6.8
Putnam	5.3

Iroquois County has shown an increase in personal income from trade since 1945 that ranks above the state increase (Tables 11 and 12). Marshall, Putnam, Bureau, and LaSalle counties, on the other hand, have been far below the state increase, although they have shown small gains in personal income.

There are three sources that expose patterns of retail trade in the areas

Table 30. — Manufacturing Plants by Product and Number of Employees, Iroquois County, 1947, 1954, and 1963

	1947 Employees			1954 Employees			1963 Employees		
	1-19	20-99	Over 99	1-19	20-99	Over 99	1-19	20-99	Over 99
Ordnance and accessories	0	0	0	0	0	0	0	0	0
Food and kindred	5	2	1	8	1	1	1	2	1
Tobacco manufactures	0	0	0	0	0	0	0	0	0
Textile mill products	0	0	0	0	0	0	0	0	0
Apparel and related	0	1	0	1	1	0	0	1	0
Lumber and wood	0	1	0	3	0	0	4	1	0
Furniture and fixtures	0	0	0	0	0	0	0	0	0
Paper and allied	0	0	0	0	0	0	0	0	0
Printing and publishing	6	1	0	6	1	1	6	0	1
Chemicals and allied	0	0	0	1	0	0	2	0	0
Petroleum and coal products	0	0	0	0	0	0	0	0	0
Rubber and plastics	0	0	0	0	0	0	0	0	0
Stone, clay, and glass	3	0	0	1	0	0	2	0	0
Primary metals	0	0	0	0	0	0	0	0	0
Fabricated metal	1	0	0	2	0	0	1	0	1
Machinery (except electrical)	0	0	0	1	0	0	6	0	0
Electrical machinery	0	0	1	0	0	2	0	0	2
Transportation equipment	0	0	0	0	0	0	2	0	0
Instruments and related	0	0	0	1	0	0	0	1	0
Miscellaneous	0	0	0	0	0	0	0	0	0
Total	15	5	2	24	3	4	24	5	5

Source: U.S. Census of Manufactures.

Table 31. — Manufacturing Establishments, Employees, Payroll, Value Added, and Capital Expenditures by County, 1947, 1954, and 1963

	Numbers or $000			Percent increase, 1947-1963
	1947	1954	1963	
Bureau County				
Establishments	47	45	37	−21
Establishments, 20 employees or more	11	16	18	64
Employees	1,602	1,787	2,075	30
Payroll	3,694	6,740	9,753	164
Value added by manufactures, adjusted[a]	6,934	13,411	23,145	234
Capital expenditures, new	NR	568	1,367	..
LaSalle County				
Establishments	142	146	154	8
Establishments, 20 employees or more	73	68	69	−5
Employees	17,221	17,585	15,233	−12
Payroll	44,459	74,361	86,810	95
Value added by manufactures, adjusted[a]	100,280	163,114	203,405	103
Capital expenditures, new	NR	8,051	10,999	..
Marshall County				
Establishments	12	17	18	50
Establishments, 20 employees or more	3	6	5	67
Employees	412	610	658	60
Payroll	877	1,777	3,008	243
Value added by manufactures, adjusted[a]	1,873	2,658	5,548	196
Capital expenditures, new	NR	100	391	..
Putnam County				
Establishments	1	1	3	200
Establishments, 20 employees or more	0	0	0	0
Employees	NR	NR	7	..
Payroll	NR	NR	17	..
Value added by manufactures, adjusted[a]	NR	NR	50	..
Capital expenditures, new	NR	NR	3	..
Iroquois County				
Establishments	22	31	34	55
Establishments, 20 employees or more	7	7	10	43
Employees	955	1,185	1,963	106
Payroll	2,024	3,288	7,755	283
Value added by manufactures, adjusted[a]	3,378	6,445	11,745	248
Capital expenditures, new	NR	140	1,023	..
Illinois				
Establishments	15,988	17,628	18,952	19
Establishments, 20 employees or more	NR	NR	6,973	..
Employees (total number)	1,186,820	1,177,933	1,210,802	2
Payroll	3,585,000	5,137,000	7,558,000	111
Value added by manufactures, adjusted[a]	6,680,000	9,669,000	14,640,000	119
Capital expenditures, new	NR	551,882	775,542	..

Source: U.S. Census of Manufactures.

[a] Value added by manufactures is derived by subtracting the total cost of materials (including materials, supplies, fuel, electric energy, cost of resales and miscellaneous receipts) from the value of shipments (including resales) and other receipts and adjusting the resulting amount by the value change in finished products and work-in-process inventories between the beginning and end of the year. This is the best available measure for value added for comparing economic importance of industries.

under consideration. Table 32 summarizes data from state sales tax collections by county and incorporated place. Table 33 summarizes the U.S. Census of Business data on the number of retail establishments and sales volume. Table 34 summarizes Sales Management Magazine's Survey of Buying Power estimates of retail sales.

Data for the latest year available in each of these sources give exactly the same rank order of counties in terms of sales, number of establishments, and sales-tax receipts. LaSalle ranks far above the others. Bureau is next, with Iroquois only slightly behind, while Marshall and Putnam rank far behind the others (Tables 32 to 34).

To summarize trend lines on the various factors relevant to retail sales, rankings were drawn up on the percent increase or decrease in number of taxpayers, tax receipts, sales, and number of retail establishments. The rankings in terms of percent change were as follows:

Number of taxpayers (number of establishments submitting tax revenue; percent of change, 1950 to 1965):

Putnam	39.0
Iroquois	34.0
Marshall	31.6
Bureau	26.0
Illinois	21.9
LaSalle	14.4

Tax receipts (percent of change, 1950 to 1965):

Illinois	258.8
LaSalle	195.6
Iroquois	192.1
Bureau	172.0
Putnam	165.2
Marshall	146.0

Sales (percent of change, 1948 to 1963):

Illinois	72.5
Iroquois	68.5
LaSalle	58.1
Marshall	55.0
Bureau	51.2
Putnam	12.6

Number retail establishments (percent of change, 1948 to 1963):

Iroquois	1.8
Illinois	− 1.2
Marshall	−10.1
LaSalle	−11.1
Bureau	−18.1
Putnam	−20.3

In terms of number of taxpayers, the greatest percentage growth has occurred in the more rural areas — Putnam, Iroquois, Marshall, and Bureau counties. However, in terms of percentage increase in tax receipts, the greatest change is found in the more industrialized areas — LaSalle County and Illinois. Percentage increase in sales also would indicate that it is the more industrialized areas that show the greatest growth in the trade sector.

A trend to fewer but larger establishments is found in the trade and commercial sector as well as in agriculture. The number of retail establishments has declined in all areas considered except Iroquois County, according to Sales Management Magazine figures (Table 33). The difference between this trend and the increased number of taxpayers noted above is evidently to be found in the rigid exclusion of wholesale stores and manufacturers from the Sales Management data. Thus, the number of actual retail outlets is almost half the number of taxpayers.

Several generalizations then seem to emerge concerning the importance of trade and commerce to the areas being studied. Trade was playing an increasingly important role in the control area, with Watseka showing very considerable growth. In Bureau and Marshall counties trade was providing for an increased proportion of the county's economy, but the growth rates were not nearly as significant as in Iroquois. In LaSalle, where trade played a more important role in the economy to begin with, it has shown a small overall decline in importance in comparison with other segments of the economy.

Finally, in Putnam County the picture was mixed. The fluctuation from year to year in number of retail establishments and number of state sales-tax payers appears radical in terms of percentage, but the closing or opening of only a few establishments can skew the picture when there is such a small trade base to begin with. There does appear, however, to have been a recent increase in the number of retail outlets in the county (1963-1965). But in terms of growth of sales or tax receipts, as well as in terms of absolute amounts of sales or sales tax collected it is one of the lowest counties in the state. Finally, it appears that establishment of new retail outlets is following the movement of population to the less industrial counties, but the volume of sales is still concentrated in the established retail and trade centers. This pattern resembles the inner-city to suburban movement of retail outlets in more urbanized areas.

The Finance, Insurance, and Real Estate Sector

Businesses in this sector are of primary importance in that they are interconnected with all other sectors of the economic system. This sector is the source of three of the most important inputs to businesses in almost all other economic sectors. These inputs are operating and long-term investments, capital, and real estate. Businesses in this sector are, therefore, catalytic or multiplicative in their effect on the rest of the economic system. This sector is far more important to the whole economy than the amount of

Table 32. — Sales-Tax Payers and Receipts by County and Incorporated Area, 1950, 1955, 1960, and 1965, With Percent of Increase

	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965
	Bureau County					**Depue**				
Total average number taxpayers	882	862	950	1,113	29.0	42	42	43	40	−4.8
Total tax receipts[e]	$640,000	$795,000	$1,089,000	$1,741,000	119.0	$ 19,299	$ 26,162	$ 32,724	$ 45,550	74.1
General merchandise	43,000	55,000	74,000	103,000	87.3	NR	274	581	2,313	744.2
Food	131,000	184,000	272,000	355,000	92.9	NR	10,708	14,619	13,357	24.7
Drinking and eating places	70,000	80,000	107,000	141,000	76.3	NR	4,398	4,838	6,152	39.9
Apparel	20,000	22,000	31,000	41,000	86.4	NR	254	243	693	172.8
Furniture, household, radio	20,000	25,000	30,000	60,000	140.0	NR	552	83	63	−88.6
Lumber, building, hardware	106,000	109,000	111,000	254,000	133.0	NR	1,382	1,784	3,356	142.8
Automotive, filling stations	168,000	227,000	321,000	472,000	107.9	NR	3,298	4,118	8,058	144.3
Misc. retail, wholesale stores	31,000	41,000	66,000	176,000	319.3	NR	3,137	3,718	9,730	210.2
Miscellaneous	(*)	(*)	(*)	37,000	....	NR	(*)	(*)	724	....
Manufacturers	49,000	49,000	69,000	88,000	....	NR	2,160	2,740	1,104	....
	Ladd					**Princeton**				
Total average number taxpayers	46	40	45	51	27.5	233	228	192	211	−7.5
Total tax receipts[e]	$ 29,989	$ 28,504	$ 39,388	$ 56,182	97.1	$241,075	$308,233	$357,101	$549,675	78.3
General merchandise	NR	1,287	1,171	1,397	8.5	NR	34,286	50,092	62,918	83.5
Food	NR	7,127	10,900	10,974	54.0	NR	75,832	117,881	151,917	100.3
Drinking and eating places	NR	4,222	6,038	9,447	123.8	NR	22,229	15,286	23,811	7.1
Apparel	NR	2	0	0	−100.0	NR	15,636	23,254	30,268	93.6
Furniture, household, radio	NR	2,204	2,276	2,432	10.3	NR	11,823	15,242	31,079	162.9
Lumber, building, hardware	NR	7,730	9,043	16,793	117.2	NR	28,577	24,970	63,732	123.0
Automotive, filling stations	NR	4,671	7,414	8,691	86.1	NR	88,934	76,233	112,311	26.3
Misc. retail, wholesale stores	NR	805	1,643	2,918	262.5	NR	10,289	10,012	50,461	390.4
Miscellaneous	NR	(*)	(*)	755	....	NR	(*)	(*)	4,409	....
Manufacturers	NR	458	902	2,774	....	NR	20,754	24,131	18,770	....
	Seatonville					**Spring Valley**				
Total average number taxpayers	7	8	13	11	37.5	158	149	145	161	8.1
Total tax receipts[e]	$ 4,592	$ 8,676	$ 6,598	$ 6,334	−27.0	$101,124	$134,232	$189,307	$304,890	127.1
General merchandise	NR	0	6	56	....	NR	6,825	10,174	20,847	205.5
Food	NR	1,284	1,301	583	−54.6	NR	35,493	47,295	76,174	114.6
Drinking and eating places	NR	830	1,003	795	− 4.2	NR	14,196	26,381	26,367	85.7
Apparel	NR	0	0	0	....	NR	3,583	4,156	5,411	51.0
Furniture	NR	0	1	0	....	NR	4,273	3,646	11,618	171.9
Lumber, building, hardware	NR	0	0	0	....	NR	7,954	9,780	30,137	278.9
Automotive, filling stations	NR	509	1,237	1,066	109.4	NR	44,900	62,669	101,768	126.7
Misc. retail, wholesale stores	NR	49	26	3,834	7,724.5	NR	10,452	15,083	28,039	168.3
Miscellaneous	NR	(*)	(*)	0	....	NR	(*)	(*)	3,499	....
Manufacturers	NR	3,542	3,024	0	....	NR	6,551	10,121	1,029	....

See p. 57 for footnotes.

Table 32. — Sales-Tax Payers and Receipts by County and Incorporated Area, 1950, 1955, 1960, and 1965, With Percent of Increase (continued)

	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965
	Iroquois County					Watseka				
Total average number taxpayers	716	694	824	960	38.3	141	148	143	179	20.9
Total tax receipts[e]	$556,000	$715,000	$1,016,000	$1,624,000	127.1	$187,341	$258,267	$338,861	$546,655	72.9
General merchandise	29,000	38,000	59,000	94,000	147.4	NR	16,028	28,838	60,196	275.6
Food	99,000	130,000	185,000	279,000	114.6	NR	52,719	72,783	118,945	125.6
Drinking and eating places	62,000	74,000	109,000	159,000	114.9	NR	18,665	27,604	49,291	164.1
Apparel	9,000	16,000	25,000	31,000	93.8	NR	12,493	18,299	22,337	78.8
Furniture, household, radio	13,000	25,000	44,000	57,000	128.0	NR	15,574	18,386	26,831	72.3
Lumber, building, hardware	102,000	109,000	127,000	322,000	195.4	NR	26,225	26,362	64,178	144.7
Automotive, filling stations	161,000	204,000	274,000	444,000	117.6	NR	82,568	89,917	136,238	65.0
Misc. retail, wholesale stores	40,000	64,000	119,000	144,000	125.0	NR	22,618	36,302	38,763	71.4
Miscellaneous	(*)	(*)	(*)	66,000	....	NR	(*)	(*)	28,672	....
Manufacturers	40,000	51,000	71,000	20,000	....	NR	11,367	20,368	1,203	....
	Crescent					Iroquois				
Total average number taxpayers	28	25	22	30	20.0	8	9	14	13	44.4
Total tax receipts[e]	$ 17,810	$ 20,357	$ 13,870	$ 30,833	51.5	$ 3,360	$ 3,401	$ 6,192	$ 6,774	184.0
General merchandise	NR	0	0	172	....	NR	0	0	102	....
Food	NR	3,406	4,298	3,218	− 5.5	NR	1,833	2,725	2,644	44.2
Drinking and eating places	NR	5,210	1,245	7,063	35.6	NR	637	1,571	1,893	197.2
Apparel	NR	0	0	0	....	NR	0	0	0	....
Furniture, household, radio	NR	0	410	71	....	NR	201	0	12	−94.0
Lumber, building, hardware	NR	3,424	4,121	3,978	16.2	NR	2	19	661	3,295.0
Automotive, filling stations	NR	6,038	2,812	15,303	153.4	NR	593	1,302	925	56.0
Misc. retail, wholesale stores	NR	1,409	374	995	−29.4	NR	125	323	162	29.6
Miscellaneous	NR	(*)	(*)	31	....	NR	(*)	(*)	375	....
Manufacturers	NR	863	611	2	....	NR	6	252	0	....
	Sheldon					Woodland				
Total average number taxpayers	53	46	46	49	− 6.5	10	9	12	11	22.2
Total tax receipts[e]	$ 34,318	$ 41,165	$ 37,858	$ 42,612	3.0	$ 2,568	$ 3,291	$ 4,439	$ 3,588	9.0
General merchandise	NR	627	704	945	50.7	NR	1	0	94	9,300.0
Food	NR	2,875	3,477	9,417	227.5	NR	1,996	2,716	1,810	−110.3
Drinking and eating places	NR	4,041	3,101	4,312	6.7	NR	71	253	0	−100.0
Apparel	NR	400	480	204	−49.0	NR	0	0	0	....
Furniture, household, radio	NR	640	2,412	1,224	91.3	NR	0	330	5	....
Lumber, building, hardware	NR	8,112	5,084	8,545	5.3	NR	586	18	422	28.0
Automotive, filling stations	NR	13,067	9,702	8,374	−35.9	NR	44	729	261	493.2
Misc. retail, wholesale stores	NR	9,803	11,336	8,164	−17.3	NR	17	6	530	3,017.6
Miscellaneous	NR	(*)	(*)	1,363	....	NR	(*)	(*)	465	....
Manufacturers	NR	1,600	1,601	65	....	NR	577	386	0	....

See p. 57 for footnotes.

Table 32. — Sales-Tax Payers and Receipts by County and Incorporated Area, 1950, 1955, 1960, and 1965, With Percent of Increase (continued)

	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965
	LaSalle County					**Oglesby**				
Total average number taxpayers	2,219	2,140	2,211	2,541	18.7	83	82	92	101	23.2
Total tax receipts[e]	$2,327,000	$2,996,000	$4,225,000	$6,802,000	127.0	$ 60,566	$ 79,823	$135,445	$162,210	103.2
General merchandise	222,000	298,000	440,000	789,000	164.8	NR	2,899	5,061	3,557	22.7
Food	538,000	750,000	1,182,000	1,401,000	86.8	NR	22,949	52,515	54,399	137.0
Drinking and eating places	245,000	315,000	422,000	557,000	76.8	NR	12,559	17,118	18,907	50.6
Apparel	129,000	163,000	222,000	325,000	99.4	NR	7,938	10,650	13,233	66.8
Furniture, household, radio	93,000	140,000	163,000	246,000	75.7	NR	9,430	10,707	18,510	96.3
Lumber, building, hardware	268,000	254,000	344,000	797,000	213.8	NR	10,041	13,709	14,232	41.6
Automotive, filling stations	473,000	637,000	821,000	1,567,000	146.0	NR	5,447	13,076	19,860	264.6
Misc. retail, wholesale stores	152,000	227,000	336,000	479,000	111.0	NR	2,357	2,312	9,818	316.5
Miscellaneous	(*)	(*)	(*)	124,000	....	NR	(*)	(*)	2,682	....
Manufacturers	206,000	219,000	283,000	509,000	....	NR	6,196	10,367	7,012	....
	Marshall County					**Henry**				
Total average number taxpayers	297	290	327	391	34.8	84	83	82	90	8.4
Total tax receipts[e]	$ 239,000	$ 284,000	$ 383,000	$ 589,000	107.4	$ 79,092	$ 93,368	$114,041	$209,525	17.3
General merchandise	12,000	15,000	21,000	38,000	153.3	NR	7,437	11,363	19,637	164.0
Food	54,000	66,000	102,000	133,000	101.5	NR	20,235	33,750	47,937	136.9
Drinking and eating places	23,000	25,000	42,000	63,000	160.0	NR	5,642	5,430	11,203	98.6
Apparel	2,000	2,000	3,000	2,000	0.0	NR	1,217	916	977	−19.8
Furniture, household, radio	5,000	6,000	7,000	10,000	66.7	NR	1,442	786	1,033	−28.4
Lumber, building, hardware	45,000	49,000	67,000	145,000	195.9	NR	13,389	22,170	66,193	394.4
Automotive, filling stations	78,000	89,000	94,000	148,000	66.3	NR	30,396	25,373	44,074	45.0
Misc. retail, wholesale stores	4,000	11,000	22,000	30,000	172.7	NR	4,642	3,917	11,432	146.3
Miscellaneous	(*)	(*)	(*)	12,000	....	NR	(*)	(*)	6,554	....
Manufacturers	16,000	18,000	23,000	7,000	....	NR	6,235	10,333	485	....
	Putnam County					**Hennepin**				
Total average number taxpayers	105	99	133	146	47.5	12	8	18	23	187.5
Total tax receipts[e]	$ 46,000	$ 55,000	$ 84,000	$ 122,000	121.8	$ 2,824	$ 3,605	$ 9,848	$ 19,994	454.6
General merchandise	0	2,000	1,000	8,000	300.0	NR	23	40	42	82.6
Food	12,000	16,000	26,000	25,000	56.3	NR	1,225	4,235	6,029	392.2
Drinking and eating places	7,000	10,000	11,000	22,000	120.0	NR	1,272	2,344	6,323	397.1
Apparel	0	0	1,000	1,000	....	NR	0	0	0	....
Furniture, household, radio	0	6,000	200	400	−93.3	NR	17	59	39	129.4
Lumber, building, hardware	7,000	4,000	5,000	18,000	350.0	NR	165	441	982	495.2
Automotive, filling stations	8,000	11,000	15,000	30,000	227.3	NR	900	1,331	4,446	394.0
Misc. retail, wholesale stores	3,000	3,000	8,000	9,000	200.0	NR	2	353	1,791	....
Miscellaneous	(*)	(*)	(*)	5,000	....	NR	(*)	(*)	84	....
Manufacturers	9,000	9,000	16,000	2,000	....	NR	3	1,046	250	....

Table 32. — Sales-Tax Payers and Receipts by County and Incorporated Area, 1950, 1955, 1960, and 1965, With Percent of Increase (concluded)

	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965	1950[a]	1955[b]	1960[c]	1965[d]	Percent increase, 1955-1965
				Illinois						
Total average number taxpayers	138,000	133,423	140,521	168,244	26.1					
Total tax receipts (000,000)[f]	$ 181	$ 245	$ 385	$ 649	164.9					
General merchandise	24	30	44	81	170.0					
Food	40	56	88	99	76.8					
Drinking and eating places	20	28	40	52	85.7					
Apparel	11	14	21	29	107.1					
Furniture, household, radio	9	12	17	23	91.7					
Lumber, building, hardware	11	14	19	57	307.1					
Automotive, filling stations	32	45	66	123	173.3					
Misc. retail, wholesale stores	18	50	61	64	28.0					
Miscellaneous	(e)	(e)	(e)	20	....					
Manufacturers	15	17	28	71	....					

Source: Illinois Department of Revenue, Receipts From Retailers Occupation Tax.

[a] 1950 collection rate was 2 percent.

[b] 1955 collection rate was 2 percent through June 30th, 2½ percent after July 1.

[c] 1960 collection rate was 3 percent.

[d] 1965 collection rate was 3½ percent.

[e] Manufacturers were combined with Miscellaneous until 1965.

[f] Tax receipts by kind of business will not usually add to equal the Total Tax Receipts for the county or incorporated place since such data are often not reported for taxpayers in small communities to protect their identity. However, the tax receipts from such sources are included in the total. Where receipts for all businesses are reported, some small discrepancies may also result from rounding errors.

Table 33. — Retail Trade Patterns, by County and Type of Establishment, 1948, 1954, 1958, and 1963, With Percent of Increase, 1948 to 1963

	Bureau County					LaSalle County				
	1948	1954	1958	1963	Percent increase, 1948-1963	1948	1954	1958	1963	Percent increase, 1948-1963
	Number or $000					Number or $000				
Retail establishments	659	561	591	534	−18.9	1,530	1,503	1,254	1,413	− 7.6
Retail sales	32,359	38,004	41,817	41,013	51.5	105,040	132,791	139,482	163,712	55.9
Retail firms, payroll (entire year)	2,296	2,943	3,274	3,749	63.3	10,258	12,446	13,857	16,599	61.8
Retail firms, employees	1,424	1,161	1,248	1,271	−10.7	5,496	5,061	5,312	5,281	− 3.9
Sales by Categories:										
Lumber										
Establishments[a]	92	81	65	58	−36.9	117	120	112	108	− 7.7
Sales[b]	8,179	8,420	8,062	6,540	−20.0	13,790	14,561	15,202	16,532	19.9
General merchandise										
Establishments	24	20	19	16	−33.3	47	44	45	36	−23.4
Sales	1,435	1,488	1,432	2,105	46.7	9,848	9,775	10,598	13,897	41.1
Food										
Establishments	136	106	87	76	−44.1	350	260	21	204	−41.7
Sales	6,557	8,375	8,330	10,284	56.8	26,670	29,568	35,134	39,937	49.7
Automotive										
Establishments	39	35	39	28	−28.2	102	93	85	74	−27.5
Sales	4,757	7,419	7,237	8,671	83.0	15,369	24,582	22,801	27,963	81.9
Gas stations										
Establishments	82	49	69	68	−17.1	151	124	135	135	−10.6
Sales	2,385	2,280	3,963	4,537	90.2	5,297	7,288	10,379	11,277	112.9
Apparel										
Establishments	34	25	27	28	−17.6	108	121	114	111	2.8
Sales	1,048	839	1,652	1,690	61.3	7,709	8,320	9,485	10,939	40.4
Furniture, home furnishings										
Establishments	38	29	33	35	− 7.9	76	91	96	83	9.2
Sales	1,445	1,052	1,117	1,938	34.1	6,040	7,080	7,922	6,928	14.7
Eating, drinking places										
Establishments	152	126	147	134	11.8	395	386	379	362	− 8.5
Sales	3,065	3,029	3,821	4,451	45.2	9,983	14,829	12,770	12,967	29.9
Drug stores, proprietory stores										
Establishments	19	19	18	12	−36.8	35	39	34	37	5.7
Sales	506	741	1,141	1,088	115.0	2,837	4,237	3,948	5,134	80.9
Other retail										
Establishments	43	49	67	61	41.9	149	161	198	205	37.6
Sales	3,002	3,826	4,810	7,286	142.7	7,417	10,535	9,805	14,332	93.2
Non-store retailers										
Establishments	NR	22	20	18	....	NR	64	35	58	....
Sales	NR	535	252	423	....	NR	2,016	1,438	3,806	....

See footnotes on p. 60.

Table 33. — Retail Trade Patterns, by County and Type of Establishment, 1948, 1954, 1958, and 1963, With Percent of Increase, 1948 to 1963 (continued)

	Marshall County					Putnam County				
	1948	1954	1958	1963	Percent increase, 1948-1963	1948	1954	1958	1963	Percent increase, 1948-1963
	Number or $000					Number or $000				
Retail establishments	207	182	193	176	−15.0	79	73	64	63	−20.3
Retail sales	10,617	12,771	17,026	16,456	55.0	2,893	2,584	3,548	3,256	12.5
Retail firms, payroll (entire year)	711	943	1,310	1,368	92.4	250	127	217	219	12.4
Retail firms, employees	494	453	529	503	1.8	114	65	107	97	−14.9
Sales by categories:										
Lumber										
Establishments	36	35	36	33	− 8.3	12	8	8	8	−33.3
Sales	2,814	3,615	5,213	4,239	50.6	470	305	378	790	68.1
General merchandise										
Establishments	9	10	7	8	−11.1	3	2	1	3	.0
Sales	723	795	769	767	6.1	103	(*)	(*)	71	−31.1
Food										
Establishments	39	18	18	18	−53.8	17	10	11	9	−47.1
Sales	2,749	2,176	3,004	3,278	19.2	664	672	921	924	39.2
Automotive										
Establishments	14	13	15	11	−21.4	1	1	2	2	100.0
Sales	1,667	2,494	2,175	2,008	20.5	(*)	(*)	(*)	(*)	....
Gas stations										
Establishments	25	22	23	19	−24.0	11	9	4	8	−27.3
Sales	678	919	1,118	1,367	101.6	155	250	87	301	94.2
Apparel										
Establishments	5	8	11	5	.0	1	1	0	1	....
Sales	83	177	288	189	127.7	(*)	(*)	0	(*)	....
Furniture, home furnishings										
Establishments	12	12	13	7	−41.7	0	0	1	0	....
Sales	218	318	314	234	7.3	0	0	(*)	0	....
Eating, drinking places										
Establishments	52	43	44	47	− 9.6	30	34	26	25	−16.7
Sales	1,130	1,221	1,409	1,641	45.2	400	680	542	566	41.5
Drug stores, proprietory stores										
Establishments	4	5	5	5	25.0	1	0	0	2	100.0
Sales	182	332	397	445	144.5	(*)	0	0	(*)	....
Other retail										
Establishments	11	12	12	21	90.9	3	6	11	5	66.7
Sales	373	678	(*)	0	....	(*)	386	1,315	(*)	....
Non-store retailers										
Establishments	NR	4	9	2	....	NR	2	0	0	....
Sales	NR	46	(*)	(*)	....	NR	(*)	0	0	....

See footnotes on p 60.

Table 33. — Retail Trade Patterns, by County and Type of Establishment, 1948, 1954, 1958, and 1963, With Percent of Increase, 1948 to 1963 (concluded)

	Iroquois County					Illinois				
	1948	1954	1958	1963	Percent increase, 1948-1963	1948	1954	1958	1963	Percent increase, 1948-1963
	Number or $000					Number or $000				
Retail establishments	449	449	447	457	1.8	103,405	99,669	98,172	92,203	−10.8
Retail sales	29,196	35,319	37,789	49,206	68.5	8,804	11,215	12,999	14,779	67.9
Retail firms, payroll (entire year)	2,094	2,694	3,245	4,197	100.4	1,077	1,252	1,452	1,775	64.8
Retail firms, employees	1,307	1,149	1,366	1,322	1.1	499,660	463,808	497,548	524,183	4.9
Sales by categories:										
Lumber										
Establishments	69	58	59	61	−11.6	6,196	6,225	6,655	5,776	− 6.8
Sales	7,970	8,187	9,437	10,431	30.9	689	814	901	877	27.3
General merchandise										
Establishments	19	20	15	14	−26.3	2,893	3,107	3,169	2,806	− 3.0
Sales	1,490	1,602	1,086	927	−37.8	1,512	1,108	1,305	1,830	21.0
Food										
Establishments	85	57	53	51	−40.0	27,327	20,764	18,068	15,108	−44.7
Sales	6,130	5,857	7,794	8,549	39.5	1,918	2,414	2,924	3,305	72.3
Automotive										
Establishments	35	31	33	32	− 8.6	4,642	4,349	4,402	4,560	1.8
Sales	4,076	5,187	4,905	7,652	87.7	1,254	1,805	1,802	2,626	109.4
Gas stations										
Establishments	69	60	49	70	1.4	9,164	8,920	9,915	9,909	8.1
Sales	2,381	2,600	3,425	5,526	132.1	393	605	832	963	145.0
Apparel										
Establishments	19	18	18	18	− 5.3	7,779	7,589	7,378	6,781	−14.7
Sales	822	822	976	1,446	75.9	716	754	842	891	24.4
Furniture, home furnishings										
Establishments	13	29	25	17	30.8	4,615	5,477	4,676	4,810	4.2
Sales	591	984	1,006	1,136	92.2	408	518	620	597	46.3
Eating, drinking places										
Establishments	92	93	134	107	16.3	24,623	22,283	22,741	21,484	−12.7
Sales	2,215	3,526	4,623	4,090	84.7	838	1,013	1,097	1,949	49.0
Drug stores, proprietory stores										
Establishments	13	13	8	12	− 7.7	3,294	3,171	3,149	3,033	− 7.9
Sales	529	672	614	715	35.2	260	333	432	560	115.4
Other retail										
Establishments	35	47	37	59	68.6	12,872	12,821	13,573	13,209	2.6
Sales	2,992	5,310	5,788	7,650	155.7	816	997	1,176	1,223	49.9
Non-store retailers										
Establishments	NR	23	16	16	....	NR	4,962	4,446	4,727	....
Sales	NR	572	1,135	1,084	....	NR	854	1,068	678	....

Source: U.S. Census of Business.
[a] Establishments = Number of establishments reporting during the year.
[b] Sales = Total sales for the year.
[c] Withheld to avoid identifying individual businesses.

Table 34. — Sales Management Magazine Retail Sales Estimates by County, 1950, 1955, 1960, and 1965, With Percent of Increase, 1955 to 1965

	1950	1955	1960	1965	Percent increase, 1955-1965	1950	1955	1960	1965	Percent increase, 1955-1965
		($000)					($000)			
	Bureau County					**LaSalle County**				
Total	33,772	39,965	40,453	53,583	34.1	109,899	138,422	145,232	194,950	40.8
Eating and drinking places	NR	3,050	3,715	5,131	68.2	NR	14,760	12,937	15,985	8.3
General merchandise	1,317	1,921	1,747	2,911	51.5	9,038	12,044	12,779	22,007	82.7
Apparel	NR	862	1,605	1,674	94.2	NR	8,470	9,771	12,509	47.7
Furniture, housewares	1,583	1,125	1,032	2,174	93.2	6,617	7,503	7,817	8,534	13.7
Automotive	6,713	8,622	7,042	10,063	16.7	21,856	28,335	25,310	35,187	24.2
Gas stations	NR	2,375	3,939	4,858	104.5	NR	7,531	10,762	13,192	75.2
Drugs	449	755	1,198	1,202	59.2	2,515	4,280	4,318	6,049	41.3
Food	6,578	8,460	8,173	11,050	30.6	26,657	29,309	35,471	46,303	58.0
Lumber, building, hardware	NR	8,617	7,362	6,883	−20.1	NR	14,780	15,354	18,915	28.0
	Marshall County					**Putnam County**				
Total	11,011	13,584	16,441	17,523	29.0	3,030	2,576	3,481	3,496	35.7
Eating and drinking places	NR	1,238	1,333	1,829	47.7	NR	659	517	637	− 3.3
General merchandise	664	875	2,209	982	12.2	95	135	89	83	−38.5
Apparel	NR	184	273	199	8.2	NR	29	0	37	27.6
Furniture, housewares	239	343	287	260	24.2	0	0	82	0	....
Automotive	2,363	2,928	2,223	2,295	−21.6	NR	98	129	290	195.9
Gas stations	NR	967	1,080	1,437	48.6	NR	252	85	320	27.0
Drugs	154	342	400	480	40.4	NR	40	0	66	65.0
Food	2,747	2,221	2,816	4,334	95.1	664	655	0	815	24.4
Lumber, building, hardware	NR	3,738	4,969	3,451	7.7	NR	301	364	981	225.9
	Iroquois County					**Illinois**				
Total	30,573	37,905	37,461	52,375	38.2	9,101	11,905	13,386	17,797	51.0
Eating and drinking places	NR	3,355	4,462	4,538	35.3	NR	1,043	1,161	1,512	45.0
General merchandise	1,367	2,299	2,234	2,325	1.1	1,439	1,897	2,328	3,626	91.1
Apparel	NR	866	950	1,531	76.8	NR	803	885	1,007	25.7
Furniture, housewares	647	1,080	948	1,263	16.9	442	562	629	714	27.0
Automotive	5,776	6,190	5,164	8,777	41.8	1,777	2,148	2,062	3,242	50.9
Gas stations	NR	2,782	3,396	5,768	107.3	NR	648	907	1,106	70.7
Drugs	469	703	640	771	9.7	227	349	490	655	87.7
Food	6,127	6,074	7,512	8,994	48.1	1,914	2,500	3,086	3,788	51.5
Lumber, building, hardware	NR	8,603	8,229	10,610	23.3	NR	852	962	977	14.7

Source: Sales Management Magazine, Survey of Buying Power.

personal income generated by the sector would suggest. Generally, also, many of the economic decisions in all sectors are strongly influenced by persons in business in the finance sector.

In all the counties being considered here (Tables 7 to 12) the proportion of income from finance, insurance, and real estate does not approach the state average (around 3.5 percent), but property income far exceeds the proportion of state income from property (around 14.5 percent). In traditionally agricultural areas, such as the experimental and control areas, the income from property, mainly farm property, is relatively high.

Significantly, income from property and from finance, insurance, and real estate combined constitutes a larger share of the income for Iroquois County than any other in the study. The ranking of the counties on personal income from these sources in 1965 (Tables 7 to 12) appears as follows:

Iroquois	17.8
Illinois	17.7
Putnam	16.1
Bureau	15.4
LaSalle	15.1
Marshall	14.7

The proportion of income from these sources has declined significantly for all counties under consideration here, while total income has increased. The county experiencing the greatest change has been Marshall, which had about one quarter of its income from these sources in 1950, but in 1965 received only about 15 percent. Bureau and Putnam counties have shown declines in the relative importance of this portion of the economy to the whole, but these declines were not so radical as in Marshall County. LaSalle County, however, has remained fairly constant in terms of the proportion of income provided by these sources.

The control area, Iroquois County, has also shown a decline in the importance of these sources. This decline was about like those in Bureau and Putnam counties.

Wages from institutions in this category have always constituted a very small proportion of personal income in any county being considered (Tables 13 to 18).

Data from banks and savings and loan associations (Tables 35 and 36) are useful indicators of changes in the economic system as a whole. In periods of intense economic activity, the loans and discounts of banking establishments can be expected to increase rapidly, with total resources increasing at the same time. Savings and loan associations should show growth in such periods as well. The time trend of deposits and loans is important, but perhaps just as important is the proportion of total resources in loans and discounts. The bank loan ratio is an indication of several things: (1) the relative conservatism of the persons operating the

financial institutions, (2) alternative investment opportunities outside the area, and (3) the pressure of the community for loans for local growth.

Loans and discounts increased more rapidly for Putnam County (Table 35) than any other county in the survey from 1960 to 1966 and 1945 to 1966. Since Putnam has been almost entirely agricultural, this trend must be linked to the agricultural sector. Along with this increase in loans, there was also a greater increase in farm size in Putnam County than in the other counties. In fact it is the only county of those studied where farm numbers decreased in all size categories below 500 acres and increased in only the two large size categories — farms from 500 to 999 acres and those 1,000 acres or over. For such rapid expansion of firm size to occur in any sector, large amounts of capital are required.

Deposits and total resources also showed the most growth in Putnam County (total resources include deposits, capital stock, and surplus). This would indicate that the people remaining in that county extended their control over much greater amounts of resources per person or family (population of the county decreased 16.8 percent from 1940 to 1960). Elsewhere in the study area, Bureau and Marshall county banks show roughly the same pattern in growth of deposits, total resources, and loans and discounts. LaSalle County, however, showed a disproportionate growth in loans and discounts from 1945 to 1966. This reflects the industrial development that has taken place there in the last 20 years. However, the increase in loans and discounts for LaSalle from 1960 to 1966 was lower than that of any other area, thus indicating a relative slowdown in the development of the economy there.

In Iroquois County deposits and total resources have not shown dramatic growth, but they have grown steadily. Loans and discounts, on the other hand, have grown disproportionately, indicating continuous development of the economy.

Data from savings and loan associations in these areas are too fragmentary to permit much analysis. However, new associations have opened in Princeton and Henry recently and this may indicate some increased interest in the use of this kind of institution in the area. In Iroquois County the two savings and loan associations show healthy, steady growth patterns comparable to those in the state as a whole.

Real estate sales and transfers have been relatively low. Most farm land in both areas is rather tightly held. Farm ownership is not only prestigious but necessary to control resources for farm enlargement. As industrialization occurs, there may be greater numbers of real estate transactions and more people engaged in the real estate business.

No home office of any large insurance company is located in the study areas. The usual low level of insurance activities that would be expected in a rural area are present. Activity in all insurance lines, but especially in group health, life, and guaranteed-income insurance, will no doubt increase in the area as industrialization increases.

Table 35. — Deposits, Resources, Loans, and Discounts in Millions of Dollars of Banks in the Study Areas, by County, 1945-1966, With Percent of Increase

	1945	1950	1955	1960	1965	1966	Percent of increase 1945-1966	Percent of increase 1960-1966
Bureau County[a]								
Deposits	18,140	23,194	27,050	29,487	44,503	44,160	143.4	49.8
Total resources	19,033	25,291	28,736	31,979	42,497	47,535	149.8	48.9
Loans and discounts	2,016	7,291	8,775	12,216	18,584	20,138	338.9	64.8
Loan ratio[f]	10.6%	28.8%	30.5%	38.2%	43.7%	42.4%		
LaSalle County[b]								
Deposits	20,581	30,142	35,237	39,114	43,647	46,233	124.6	18.2
Total resources	21,871	31,959	37,889	42,481	48,632	51,425	135.1	21.1
Loans and discounts	1,340	3,883	6,326	16,225	17,417	18,894	1,310.0	16.4
Loan ratio	6.1%	12.1%	16.7%	38.2%	35.8%	36.7%		
Marshall County[c]								
Deposits	1,968	2,962	3,601	3,964	5,138	5,700	189.6	43.8
Total resources	2,066	3,192	3,964	4,477	5,884	6,493	214.3	45.0
Loans and discounts	354	1,054	1,533	2,011	2,785	3,110	778.5	54.6
Loan ratio	17.1%	33.0%	38.7%	44.9%	47.3%	47.9%		
Putnam County[d]								
Deposits	2,956	4,178	4,871	6,008	9,482	11,438	286.9	90.4
Total resources	3,189	4,468	5,306	6,657	10,329	12,355	287.4	85.3
Loans and discounts	253	934	1,628	2,152	4,040	5,035	1,890.1	134.0
Loan ratio	7.9%	20.9%	30.7%	32.3%	39.1%	40.8%		
Iroquois County[e]								
Deposits	6,616	9,249	10,183	10,302	13,202	14,129	113.6	37.1
Total resources	6,964	9,790	11,092	11,527	14,726	15,667	125.0	35.9
Loans and discounts	690	1,629	2,774	2,857	5,035	5,238	659.1	83.3
Loan ratio	9.9%	16.6%	25.0%	24.8%	34.2%	33.4%		

Source: Rand McNally International Banker's Directory; The Banker's Blue Book. Final edition.

[a] Includes: Depue State Bank; Farmers and Miners Bank (Ladd); Citizen's First National Bank (Princeton); First State Bank (Princeton); Spring Valley City Bank.

[b] Includes: LaSalle National Bank and Trust Company; LaSalle State Bank; First National Bank of Oglesby; First National Bank in Peru.

[c] Includes: Henry State Bank.

[d] Includes: Farmer's State Bank (McNabb); Granville National Bank; Hennepin City State Bank.

[e] Includes: Iroquois Farmer's State Bank; Sumner National Bank of Sheldon; First Trust and Savings Bank (Watseka).

[f] Loan ratio refers to the ratio of loans and discounts to total resources.

Table 36. — Assets and Mortgage Loans of Savings and Loan Associations in the Study Areas, 1945-1966, With Percent of Increase

	1945	1956	1964	1965	1966	Percent of increase 1945-1966	Percent of increase 1964-1966
			($000)				
Bureau County[a]							
Mortgage loans	41	0	2,689	3,819	3,803	9,175.6	....
Total assets	49	0	3,063	4,280	4,407	8,893.9	....
LaSalle County[b]	0	0	0	0	0	....	....
Marshall County[c]							
Mortgage loans	109	553	1,181	1,525	1,726	1,483.5	46.1
Total assets	233	632	1,343	1,833	2,351	887.6	75.1
Putnam County[d]	0	0	0	0	0	....	....
Iroquois County[e]							
Mortgage loans	306	1,870	5,549	7,294	7,005	2,189.2	26.2
Total assets	431	2,133	6,362	7,356	7,876	1,727.4	23.8
Illinois							
Mortgage loans	212,000	1,758,000	4,333,000	4,520,000	4,655,000	2,095.8	7.4
Total assets	314,000	2,057,000	5,198,000	5,432,000	5,565,000	1,672.3	7.1

Source: State of Illinois. Savings and Loan Division. Report of Savings and Loan Associations.

[a] Bureau City Building and Loan Association (Princeton, closed in 1945); First Savings and Loan Association of Bureau City (1962 to present).

[b] No savings and loan association in study area of county.

[c] Henry Building Association (1945-1949); Henry Building and Loan Association (1950-1957); Illinois Valley Savings and Loan Association (1963-1964); Illinois Savings and Loan Association (1965-1966).

[d] No savings and loan association in county.

[e] Sheldon Building and Loan Association; Watseka Building and Loan Association.

The Transportation, Communication, and Public Utilities Sector

The list below shows the percentage of personal income in 1965 from this sector for each county in the study area and for the state.

Putnam	8.8
Illinois	5.8
LaSalle	4.7
Marshall	3.9
Bureau	2.3
Iroquois	2.2

While one might expect the relative importance of this segment of the economy to be higher in more industrialized areas, the growth trends revealed in this ranking and in Tables 13 to 25 require some qualification of this expectation. LaSalle County has remained fairly constant with only a slight increase in the proportion of personal income provided by this source, while in Illinois as a whole the sector has slowly but steadily decreased in its importance (down from 7.0 to 5.8 in 15 years). On the other hand, Marshall has shown a fairly sharp rise in the importance of this source of income in the late 1950's with a gradual decrease in the 1960's. Putnam County has experienced a sharp increase while Bureau and Iroquois counties show a decline in the proportion of income from this source.

Of interest as supplementary indication of trends in this segment of the economy are data on motor vehicle registrations (Table 37). As one might expect from population trends, all the counties under consideration except LaSalle have shown a growth rate of less than half that of the state in passenger car registrations. However, in the registration of trucks and busses, all five counties have growth rates much higher than the state. Marshall, Putnam, and Iroquois have shown considerable growth. Some of this growth may be due to farm truck usage increases, since the registration of heavy trailers and semi-trailers has not kept pace with state growth except in Marshall County. Bureau County ranks lowest among the experimental counties in the increase of these kinds of vehicles.

Data available on electric power utilities are presented in Tables 38 to 40. In general, small municipal companies were unable to supply data and the figures available from the larger companies were not strictly comparable. Nevertheless, increases in residential kilowatt-hour power consumption (Table 38) have been higher in the area served by Illinois Power Company in the experimental area (with several exceptions) than in the control area. Spring Valley, contiguous to an industrialized area, shows higher industrial consumption growth rates than other communities served by Illinois Power Company.

Industrial accounts in Oglesby (Table 39) also increased more rapidly than residential accounts.

Table 37. — Motor Vehicle Registration by Type and County, 1946, 1956, and 1966, With Percent of Increase

Counties and state	Passenger cars				Trucks and busses				Trailers and semi-trailers				Total vehicles			
	1946	1956	1966	Percent increase, 1946-1966	1946	1956	1966	Percent increase, 1946-1966	1946	1956	1966	Percent increase, 1946-1966	1946	1956	1966	Percent increase, 1946-1966
Bureau	10,045	14,016	16,306	62.3	1,808	3,396	4,367	141.5	345	553	1,130	227.5	12,381	18,196	22,295	22.5
LaSalle	23,010	37,555	46,943	104.0	3,739	6,850	9,048	142.0	633	1,365	3,643	475.5	27,740	46,333	61,195	120.6
Marshall	3,260	4,681	5,568	70.8	582	1,186	1,682	189.0	87	212	519	496.6	3,981	6,158	7,910	98.7
Putnam	1,312	1,694	2,175	65 8	262	490	689	163.0	28	56	153	446.4	1,611	2,264	3,074	164.8
Iroquois	8 779	12,082	14,216	61.9	1,857	3,425	4,944	166.2	392	540	1,125	187.0	11,142	16,252	10,596	84 9
Illinois (000)	1,609	2,971	4,008	149.1	254	419	558	119.7	46	104	268	482.6	1,930	3,534	4,931	155.5

Source: Illinois Secretary of State. Motor Vehicle Registration by Type and County.

Table 38. — Kilowatt Hours of Electric Power Consumption by Direct Consumers of Illinois Power Company in Communities in the Experimental Area

	Kilowatt hours consumed (000)				
	1942	1950	1960	1965	Percent increase, 1942-1965
Bureau County					
Bureau					
Residential	165	317	617	671	306.7
Commercial	86	110	280	612	611.6
Industrial	162	200	211	1	−99.4
Depue					
Residential	879	1,824	3,457	3,575	306.7
Commercial	224	542	747	889	296.9
Industrial	0	0	7,714	12,474	.....
Hollowayville					
Residential	24	50	123	169	604.2
Commercial	12	15	53	75	525.0
Industrial	0	0	0	0	.....
Seatonville					
Residential	39	128	335	373	869.2
Commercial	14	63	128	114	714.3
Industrial	6	13	0	0	.....
Spring Valley					
Residential	1,129	2,609	4,61[illegible]	5,875	420.4
Commercial	600	1,318	2,69[illegible]	3,766	527.7
Industrial	740	1,094	3,314	6,832	823.2
Putnam County					
Granville					
Residential	499	1,434	2,718	3,307	562.7
Commercial	141	343	1,026	1,360	864.5
Industrial	45	194	76	110	144.4
Hennepin					
Residential	54	134	606	807	1,394.4
Commercial	50	67	482	628	1,156.0
Industrial	4	37	0	0	.....
Magnolia					
Residential	41	131	363	404	885.4
Commercial	24	30	127	179	645.8
Industrial	0	0	0	0	.....
Mark					
Residential	40	144	418	499	1,147.5
Commercial	25	52	112	133	428.0
Industrial	7	0	0	0	.....
McNabb					
Residential	64	137	253	399	523.4
Commercial	53	98	326	402	658.5
Industrial	17	39	0	0	.....
Standard					
Residential	35	122	286	312	791.4
Commercial	32	58	90	98	206.3
Industrial	0	0	0	0	.....

Source: Illinois Power Company.

Data on the control area (Table 40) reveal no significant differences in increase between number of customers in residential or commercial classifications. However, the pattern is that use of electric power has increased since 1942 at a rate five times that of number of customers.

The Service Industry Sector

The list below shows the percentage of personal income in 1965 from this sector for each county in the study area and for the state.

Illinois	7.6
LaSalle	3.3
Marshall	2.5
Iroquois	2.2
Bureau	2.2
Putnam	1.8

Table 39. — Number of Electric Power Consumer Accounts Supplied by the Oglesby Municipal Power Company, 1942-1965

	Number of accounts				
	1942	1950	1960	1965	Percent increase, 1942-1965
Residential	964	1,190	1,451	1,447	50.1
Commercial	109	124	139	134	22.9
Industrial	14	26	41	45	221.4

Source: Oglesby Municipal Power Company.

Table 40. — Customers and Average Annual Use of Electric Power in Kilowatt Hours in the Paxton Operating Group of the Central Illinois Public Service Company, 1942-1965*

	1942	1950	1960	1965	Percent increase, 1942-1965
Residential					
Customers	13,117	16,640	19,200	20,186	53.9
Average use	921	2,014	3,614	4,594	398 8
Commercial					
Customers	2,626	2,987	3,933	3,940	50.0
Average use	2,139	4,239	9,549	12,173	469.1
Total, electric customers (Gresent City, Iroquois County, Sheldon, Watseka, and Woodland)	2,206	2,750	3,335	3,480	57.8

Source: Central Illinois Public Service Company.
* The Paxton Operating Group includes all of Iroquois County, plus portions of Vermilion, Champaign, McLean, and Ford counties

This general breakdown indicates that the more industrialized and urban an area becomes the more the demand for service work increases. However, changes in the percent of income from this source show a slow, almost identical increase in the proportion of income provided by service wages in all the counties in the study area (Tables 7-12). The increase in absolute income from this source has remained roughly comparable to state percentages in all counties.

The only conclusion one can reach without further data is that urban and industrialized areas have an initial advantage in the amount of services that can be provided, but the demand for increase in services remains about the same in rural and urban areas. Industrialization of the Putnam County area in particular might change this balance and create more demand for services.

The Governmental Sector

Although the governmental system will be analyzed in the next section, some comments at this point are included on government wages and investment as constituting a sector of the economic system. The list below shows the percentage of personal income in 1965 from this sector for each county in the study area and for the state.

Illinois	8.8
Putnam	7.7
Iroquois	7.5
Bureau	7.2
Marshall	6.7
LaSalle	3.6

In Bureau and Iroquois counties the proportion of total income from this source has remained about the same over time. In Marshall County it has declined from 8 to 6.7 percent. In LaSalle County it has dropped from 5.1 to 3.6 percent, and in Putnam County it has declined from 10.5 to 7.7 percent. Illinois as a whole has shown slow growth in the proportion of personal income from government sources. In the two counties which have been predominantly rural with substantial outmigration (Putnam and Marshall), the proportion of income from governmental services has declined. With a lower concentration of people, fewer governmental services are required — particularly in the area of education and social control. There are, however, some fixed governmental structures whose costs go on unless governmental units are consolidated. With a higher concentration of people, the demand for governmental services on a per capita basis may increase.

The analysis of year-to-year figures comparable to those in Tables 7 to 12 shows numerous random shifts from year to year. Perhaps it is significant that none of the areas being studied here seems to have experienced

Table 41. — Employment and Financial Expenditures for Individual County Governments and Illinois, 1957 and 1962

	Bureau		LaSalle		Marshall		Putnam		Iroquois		Illinois	
	1957	1962	1957	1962	1957	1962	1957	1962	1957	1962	1957	1962
Employees	120	182	228	226	NR	29	18	20	83	86	24,048	29,014
Full-time equivalent employment[a]												
Highways	45	59	28	37	4	15	4	3	28	28	2,654	3,680
Public welfare	NR	74	NR	17	0	0	0	0	0	2	2,833	5,164
Health and hospitals	10	2	48	60	1	1	1	0	1	3	7,100	7,290
Police protection	12	5	6	11	2	3	1	2	22	12	1,244	1,523
Financial expenditures												
Capital outlay (000)	$ 90	578	1,205	2,873	43	24	0	7	256	28	45,605	68,455
Highways (000)	$581	581	144	1,298	110	157	46	21	558	386	61,616	78,646
Public welfare (000)	$ 43	649	97	104	10	25	.2	3	22	38	13,951	71,404
Health and hospitals (000)	$ 17	27	26	265	10	9	2	8	8	48	33,240	49,328
Police protection (000)	$ 43	80	139	293	6	21	3	15	37	80	6,549	9,000

Source: U.S. Census of Governments.
[a] Only categories of particular relevance are included.

an overriding demand for the improvement of governmental services, or its place in the economic system would have become more important. This, of course, may change with industrialization. The U.S. Census of Governments provides more detailed information on county and local governments' capital and operating expenditures and on number of governmental employees in different categories (see Tables 41 and 42).

In the period 1957 to 1962 increases in county employment across the state were concentrated in the public welfare sector. Within the study area little can be ascertained since two counties did not report welfare personnel in 1957 and the remaining three reported none. However, an examination of the financial expenditures shows that public welfare has been growing in the five counties as well as in the whole state. Bureau County showed the largest increase in total employees.

Since similar comparative data on local government employment and expenditure for the five-year period are lacking, only the most recent (1962) figures are shown in Table 42. These are interesting because of the listing of number of employees per 10,000 inhabitants in selected governmental service sectors. As might be expected, local governments in the study areas rank far above state averages in educational employment, generally above on highway employment, and far below in health and hospitals and police protection employment. This clearly demonstrates the priorities established by rural people in local governmental expenditures.

Table 42. — 1962 Employment and Financial Statistics for Local Governments by County Totals

	Bureau	LaSalle	Marshall	Putnam	Iroquois	Illinois
Total employees.....	1,490	2,873	380	197	1,307	280,000
Full-time equivalent employees per 10,000 inhabitants						
Education.....	152	119	148	211	173	121.0
Highways.....	27	10	26	14	21	14.0
Health and hospitals	1	28	1	1	1	15.1
Police protection...	7	10	7	5	9	19.8
Financial expenditures:						
Capital outlay (000)	$1,546	4,684	676	85	853	246,000
Education — capital (000).....	$ 595	2,766	600	27	634	1,081,000
Education — other (000).....	$3,700	8,443	1,232	511	3,641	1,072,000
Highways (000)....	$1,269	2,314	337	120	966	242,000
Public welfare.....	$ 761	377	41	19	92	29,000
Health and hospitals	$ 15	285	9	8	49	6,000
Police protection...	$ 251	859	49	26	104	41,000

Source: U.S. Census of Governments.

Table 43. — Effective Buying Income by County, 1950-1965, With Percent of Increase

	1950	1955	1960	1965	Percent increase, 1955-1965
Bureau County					
Net dollars ($000)	45,796	56,620	70,458	76,999	36.0
Per household	3,881	4,798	5,823	6,696	39.6
Percent of households by income					
$0–2,499	NR	27.6	15.7	25.2	− 8.7
$2,500–3,999	NR	31.4	24.1	18.4	−41.4
$4,000–6,999	NR	29 5	37.9	29.7	1.0
$7,000–9,999	NR	11.6	13.4	13.2	127.6[b]
$10,000 and over	NR	(a)	8.9	13.5	132.8[b]
LaSalle County					
Net dollars ($000)	146,871	177,859	242,600	285,693	60.6
Per household	4,996	5,506	6,912	7,980	44.9
Percent of households by income					
$1–2,499	NR	20.2	11.6	14.6	−27.7
$2,500–3,999	NR	24.6	18.8	13.3	−45.9
$4,000–6,999	NR	38.1	40.2	34.8	− 8.7
$7,000–9,999	NR	17.1	16.9	18.3	115.3[b]
$10,000 and over	NR	(a)	12.3	19.0	123.5[b]
Marshall County					
Net dollars ($000)	14,279	19,998	25,233	25,085	25.4
Per household	3,483	5,000	6,008	5,973	19.5
Percent of households by income					
$1–2,499	NR	28.6	16.9	26.1	− 9.4
$2,500–3,999	NR	26.9	22.7	18.9	−29.7
$4,000–6,999	NR	30.4	36.1	32.0	5.3
$7,000–9,999	NR	14 1	13.6	12.7	81.4[b]
$10,000 and over	NR	(a)	10.7	10.3	47.1[b]
Putnam County					
Net dollars ($000)	3,967	5,230	7,095	8,806	68.4
Per household	2,645	4,023	5,458	5,871	45.9
Percent of households by income					
$1–2,499	NR	30.2	18.3	25.4	−15.9
$2,500–3,999	NR	31.0	25.5	16.8	−45.8
$4,000–6,999	NR	27.4	35.6	32.2	12.2
$7,000–9,999	NR	11.4	12.3	15.9	178.9[b]
$10,000 and over	NR	(a)	8.3	10.7	87.7[b]
Iroquois County					
Net dollars ($000)	40,188	47,229	58,853	67,019	41.9
Per household	4,101	4,541	5,659	6,383	40.6
Percent of households by income					
$1–2,499	NR	29.3	27.7	26.4	− 9.9
$2,500–3,999	NR	30.8	25.1	18.8	−39.0
$4,000–6,999	NR	28.2	35.9	29.8	5.7
$7,000–9,999	NR	11 7	12.5	12.8	120.7[b]
$10,000 and over	NR	(a)	8.8	12.3	112.1[b]
Illinois					
Net dollars ($000,000)	13,785	18,290	23,742	28,817	57.6
Per household	5,239	6,259	7,454	9,140	46.0
Percent of households by income					
$1–2,499	NR	22.4	10.6	14.8	−33.9
$2,500–3,999	NR	22.8	16.6	11.6	−49.1
$4,000–6,999	NR	35.3	39.4	30.1	−14.7
$7,000–9,999	NR	19.5	18.2	17.8	83.5[b]
$10,000 and over	NR	(a)	15.2	25.7	165.0[b]

Source: Sales Management Magazine, Survey of Buyer Power.

[a] In 1955 the highest category reported was "$7,000 and above."

[b] The percent increases for these income categories are an approximation arrived at by distributing the percentage of households with incomes of $7,000 and over in 1955 evenly between the $7,000-9,999 category and the $10,000 and over category. This figure (for example, one-half of 11.6 or 5.8 for both categories, for Bureau County) served as the base from which percentage increases were calculated. This is necessary because all income of $7,000 and above was pooled in the 1955 Sales Management Magazine reports.

The Economic System: A Summary

One more source of data helps round out the picture of the economic system within the study areas. Table 43 presents data on effective buying income as it is estimated by Sales Management Magazine.

The ranking of counties according to the increase in effective buying income per household between 1955 and 1965 appears as follows:

Illinois	46.0
Putnam	45.9
LaSalle	44.9
Iroquois	40.6
Bureau	39.6
Marshall	19.5

In terms of actual income per household in 1965 the ranking is:

Illinois	$9,140
LaSalle	7,980
Bureau	6,696
Iroquois	6,383
Marshall	5,973
Putnam	5,871

Ranking of per capita income computed from Tables 7 through 12 for 1965 is:

Illinois	$3,262
LaSalle	2,892
Bureau	2,380
Iroquois	2,325
Putnam	2,277
Marshall	2,254

The overall impression that emerges from these data as well as from those presented earlier is that the experimental area's economic system is extremely mixed. LaSalle and Putnam counties show a number of diametrically opposed economic trends. However, since the J&L plant is located in Putnam County and since that county is the only whole county to fall within the survey boundaries, this summary section will concentrate on Putnam and treat the rest of the counties in the experimental area as deviations from its economic pattern.

Putnam County had the poorest economy in the experimental area two decades ago. However, it has shown significant growth and has succeeded in narrowing the gap in per capita and per household income between itself and the other counties and the state. In some respects it seemed to be progressing more successfully in the 1960's than Marshall County, and even without the boost of J&L it probably would have surpassed the average income of Marshall before the end of the decade.

The remarkable factor in Putnam County's development over the past two decades has been that it has proceeded virtually without industrialization. Aside from J&L there are still only a few small manufacturing plants in the county. In 1965 wages accounted for only about 30 percent of Putnam's personal income as compared with some 66 percent from this source in the state as a whole.

The greatest change in Putnam County's economic system has been in the agricultural sector. Some 26.1 percent of the farms in the county in 1950 have disappeared and the existing farms are some 29.8 percent larger than they were at that time. Of particular significance is the fact that only the largest two sizes of farms in Putnam County (500-999 acres and over 1,000 acres) have increased in number. All other farm sizes have declined in number. In the state as a whole and in the other counties of both the experimental and control areas, some other smaller farm sizes have increased in number. As was noted in the section on environment, the rural population in Putnam County has shown severe losses since 1940.

Such factors, taken together with the capital substitution for labor in farming and improved cropping practices, account for the fact that the average value of products sold per farm per year in Putnam County has risen some 71 percent since 1950, more than in any other county being considered here and above the average increase for the state. The average farm production for market was worth less than $10,000 in 1950 and in 1965 more than $16,500. The only county considered here which puts more goods on the market per farm is Bureau County.

Finally, the average value of land and buildings per farm has increased in Putnam County from around $39,000 in 1950 to some $97,000 in 1964. Part of this, of course, is due to general inflation during this time period. This places Putnam County far above the other counties in percent increase in value and well above all but Iroquois County in actual value today. The value of land and buildings on the average farm in Illinois in the same period rose only to some $64,000 from $28,000.

Thus a vigorous agricultural sector has been mainly responsible for the economic system of Putnam County showing some real advance in the last two decades. It should be mentioned that personal income from communications and public utilities has risen in the county some 6 percent during the period, but that is about the only other significant variation. Trade income has declined, with eating and drinking establishments and automotive dealers ranking as exceptions. Of all the counties considered in this study, Putnam ranks the lowest in terms of personal income from commercial trade. Income from contract construction and mining has been negligible. Also, government expenditures in the economy have declined. The finance, insurance and real estate, and the transportation sectors have shown some tendency to be more active in the middle 1960's, but they have not yet made any substantial expansion.

Marshall County's economy has shown only moderate growth during the same period. Today it remains a mixture of very small industry and

poorer farming in comparison with the other counties in the area. In per capita and per household income it has been losing ground rapidly, particularly in the 1960's, relative to the other counties and the state. However, the judgment should probably be qualified for the sector of Marshall County which actually falls within the experimental area. It is dominated by Henry, which appears to have a healthy economy. Certainly the population trends discussed above show that Henry has not been subject to the same population loss as the rural area of the county. However, Henry's source of strength appears to be in terms of wage income and trade or commercial income. Some of the commercial trade results from Henry being a small agricultural trade center for the immediate vicinity.

Some significant increases in industrial expansion and a healthy agricultural sector have enabled Bureau County to show some significant growth in the overall economic system in the last two decades. However, in terms of per capita and per household income, the county appears to be losing ground in relation to the state as a whole. In terms of the importance of the various economic sectors, Bureau County differs from nearby counties in that agriculture provides only about 25 percent of the personal income and that wages account for some 40 percent of the personal income. Manufacturing wages have risen most, but income from trade and commercial endeavors and governmental sources are also on the rise and are more important in this county than in Putnam or Marshall. Of the counties in the experimental area, Bureau probably most closely resembles the control area.

In contrast, LaSalle County differs most from the other counties in the experimental area and from the economy of the control area as well. Only some 10 percent of personal income in the county is derived from agriculture. Some 60 percent is derived from wages, and over one-half of that from manufacturing wages. The trade, service, contract-construction, and financial sectors rank more importantly in LaSalle's economic system than in the other counties being considered. The economic system more closely resembles that of the state as a whole than those of the other more rural counties. While LaSalle County has per capita and per household incomes considerably above the levels in the surrounding counties, the gap has been narrowing in the 1960's. Manufacturing in LaSalle County has tended to remain at a fairly even level, perhaps even declining somewhat during the 1960's in marked contrast to the 15 years preceding.

It should also be kept in mind that only Oglesby in LaSalle County was selected to be part of the actual experimental area. Oglesby has not shown the same kind of slowdown in the 1960's as Peru and LaSalle.

Except for Oglesby, the similarities of the experimental and control regions are clear. Bureau, Marshall, and Putnam counties are still considerably more rural oriented than the state as a whole. Further, they have developed the economic sectors which support and are complementary with the agricultural sector.

In the control region in Iroquois County the same emphasis on agriculture is found, but with vigorous trade, small manufacturing, governmental, financial, and contract-construction subsystems. However, instead of the specialization of economic endeavors in different locales as in the experimental area, the Watseka area seems to incorporate them all. Thus the picture of the overall economic system in Iroquois County is a healthy one. Watseka is a relatively well developed trading area. It is the largest town in a rather large county. To get to a town of comparable or larger size, one must travel 30 miles north to Kankakee or 33 miles south to Hoopeston. A smaller town, Kentland, Indiana, lies 15 miles east, and to the west there is no town of significant size within 50 miles. The transportation and communication subsystems are the only ones showing any special weakness over time.

Comparison of the experimental and control areas would lead to the conclusion that the control area serves as a viable example of an integrated, relatively self-contained economic system. It would appear that the services of different sectors of the economy are necessary to some extent in rural as in urban environments though in different amounts. Persons living in Iroquois County evidently rely on the county seat town for most of the economic services. This pattern is different in the experimental area and there is a great deal of crossing of county boundaries in search of the kinds of economic services individuals require. If the four-county experimental region could be taken as a whole, the economic system would appear fairly self-contained. Thus, the relatively self-contained economic community in the experimental area covers several political subdivisions (counties) compared with the control area

Finally, one would anticipate that a development of a strong manufacturing sector in the Hennepin area, as a result of J&L's entry, would have serious ramifications throughout the economic system, leaving it still less like that of the control area than it now is. The tightening of interaction processes between different locales in the experimental area would seem likely as persons are drawn into various communities around Hennepin and young persons are encouraged to stay in the area instead of moving out to seek work. The sheer amount of commuting from one locale to another and the potential increase in terms of per capita income and consequent demands for more and new kinds of economic services would tend to draw the locales into a more integrated kind of economic structure. Locales that have already specialized in certain services may increase their specialization, becoming more dependent on the whole economic system.

Insofar as J&L significantly advances the industrialization of the area, demands for increased activity in the economic system by the service, trade, financial, contract-contruction, and governmental sectors are likely. Thus the experimental area may change in its economic features to more closely resemble the system in LaSalle County or in the state as a whole than the system in Iroquois County.

It is to be anticipated that such change in the economic system will have consequences for other major community systems as well. In the following section an attempt is made to draw together the kinds of secondary data that may allow some hypotheses on the course that such change will take in relation to the governmental and educational system.

MAJOR SYSTEMS IN INTERRELATION

A general guiding hypothesis of the Rural Industrial Development Project has been that changes in the economic system of the experimental area will have repercussions throughout the entire social system. This section presents some data, derived from secondary sources, which may provide the necessary benchmarking to allow the identification of changes in the educational and governmental systems.

The Educational System

The data in Table 44 furnish a benchmarking for the educational system. The Annual Statistical Report of the Illinois Department of Public Instruction from which the data were compiled presents certain difficulties that need to be noted. The problems of shifting reporting categories from year to year, the changing of school district boundaries, and the changeability in the kinds of data that are published make it difficult to draw comparisons over time about changes in the operations of schools.

The most reliable figure is that on elementary and secondary enrollment over the years at the county level. The data indicate that elementary enrollment has expanded more rapidly in Putnam County than in other counties in our experimental area. Further, the increase has been continuous and consistent over the last two decades. In strong contrast, however, secondary enrollment in the county has slightly decreased during the same period. It declined most rapidly in the early and middle 1950's and has remained level since the late 1950's.

Although the other counties we are considering do not show the same dramatic increase in secondary as they do in elementary enrollment, they do show significant increases at the secondary level. Thus something seems to have been happening to the high school population in Putnam County that has not been experienced in other counties in the area. Part of the answer may be a selective migration process. It was noted in the demographic section that Putnam County was experiencing more loss of population than other counties and that its distribution had declined substantially at the late adolescent level. Also, it was noted in the agricultural sector that numbers of farms in Putnam County were declining faster than in other counties. Many farmers leaving agriculture are those in the age groups that would have adolescent children. Outmigration, possibly combined with a higher dropout rate than other counties, could account for the fact that Putnam County's secondary enrollment has not increased as much as in other counties.

Table 44. — School Data, 1945, 1954, 1959, and 1963, With Percent of Increase by County and State

	1945	1954	1959	1963	Percent increase, 1945-1963
Bureau County					
Elementary enrollment	3,321	5,289	5,883	6,547	97.1
Average elementary teacher load	29.9	24.0	24.1	22.9	−23.4
Secondary enrollment	2,091	1,946	2,074	2,354	12.5
Average secondary teacher load	20.3	14.6	14.9	12.9	−36.5
Average annual teacher salary	$ 1,393	3,365	(a)	4,901[b]	259.4
Total operating expenditures (000)	$ 756	2,310	3,318	4,007	437.9
Total per capita cost	$ 139.7	313.0	417.0	456.9	226.3
Total value of school property (000)	$ 3,040	8,785	15,542	(a)	(a)
Total capital outlay	$ 6,232	764,538	878,236	(a)	(a)
LaSalle County					
Elementary enrollment	9,152	11,330	13,420	15,710	71.6
Average elementary teacher load	31.9	25.5	24.7	25.1	−21.3
Secondary enrollment	4,671	4,479	5,423	6,371	36.3
Average secondary teacher load	25.1	18.3	18.8	19.1	−23.9
Average annual teacher salary	$ 1,593	3,867	(a)	5,827[b]	265.7
Total operating expenditures (000)	$ 1,839	5,626	7,425	10,132	505.3
Total per capita cost	$ 133.0	355.9	394.1	458.9	245.0
Total value of school property (000)	$ 8,131	30,364	29,367	(a)	(a)
Total capital outlay	$71,507	880,139	1,181,442	(a)	(a)
Marshall County					
Elementary enrollment	934	1,525	1,660	1,754	87.7
Average elementary teacher load	26.7	21.8	21.8	19.3	−27.7
Secondary enrollment	596	637	753	850	42.6
Average secondary teacher load	14.5	12.3	12.8	12.0	−17.2
Average annual teacher salary	$ 1,311	3,180	(a)	5,216[b]	297.8
Total operating expenditures (000)	$ 249	793	1,161	1,195	379.9
Total per capita cost	$ 162.8	366.8	481.1	458 9	181.8
Total value of school property (000)	$ 1,402	2,448	4,019	(a)	(a)
Total capital outlay	$ 2,345	18,978	16,188	(a)	(a)
Putnam County					
Elementary enrollment	467	689	786	837	100.6
Average elementary teacher load	27.5	19.1	20.7	17.8	−35.3
Secondary enrollment	274	220	275	269	− 1 2
Average secondary teacher load	16.1	11.0	12.5	10.0	−37 +
Average annual teacher salary	$ 1,378	3,456	(a)	4,594[b]	233.3
Total operating expenditures (000)	125	231	426	600	380.0
Total per capita cost	$ 168.7	309.1	401.5	542.5	221.5
Total value of school property (000)	$ 408	1,061	1,963	(a)	(a)
Total capital outlay	$10,100	49,321	45,708	(a)	(a)

See footnotes on p. 80.

Table 44. — School Data, 1945, 1954, 1959, and 1963, With Percent of Increase by County and State (concluded)

	1945	1954	1959	1963	Percent increase, 1945-1963
Iroquois County					
Elementary enrollment	2,402	4,759	5,594	5,602	133.2
Average elementary teacher load	28.9	25.2	24.2	20.0	−30.8
Secondary enrollment	1,588	1,705	2,072	2,267	42.7
Average secondary teacher load	15.6	13.3	14.7	14.0	−10.3
Average annual teacher's salary	$ 1,459	3,441	(a)	5,028[b]	244.6
Total operating expenditures (000)	$ 722	2,380	3,665	3,885	438.0
Total per capita cost	$ 180.9	368.2	498.4	493.7	173.8
Total value of school property (000)	$ 2,818	7,642	10,701	(a)	(a)
Total capital outlay	$ 4,548	810,389	112,700	(a)	(a)
Illinois					
Elementary enrollment (000)	808	1,038	1,294	1,480	83.1
Average elementary teacher load	33.9	28.6	28.4	26.4	−22.1
Secondary enrollment (000)	317	326	422	514	62.1
Average secondary teacher load	31.7	20.5	20.8	19.3	−39.1
Average annual teacher's salary	$ 1,595	4,267	(a)	5,786[b]	262.7
Total operating expenditures (000)	$77,298	389,783	642,726	921,642	1,092.3
Total per capita cost	$ 68.7	285.9	274.7	472.4	587.6
Total value of school property (000)	$ 316	1,261	2,068	(a)	(a)
Total capital outlay	$ 5,446	119,125	147,856	(a)	(a)

Source: Illinois Department of Public Instruction. Annual Statistical Report.
[a] No comparable data published.
[b] No comparable data published for 1963; 1962 figure substituted for comparison.

The sorting out of influences of industrialization on the secondary school system of the experimental area as a whole may be difficult in the next few years. The secondary school population is almost certain to expand rapidly as those now in elementary school move up the grades. This may well precipitate new expenditures, especially of capital investment for new or expanded high school buildings, over the next few years to meet increased needs generated by the present population. This factor will have to be kept in mind as attempts are made to analyze change in this system. Also, the minimum cost for a modern program can be lowered only so far, and with a relatively small enrollment the minimum program costs more per capita to operate. There are scale economies in education just as in any other endeavor, and the fixed costs in plant and a minimum number of course offerings result in high per capita costs with low enrollment.

Other trends are to be noted in the experimental area. Differential patterns of investment in education were found among the counties. There are still significant differences among counties in the experimental area

in absolute salaries paid teachers, even though all of the counties have virtually kept pace with state growth rates in teacher salaries.

Their ranking on average annual teacher's salary in 1963 was as follows:

LaSalle	$5,827
Marshall	5,216
Bureau	4,901
Putnam	4,594

The state average in the same year was $5,786. Teachers tend to stay longer in Bureau and Putnam counties than they do in the state as a whole, an average of some 20 years according to the Annual Statistial Report of the Illinois Department of Public Instruction, 1945 to 1963. This factor, combined with stable or declining populations, has made it less necessary for Bureau and Putnam to compete for the service of teachers with the same urgency as LaSalle County where the expansion in numbers of students has required a constant influx of new teachers.

The ranking of the counties in 1963 by average per capita operating cost shows that Putnam County has considerably higher cost than the other counties.

Putnam	$543
Marshall	459
LaSalle	459
Bureau	457

The per capita cost in the state for the same year was $472. Part of the difference here can be accounted for by information gathered in field interviews with school leaders. The Hennepin school district has been able to operate at a high cost level as the result of an inheritance of land received some years ago which is now rented out for farming.

It should also be noted that the increase in per capita cost has been over twice as much in the state as it has been in the experimental area during the two decades.

Pupil-teacher ratios have been lightened in all the counties, but they are still by far the heaviest in LaSalle. Putnam County has remarkably light teacher loads of 10.0 in secondary school and 17.8 in elementary school. Average teacher loads in the state rank above those found even in LaSalle County.

Although figures are not complete, capital expenditures appear to have increased far more heavily in the state and in LaSalle and Bureau counties than they have in Putnam or Marshall counties. This should be expected since enrollment increase has been less than in the latter two counties.

In the control area, elementary enrollment was up 133 percent during the two decades, far above the increase shown in the experimental area. The secondary enrollment has increased significantly, but not dramatically more than that in LaSalle or Marshall counties. In terms of teachers'

salaries, Iroquois County ranks below LaSalle and Marshall counties, but above the other two. On per capita cost, however, it ranks above all except Putnam. Teaching loads have been declining but they are still higher than any county in the experimental area except LaSalle. Total operating expenditures have increased more rapidly than in Marshall and Putnam counties.

One might expect changes in the educational system in response to those in the economic system. Such changes might well see operating costs and capital investment climb more slowly for the more rural counties in the experimental area than in the industrializing area.

The Governmental System

As a general indicator of the potential for government expenditure, the assessed valuations of incorporated places in the survey area are presented in Table 45. The level of valuation is particularly significant for Illinois

Table 45. — Assessed Valuation and Assessed Valuation per Capita by Incorporated Place, 1953, 1961, 1963, and 1965, With Percent of Increase

	Assessed valuation ($000)					Assessed valuation per capita		
	1953	1961	1963	1965	Percent increase, 1953-1965	1953	1965	Percent increase, 1953-'65
Bureau County								
Bureau	1,225	822	804	774	−36.7	2,552	1,932	−24.2
Depue	5,489	4,354	4,400	4,648	−18.0	2,574	2,420	− 5.9
Ladd	1,603	2,837	2,897	3,068	91.3	1,309	2,927	123.6
Princeton	18,032	19,818	19,000	20,732	14.9	3,127	3,315	6.0
Seatonville	310	402	416	430	38.7	775	1,184	52.7
Spring Valley	6,095	11,197	11,754	12,409	87.1	1,239	2,310	86.4
LaSalle County								
Oglesby	12,118	15,054	15,357	17,221	42.1	3,089	4,085	32.2
Marshall County								
Henry	4,188	5,041	5,024	5,162	23.2	2,094	2,262	8.0
Putnam County								
Granville	1,423	1,896	1,792	2,094	47.1	1,455	1,998	37.3
Hennepin	404	479	700	750	85.6	1,294	1,918	48.2
McNabb	NR	495	NR	606	...	NR	3,482	...
Magnolia	200	350	263	302	51.0	667	1,226	98.8
Mark	260	NR	352	357	37.3	578	801	56.2
Standard	196	260	290	294	50.0	718	1,043	60.3
Iroquois County								
Crescent City	628	707	787	937	49.4	1,935	2,347	21.2
Iroquois	516	694	NR	689	33.5	2,217	3,043	37.4
Sheldon	2,000	2,387	2,847	2,951	47.5	1,817	2,610	49.5
Watseka	9,472	NR	13,217	14,444	52.4	2,239	2,769	23.2
Woodland	566	554	592	557	− 1.5	1,677	1,647	− 1.2

Source: U.S. Census of Governments.

communities since most local government funds are derived from property taxes. There is a good deal of variation in the increases or decreases of property valuation between communities in the study areas. With analysis of the year-to-year changes in communities, trends in valuation correlate fairly closely with the level of governmental expenditures.

In the experimental area, most communities in Putnam County have experienced a significant increase in valuation since 1953. The larger communities show a consistent tendency to higher per capita valuations, but none, save McNabb, has a strikingly high rate.

Henry, in Marshall County, had a rate of increase in valuation that was low, but the per capita assessment figure started at a comparatively high level ($2,794) and has increased to $2,262.

In Oglesby in LaSalle County the per capita assessment rate ($4,035) remains more than double that of any community in Putnam County with the exception of McNabb which has an abnormally high figure ($3,482).

In Bureau County, Seatonville ($1,184) and Spring Valley ($2,310) per capita assessments are about the same as those found in Putnam County, but the rates of Depue ($2,420) and Ladd ($2,927) are somewhat higher. The rate in Princeton ($3,315) is about 50 percent higher than those of Putnam County communities. The most striking decline in per capita assessment in the study area took place in Bureau ($2,552 to $1,932). The decline has occurred beause of more equal assessed evaluations per capita among the various incorporated places in Bureau County, while at the same time there has been an overall rise in valuations in the county.

In the control area, with the exception of Woodland, the communities have established per capita valuations that are homogeneous. The range is from $2,347 in Crescent City to $3,043 in Iroquois. Again, there appears to be a process of leveling of rates. The valuations have been on a level comparable to that of Bureau County, but with less extreme adjustments having been made since 1953.

The general trend then seems to be for incorporated places to utilize the assessment process more efficiently as the years progress. Further, the larger communities almost universally establish higher rates. Undoubtedly, this is a consequence of greater demands for governmental services.

Table 46 provides data on what has been interpreted as an indicator of the willingness of a community to invest in community improvement programs through its governmental system, the level of bonded indebtedness. Generally, it has been supposed that industrializing communities have a higher level of indebtedness per capita than more rural communities. Close examination of the data here does not seem to bear out this assumption. There does appear to be some rough correlation between size of community and per capita levels of indebtedness, but it is not strong. Thus, it appears that community demands for various governmental expenditures can lead to quite high levels of bonded indebtedness even in communities which are not experiencing growth or industrialization.

However, the county levels of bonded indebtedness in Table 47 might supply some slight substantiation of the theory with Putnam and Marshall counties reporting no indebtedness. The least industrialized counties have not found it necessary to resort to bonds to provide funds for needed investments. Also, without expanding government services demanded by an expanding population, much of the fixed investment (for which indebtedness is often needed) may already have been paid off.

In Putnam County, Granville has shown a tendency to take on higher bonded indebtedness per capita than any of the other communities. The other communities have generally experienced some bonded indebtedness, but only at very low per capita levels.

Communities in Bureau County apparently have been more willing to take on such indebtedness or have required improvements needing more indebtedness than in other areas. The per capita indebtedness in those communities generally has been far above any incorporated area in other counties in the experimental area.

Table 46. — Bonded Indebtedness and Bonded Indebtedness per Capita by Incorporated Areas, 1953, 1961, and 1965

	1953 bonded indebtedness		1961 bonded indebtedness		1965 bonded indebtedness	
	Total	Per capita	Total	Per capita	Total	Per capita
Bureau County						
Bureau	$ 11,000	$ 22	$ 5,000	$ 13	$ 1,000	$ 3
Depue	4,000	2	23,000	14	534,800	315
Ladd	36,000	30	70,000	67	90,000	86
Princeton	1,036,000	180	1,165,000	185	795,000	126
Seatonville	0	0	0	0	0	0
Spring Valley	344,000	69	776,000	144	624,000	116
LaSalle County						
Oglesby	350,000	94	255,000	61	65,000	15
Marshall County						
Henry	76,000	38	68,500	29	37,000	15
Putnam County						
Granville	93,000	50	44,000	42	54,000	51
Hennepin	0	0	11,000	28	4,000	10
McNabb	0	0	0	0	0	0
Magnolia	0	0	11,000	37	6,000	24
Mark	0	0	0	0	0	0
Standard	0	0	11,000	39	6,000	21
Iroquois County						
Cresent City	0	0	0	0	0	0
Iroquois	0	0	0	0	0	0
Sheldon	12,000	11	6,000	5	0	0
Watseka	NK	0	725,000	139	595,000	114
Woodland	0	0	0	0	0	0

Source: U.S. Census of Governments.

In the control area, only Sheldon and Watseka have had bonded indebtedness at all since 1953, and Sheldon only at a very low per capita level ($11.00).

If valuation and bonded indebtedness are to serve as indicators of the potential for and willingness to engage in high levels of government service to the community, then one would expect those communities with high assessed valuation and high bonded indebtedness to provide the most in such services. On the whole, this prediction would seem to be substantiated as data on various categories of governmental services indicate in Tables 48 and 49.

Police and fire protection. In general, the larger the community, the larger the per capita expenditure on police and fire protection (Tables 48 and 49). There have been increases in per capita expenditures on these services in all but two communities. In the experimental area there has been more of a tendency for communities to invest in this service on the community level than there has been in the control area where only Watseka, and to a much lesser extent, Sheldon, have made significant expenditures.

In terms of county expenditures on police and fire protection, all the counties have shown a per capita increase since 1957. Putnam County has jumped from next to lowest in per capita expenditure in 1957 to the highest in 1962. One could expect larger expenditures from inflationary pressures in the national economy.

It would appear that the highest per capita expenditures on these types of services in the governmental system do not necessarily come where industrialization has made significant progress. Because of fixed costs in certain services, it is difficult to reduce per capita costs in areas of low population density. Generally, the larger communities within counties tend to show the highest per capita expenditures.

Highway repair and construction. On the community level, the per capita expenditure (Tables 50 and 51) on this service varies radically from year to year, but generally in the experimental area it has been higher in rural areas than in Oglesby and Henry (but, of course, not in absolute expenditures). Such expenditures have tended, also, to increase rapidly in

Table 47. — 1957 Bonded Indebtedness, Amount and per Capita, for Counties in the Study Area

	Amount	Per capita
Bureau County	$936,000	$246.00
LaSalle County	45,000	4.00
Marshall County	0	0
Putnam County	0	0
Iroquois County	58,000	17.00

Source: U.S. Census of Governments.

Table 48. — Community Police and Fire Protection Expenditures, 1960 and 1965, Amount and per Capita

	1960		1965	
	Amount	Per capita	Amount	Per capita
Bureau County				
Bureau	$ 2,457	$ 6.20	$ 3,745	$ 9.30
Depue	8,911	4.70	10,042	5.30
Ladd	714	.70	6,225	5.90
Princeton	33,275	5.30	51,589	8.30
Seatonville	0	0	2,132	5.90
Spring Valley	25,096	4.70	12,528	2.30
LaSalle County				
Oglesby	22,125	5.20	54,716	13.00
Iroquois County				
Cresent City	0	0	60	.20
Iroquois	0	0	66	.30
Sheldon	3,735	3.20	5,435	4.80
Watseka	35,782	6.80	55,008	10.50
Woodland	380	1.10	30	.90
Putnam County				
Granville	1,528	1.50	3,747	3.60
Hennepin	NR	NR	71	.20
McNabb	0	0	0	0
Magnolia	0	0	0	0
Mark	242	.50	536	1.20
Standard	270	.90	120	.40
Marshall County				
Henry	6,305	2.80	9,280	4.10

Source: U.S. Census of Governments.

Table 49. — County Police and Fire Protection Expenditures, 1957 and 1962, Amount and per Capita

	1957		1962	
	Amount	Per capita	Amount	Per capita
Bureau County	$ 56,000	$15	$ 95,000	$25
LaSalle County	189,000	19	339,000	30
Marshall County	11,000	8	25,000	19
Putnam County	5,000	11	17,000	38
Iroquois County	54,000	17	90,000	2[illegible]

Source: U.S. Census of Governments.

Table 50. — Community Highway Repair and Construction Expenditures, 1960 and 1965, Amount and per Capita

	1960		1965	
	Amount	Per capita	Amount	Per capita
Bureau County				
Bureau	$ 1,080	$ 2.70	$ 2,090	$ 5.20
Depue	28,466	15.00	17,281	9.10
Ladd	20,256	19.30	14,965	14.30
Princeton	145,549	23.30	156,158	25.10
Seatonville	1,109	3.10	9,630	26.80
Spring Valley	27,646	5.20	19,944	3.70
Iroquois County				
Crescent City	994	2.50	14,668	36.70
Iroquois	1,534	6.60	4,621	20.10
Sheldon	5,934	5.20	12,303	10.80
Watseka	33,080	6.30	89,337	19.00
Woodland	216	.70	1,730	5.10
Putnam County				
Granville	19,081	18.20	46,698	43.50
Hennepin	NR	NR	3,757	9.10
McNabb	NR	NR	3,963	23.30
Magnolia	1,916	7.70	1,398	5.60
Mark	4,039	8.90	2,675	6.00
Standard	421	1.50	3,226	11.80
LaSalle County				
Oglesby	53,707	12.70	45,328	10.80
Marshall County				
Henry	15,589	6.80	23,259	10.20

Source: U.S. Census of Governments.

Table 51. — County Highway Repair and Construction Expenditures, 1957 and 1962, Amount and per Capita

	1957		1962	
	Amount	Per capita	Amount	Per capita
Bureau County	$581,000	$153	$ 581,000	$154
LaSalle County	44,000	4	1,298,000	117
Marshall County	110,000	85	157,000	120
Putnam County	46,000	97	21,000	46
Iroquois County	558,000	172	386,000	113

Source: U.S. Census of Agriculture.

all communities. Although it is certain that inflation and increased demand have both tended to raise highway expenditures, the trend is hard to document in Illinois except over long periods of time. The pattern of returning motor fuel tax funds for expenditure at the county and local level and of allowing such funds to accumulate for several years before they are used for a major investment gives the whole process an uneven look in more limited periods of time. Annual expenditures would have to be averaged over several years to get an approximation of a realistic trend line.

On the county level, highway repair and construction expenses have also risen in the experimental area, especially in LaSalle County.

In the control area a puzzling trend has emerged. Since 1960 per capita expenditure on this service has increased substantially for all the communities, but has been declining for the county. A relative decline in rural residences appears to be the reason for this change. Again, expenditures are more evenly distributed among communities in the control area than in the experimental area (Table 50).

Recreation. Historically, only the larger communities in the study areas contributed anything to community or county recreation funds, but that trend seems to have ended. In the 1960's some of the smallest communities have been contributing at least a nominal amount to recreation. However, the commitment to such a budget item is substantially related to the size of the population center in both the control and experimental areas. Princeton, in Bureau County, is the one exception. On the county level, recreation expenditures have been negligible (Table 52).

Public health and welfare. Three sources of expenditures on public health and welfare are analyzed here: community, county, and state (Tables 53, 54, and 55).

On the community level, there is traditional rural reluctance to become involved in governmental expenditure on public health and welfare service, along with a presumed smaller need for such service where more traditional family aid is available. In the experimental area, with the exception of Oglesby, per capita expenditure on this service has been negligible. In the control area, no expenditures on public health and welfare were recorded by communities in 1960. In 1956 a negligible amount per capita was recorded for Sheldon and Watseka.

Bureau County led the other counties in 1965 by a curiously large margin in health and welfare expenditure per capita. LaSalle County ranked second, with the more rural counties expending far less per capita.

State welfare expenditures are predictably much more evenly spread throughout the survey area. However, the number of persons receiving assistance per 1,000 persons in the population has been declining rather noticeably for all counties except LaSalle. The amount of assistance received seems to vary little according to county. Only LaSalle may not receive quite as much per capita assistance for persons on welfare as the others.

Those receiving assistance in the study areas are only about a third of the number receiving such assistance per thousand population in the state as a whole. A shift toward the state pattern may follow greater industrialization.

Two rather tangential sorts of data can be presented in the context of the health and welfare service of the governmental system. Both are concerned with mental health and though they do not present indications of activity on the part of the mental health subsystem, they do present rather rough indicators of the general mental health of residents of the area and probable demands for services in this field.

The overall trend is for patients of Illinois State Mental Hospitals to be decreasing (Table 56). The number of admissions is also decreasing. This trend is not observed in the study area, however. LaSalle County has shown a constant increase in absolute number of admissions and admission rates, although the number of persons in the state hospital from LaSalle County has declined.

In the other counties, the number on the books in state mental hospitals has been decreasing, while the number of admissions and admission rates

Table 52. — Community Recreation Expenditures, 1960 and 1965, Amount and per Capita

	1960		1965	
	Amount	Per capita	Amount	Per capita
Bureau County				
Bureau	0	0	0	0
Depue	0	0	$ 3,895	$ 2.10
Ladd	0	0	1,726	.20
Princeton	0	0	0	0
Seatonville	0	0	107	.50
Spring Valley	$ 8,936	$ 1.50	NR	NR
Iroquois County				
Crescent City	0	0	0	0
Iroquois	664	2.80	437	1.90
Sheldon	0	0	0	0
Watseka	9,601	1.80	12,235	2.30
Woodland	0	0	34	.10
Putnam County				
Granville	474	.40	508	.50
Hennepin	157	.40	175	.50
McNabb	0	0	0	0
Magnolia	85	.40	0	0
Mark	0	0	0	0
Standard	0	0	0	0
LaSalle County				
Oglesby	16,191	3.80	20,735	4.90
Marshall County				
Henry	3,156	1.40	18,200	7.90

Source: U.S. Census of Agriculture.

Table 53. — Community Public Health and Welfare Expenditures, 1960 and 1965, Amount and per Capita

	1960		1965	
	Amount	Per capita	Amount	Per capita
Bureau County				
Bureau	$ 35	$ .10	$ 168	$ .40
Depue	0	0	50	.30
Ladd	0	0	0	0
Princeton	2,045	.30	2,137	.30
Seatonville	0	0	0	0
Spring Valley	1,075	.40	7,341	1.40
Iroquois County				
Crescent City	0	0	0	0
Iroquois	0	0	0	0
Sheldon	0	0	100	.01
Watseka	0	0	1,625	.30
Woodland	0	0	0	0
Putnam County				
Granville	0	0	0	0
Hennepin	0	0	43	.10
McNabb	0	0	0	0
Magnolia	0	0	0	0
Mark	0	0	0	0
Standard	0	0	0	0
LaSalle County				
Oglesby	34,457	$ 8.20	NR	NR
Marshall County				
Henry	0	0	0	0

Source: U.S. Census of Governments.

Table 54. — County Public Health and Welfare Expenditures, 1957 and 1962, Amount and per Capita

	1957		1962	
	Amount	Per capita	Amount	Per capita
Bureau County	$ 60,000	$16	$676,000	$179
LaSalle County	113,000	11	365,000	33
Marshall County	20,000	15	34,000	26
Putnam County	5,000	11	1,000	2
Iroquois County	2,000	1	11,000	3

Source: U.S. Census of Governments.

Table 55. — State Public Welfare Expenditures and Cases by County, 1945, 1955, 1960, and 1965

	Total assistance				Aid to dependent children			
	1945	1955	1960	1965	1945	1955	1960	1965
Bureau County								
Number	973	623	570	425	147	255	88	133
Number per 1,000 population	NR	17	14	12	NR	3	NR	8
Amount of assistance	$27,339	29,535	30,713	28,517	2,986	1,707	3,510	5,249
LaSalle County								
Number	1,839	1,367	1,415	1,545	250	189	304	587
Number per 1,000 population	NR	14	13	14	NR	5	NR	12
Amount of assistance	$46,666	58,441	62,905	78,008	4,879	5,719	11,009	23,011
Marshall County								
Number	383	251	214	174	77	60	64	63
Number per 1,000 population	NR	19	16	13	NR	12	NR	9
Amount of assistance	$10,095	12,037	11,727	9,825	1,351	1,895	2,361	2,468
Putnam County								
Number	165	100	67	50	31	14	11	7
Number per 1,000 population	NR	21	15	12	NR	7	NR	3
Amount of assistance	$ 4,783	5,092	3,851	2,371	708	376	359	271
Iroquois County								
Number	972	672	503	362	212	173	145	145
Number per 1,000 population	NR	21	14	11	NR	13	NR	9
Amount of assistance	$26,969	35,123	30,783	26,868	4,548	5,123	5,141	6,013
Illinois								
Number (000)	216	277	368	412	47	82	150	262
Number per 1,000 population	NR	32	37	39	NR	25	NR	59
Amount of assistance (000)	$ 6,178	12,625	18,271	23,375	989	2,787	5,820	11,737

Source: State of Illinois: Department of Public Aid.

Table 56. — Admissions to and Population on the Books of Illinois State Mental Hospitals, by County, 1955, 1960, and 1965

	1955	1960	1965
Bureau County			
Number on books	119	98	104
Number of admissions	36	49	38
Admission rate[a]	95.8	130.3	101.1
LaSalle County			
Number on books	302	279	263
Number of admissions	76	95	128
Admission rate[a]	68.6	85.7	115.5
Marshall County			
Number on books	48	49	43
Number of admissions	17	27	29
Admission rate[a]	127.5	202.[illegible]	212.5
Putnam County			
Number on books	15	11	16
Number of admissions	10	7	6
Admission rate[a]	218.8	15[illegible].2	131.3
Iroquois County			
Number on books	110	97	86
Number of admissions	40	46	50
Admission rate[a]	119.2	137.1	149.0
Illinois			
Number on books	39,267	35,824	33,106
Number of admissions	19,890	15,650	12,993
Admission rate[a]	128.7	153.3	194.7

Source: Illinois Department of Mental Health.
[a] Number of admissions per 100,000 population.

Table 57. — Number and Rates of Suicide, by County, 1956, 1959, 1962, and 1965

	1956		1959		1962		1965	
	Number	Rate[a]	Number	Rate[a]	Number	Rate[a]	Number	Rate[a]
Bureau County	8	19.0	6	16.2	4	10.7	4	10.8
LaSalle County	12	11.6	16	14.6	16	14.3	9	8.0
Marshall County	1	6.9	2	15.0	2	15.2	1	7.8
Putnam County	2	44.4	0	0	1	22.2	0	0
Iroquois County	1	3.0	2	6.0	1	3.0	2	6.0
Illinois	938	9.9	982	9.8	997	9.7	1 947	9.8

Source: State of Illinois, Vital Statistics.
[a] Rate per 100,000 population.

has tended to vary widely from year to year. Improved drugs and treatment procedures have decreased the length of stay in mental hospitals and made larger outpatient care possible.

The other data relating to mental health are on the number of suicides (Table 57). On the state level, rates have remained about constant since 1956. The wide change in rates on the county level, representing small

actual changes from year to year, makes it difficult to establish any trends there. On the whole, however, numbers of suicides remained constant from 1956 to 1962 and then dropped rather sharply in 1965 in the experimental area. Primarily, a drop in LaSalle County was the cause, and later data will have to become available before it is known if this indicates a new trend in that county.

Library service. No easy kind of summation of the data (Table 58) can be made, but the library at Henry in Marshall County appears to have made the greatest progress in number of borrowers, circulation, and book stock since 1945. On the other hand, Bureau County libraries have the largest number of books, borrowers, and circulation, the highest assessed valuation, and the highest operating expenditures. Constant expansion of operating expenditures and services rendered is the trend, except in LaSalle and Putnam counties, where circulation has declined somewhat. On the whole, libraries appear only in the larger communities with the county library in Hennepin being the exception. A certain amount of increase in library services would be expected in the next few years in spite of population or industrialization trends. The response to new conditions in this kind of governmental service may be quite slow.

Postal services. The final kind of governmental service to be analyzed here will be postal services. The indicator used is postal receipts (Table 59).

All counties have shown some significant increase in utilization of this kind of governmental service since 1945, but the percentage increase varies. A ranking of the counties by the percentage of increase is as follows:

Iroquois	242.6
Bureau	203.7
Putnam	166.7
Marshall	150.0
LaSalle	137.5

The ranking appears rather puzzling, since the most industrialized county has shown the least increase since 1945 and the control county the most. Iroquois County has always been relatively prosperous, but its gains from year to year since 1945 have been consistently larger in terms of percentages than those in other counties, and its prosperity has not been that significantly different. Based on these data, rural use of postal service on a per capita or income-increase basis may be higher than for urban users in the study areas.

The governmental system — a summary. Rising assessment valuations and bonded indebtedness in the experimental area indicate an increasing tendency for the governmental system to provide more community services. This trend tends to hold for small as well as large communities within the study areas. With increasing industrialization, demands and potential for providing community services by government will probably increase still more, irrespective of population changes.

Table 58. — Library Services by Portions of Counties Within Study Area, 1945, 1955, and 1965, With Percent of Increase

	1945	1955	1965	Percent increase, 1945-1965
Bureau County[a]				
Registered borrowers	3,606	3,683	3,724	3
Book stock	33,132	42,541	51,055	54
Circulation	61,438	56,309	79,614	29
Assessed valuation (000)	$ 5,675	31,218	38,546	579
Total operating expenditures	$10,291	24,560	33,498	225
LaSalle County[b]				
Registered borrowers	2,259	2,394	3,500	55
Book stock	9,195	12,668	16,409	78
Circulation	34,449	27,847	34,204	−1
Assessed valuation (000)	$ 2,573	12,118	17,221	569
Total operating expenditures	$ 4,389	7,601	14,579	232
Marshall County[c]				
Registered borrowers	553	727	984	78
Book stock	3,392	6,986	11,019	225
Circulation	9,744	10,480	24,174	148
Assessed valuation (000)	$ 785	3,556	5,162	558
Total operating expenditures	$ 1,042	2,460	5,632	440
Putnam County[d]				
Registered borrowers	1,695	1,706	2,000	18
Book stock	6,261	8,993	11,844	83
Circulation	21,307	23,282	19,000	−11
Assessed valuation (000)	$ 5,465	21,997	36,459	567
Total operating expenditures	$ 2,684	4,920	NA	NA
Iroquois County[e]				
Registered borrowers	2,194	1,522	2,635	20
Book stock	13,044	18,117	25,052	92
Circulation	27,776	21,080	31,120	12
Assessed valuation (000)	$ 4,015	16,616	23,076	475
Total operating expenditures	$ 4,123	12,457	22,659	450

Source: The Illinois Librarian

[a] Bureau County includes data for libraries within the experimental area at Depue, Ladd, Princeton, and Spring Valley.

[b] LaSalle County includes data for libraries within the experimental area at Oglesby.

[c] Marshall County includes data for libraries within the experimental area at Henry.

[d] Putnam County includes data for libraries within the experimental area at Hennepin.

[e] Iroquois County includes data for libraries within the control area at Sheldon and Watseka.

However, there will be differential effects of industrialization on governmental services. Police and fire protection seems to vary with the size of communities more than with their relative industrialization. Thus this kind of governmental service may increase significantly if the presence of J&L causes significant alterations in the population environment. However, if the immediate population environment is not significantly altered, the changes in this sector of the governmental system may be fairly small.

Expenditures in the governmental system on highway repair and construction vary so widely, it is hard to make predictions. Clearly, highway construction expenditures should rise dramatically in the first few years after the installation of the J&L plant. Whether that rise will be signifi-

cantly greater than those found in areas without similar industrialization may be questionable. Also, it may be difficult to assess all highway construction, because in most new subdivisions, the streets are paid for by the developer and indirectly by the individual lot purchaser. National and interstate influences and transportation systems make it less necessary for there to be local expenditures on highway construction, especially in the experimental area.

Changes in governmental expenditures on recreation facilities may be difficult to relate directly to industrialization. If the changes in population environment are dramatic, then demands for increased recreation facilities may be great, but if population changes are less than dramatic, one may find no more expenditure in this area than in relatively prosperous rural communities. Non-rural people often have more leisure time in our society than rural people, and there may be greater expenditure on recreation after industrialization. However, more of this expenditure may be on commercial-type recreation than natural recreational facilities which are often supported by the government.

Changes in health and welfare expenditures in the governmental system will vary with the level of governmental operation. At the local level it appears that welfare expenditures increase with industrialization and population expansion, but not with the latter alone. Changes in local community expenditures on this kind of service may be slow in coming, especially without dramatic population changes.

County health and welfare expenditures are likely to respond more quickly to new conditions created by industrialization than are local expenditures. The fact that Bureau County unaccountably holds a great lead over the others in this category of expenditure would make it difficult to associate such expenditures with industrialization alone. Certainly, though, in the experimental area as a whole changes in provision for public health and welfare will be more dramatic than in the control area because of the J&L plant's effects on the experimental area.

Table 59. — Postal Receipts by Portion of Counties in Study Areas, 1945, 1950, 1955, 1960, and 1964, With Percent of Increase

	1945	1950	1955	1960	1964	Percent increase, 1945-1964
Bureau County[a]	109,478	153,275	169,176	205,742	331,428	203.7
LaSalle County[b]	18,069	19,369	23,031	24,511	40,352	137.5
Marshall County[c]	16,035	18,177	21,035	25,158	40,445	150.0
Putnam County[d]	21,613	26,391	42,588	38,127	57,384	166.7
Iroquois County[e]	54,197	66,684	104,856	114,063	185,054	242.6

[a] Includes offices at Bureau, Dalzell, Depue, Ladd, Princeton, and Seatonville.
[b] Includes office at Oglesby.
[c] Includes office at Henry.
[d] Includes offices at Granville, Hennepin, McNabb, Magnolia, Mark, Putnam, and Standard.
[e] Includes offices at Crescent City, Iroquois, Sheldon, Watseka, and Woodland.

Finally, state welfare expenditures in the area are likely to rise in absolute terms with rising population figures. They may also rise in terms of per capita expenditures after industrialization.

Library services will probably be slow to respond to the change, but changes in population characteristics will be a determinant of eventual change in this service

Thus the effects of a radical change in the economic system in the experimental area may not be easily linked with changes in the governmental system without the intervening variable of change in the population environment. One may envision population changes small enough in the immediate Hennepin area and scattered enough in surrounding areas to make dramatic changes in governmental and educational services unlikely. This is especially possible if J&L is able to hold to its stated policy of employing primarily local people. The changes from a slow internal improvement of the economic system may be felt in terms of reducing outmigration from the area, but several years would have to elapse before that kind of trend could be substantiated.

On the other hand, the contingent population variable could show enough change to dramatically affect educational, governmental, religious, and familial systems.

SUMMARY

In this publication an attempt has been made to present basic trends of development in the social system of an experimental and a control area, with special reference to the economic and governmental systems. It is anticipated that the components of the social system in the experimental area would be well enough integrated to cause some change in each sector following a dramatic change in the economic system because of the location of a J&L steel plant at Hennepin.

The conclusion has been reached that major, dramatic changes in the educational and governmental systems may not differ between the experimental and control areas, unless industrialization precipitates significant alterations in the population component of the environment of the social system.

The greatest changes in the economic system itself are naturally to be expected in the manufacturing sector. Putnam County barely had such a sector until recently and, with the exception of Oglesby in LaSalle County, the importance of the manufacturing sector in the economic system of the study areas has not been major. Fairly immediate change also can be anticipated in the transportation and financial sectors. In the matter of a year or two after opening operation of J&L, changes in the contract-construction, trade, and service sectors can be expected.

The agricultural sector will remain relatively unchanged by industrialization except in the proportionate importance it has for the economic system as a whole. With higher labor costs, there will be more rapid sub-

stitution of capital for labor in agriculture, resulting in an even greater increase in size of farm. The type of farm enterprise found will also change from more labor-intensive enterprises such as dairy and swine production to less labor-intensive enterprises such as beef cows and grain production.

Data have been presented establishing trends in each of the above sectors and significant variation from the observed trends can be expected in the near future.

How the change in the economic system will affect the remainder of the social system is more in question. Of major importance is the effect of economic change on the demographic environment. If population migration into the experimental area becomes large in the next few years, the impact of the economic change will be magnified in the other major systems. If not, the changes in the other systems caused by industrialization will be hard to distinguish from changes in relatively prosperous rural areas generally. Given significantly increasing population, the alterations in the trends established here for the educational and governmental systems is likely to be highly visible.

Thus industrialization and changes in the economic system of a social system may have negligible effects on other systems unless it can alter the demographic and ecological environment which conditions the development of the system as a whole.

The systems approach and basic data presented here will provide much of the framework and some of the basic data supporting later reports and analyses of this project.

LIST OF TABLES

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