



ILLINOIS GOVERNMENT RESEARCH
UNIVERSITY OF ILLINOIS
INSTITUTE OF GOVERNMENT AND PUBLIC AFFAIRS

MARCH 1976 42

ILLINOIS AND THE UNITED STATES: SOME ECONOMIC PARALLELS

Robert N. Schoeplein

The Library of the

JUL 13 1976

University of Illinois
at Urbana-Champaign

Illinois is situated both geographically and in production at the crosscurrents of the national economy. Virtually all U.S. industries have one or more firms with productive facilities in Illinois, resulting in a diverse state economy. To what extent, however, can Illinois be characterized as a "microcosm" — a representation in miniature or on a small scale — of the overall U.S. economy?

One must distinguish between the two concepts of a "microcosm" state and a "representative" state. Among the fifty states the economy of Illinois generates a disproportionately large percentage of the gross national product. Illinois ranks fifth among the states in population, fifth in per capita income, fourth in manufacturing value-added, and fourth in value of state agricultural product. Certainly Illinois is not representative *among* the states, but is this state's economy representative of the *composite* of the entire country? In this more global sense, the relatively large size of the Illinois economy may be necessary to generate the diverse output that might be representative of the U.S. as a whole.

If several important facets of a state's economy do parallel those of the aggregate U.S., this recognition could produce several distinct benefits. The microcosm state, or select elements of that state's economy, could serve as either a bellwether or a control in observations and social experiments leading to national policy.

Comparisons can be made at each of several levels of generality, and one would anticipate that differences between the economic composition of any specific state and that of the entire U.S. would become more apparent as the analysis grows more specific. Many key overall parallels between the structure of Illinois's economy and that of the U.S. continue to hold, however, as the basic sectors are subdivided and the more specific elements are compared. The Illinois and the U.S. economies are analyzed at a specific moment in time; in essence we are studying the fine details of two photographs. In the future, economic dynamics may distort or destroy the striking similarities between the Illinois and the national economies, but for the moment researchers may look to their specific needs and curiosities in evaluating whether at present this state's economy is a microcosm of the U.S. economy.

Robert N. Schoeplein is associate professor of economics, Institute of Government and Public Affairs, and Department of Economics, University of Illinois at Urbana-Champaign. A more detailed version of this report is contained in "The Illinois Economy: A Microcosm of the United States?", by Professor Schoeplein with Hugh T. Connelly, also published by the institute, and available without charge upon request.

Population

Labor effort, capital, and natural resources are the three general categories of inputs into the economic production process. The population base of a state forms the labor pool from which the civilian labor force emerges. Distribution by age, sex, education, and other characteristics of the population shapes the mode that is a critical determinant of a state's economic structure.

In several important respects social characteristics of Illinois residents are similar to those of the aggregate U.S. One exception is the rate of immigration. Illinois is somewhat below the national average in migration — 71.6 percent of Illinois residents were born in the state, compared to 68 percent of the entire U.S. population residing in their states of birth. The range among the fifty states is quite large: the "booming" states in the southwest have only 25 percent natives in their population, and most stable states count over 80 percent natives.

The Illinois population includes 52.6 percent of persons age twenty-five and over who have completed four years of high school or more; the national figure is 52.3 percent. The range among the fifty states is from a low of 37.8 percent to a high of 67.3 percent for this segment of the population. The median number of years of schooling completed by white male and white female adults in Illinois is the same as for the aggregate United States. Black male and female adults have one more year of schooling in Illinois than the average among the fifty states.

Illinois has become an urban state as the United States has become an urban nation. Urban residents account for 83.0 percent of the Illinois population; the national distribution is 73.5 percent urban residents. Illinois has 4.5 percent rural farm residents, comparable with 5.2 percent for the U.S. The differences are accounted for by rural nonfarm residents: Illinois has 12.5 percent rural nonfarm population, while the U.S. has 21.3 percent.

The city of Chicago and the Chicago standard metropolitan statistical area (SMSA) dominate statistics on the Illinois economy. For example, although Illinois's black population of 12.8 percent is not significantly different from the U.S. average of 11.1 percent, 98.4 percent of Illinois's blacks are urban residents — as opposed to the overall U.S. figure of 71.7 percent. Although the Chicago SMSA tends to distort the nature and distribution of the state's population, the area's economic base is one of the major factors contributing to the diversification necessary for Illinois to be representative of the national economy.

The Labor Force

Illinois is close to the overall U.S. in labor force participation, for both sexes and in both urban and rural settings. In Illinois 79.5 percent of urban males over age sixteen are active in the civilian labor force; nationwide the figure is 77.6 percent. Rural male labor force participation is also comparable — 74.7 percent for Illinois and 73.2 percent for the U.S. Similar parallels hold between this state and the nation for females, although the variations among the other forty-nine states are significant. Illinois tends to have statewide employment rates lower than comparable rates for the entire U.S., with the exception of the latter part of 1975 and during January 1976, when the Illinois unemployment rate did exceed that of the U.S. The diverse nature of the Chicago SMSA industrial complex explains in some measure why the state labor force is less susceptible to the shocks and whims of select industrial goods markets than are the labor forces in states with production concentrated in a few industries.

The distribution of the labor force by major occupation in Table 1 illustrates that the relative weights of workers in most occupations approximate those of the aggregate U.S. This is reinforced by the range in values among the other states, reflecting economic specialization elsewhere. The percentage of clerical workers is higher for Illinois than for the nation as a whole. This can be traced to the presence in the state of many national corporate headquarters, insurance and financial centers, and regional trade centers. The relatively fewer proportions of both farm laborers and farm foremen are indicative of the mode of farm organization in Illinois, where farming is dominated by highly efficient family units coupled with sharecropping.

The labor force can be identified more specifically by industry employment. In Table 2 we have consolidated the U.S. Department of Commerce's distribution of employed persons by twenty-nine industries to seventeen such industries. Manufacturing is decidedly important to the Illinois economy, even more so than for the U.S. as a whole. Transportation is also important to Illinois. The different employment weights are indicative of the sophisticated statewide transportation network, which also serves the national economy. Household services are not as integral to the Illinois economy as to the economies of those other states where custom, concentrations of impoverished workers, and minimal em-

ployment opportunities work together to maintain relatively larger numbers of servants and other household workers. On the whole, the distribution of the Illinois labor force among major occupations parallels that of the U.S.

Gross Product Accounts

Businesses in the private sector utilize inputs to generate the economic goods and services that are their productive outputs. Although by specification the dollar value of outputs in any year is equal to the dollar value of inputs, the units of physical measurement are significantly different. The skills and effort of labor plus capital investment are inputs; output is the total of myriad, diverse products and services. A skilled welder can work on ships' plates, grain elevators, or tractor frames. Although essential cross sections of the Illinois labor force may approximate those of the aggregate U.S., it does not necessarily follow that the general characteristics of output should also be parallel. The mix of final products could be significantly different.

The basic measure of output at the national level is gross national product (GNP). The analogous measure for a state's economy is gross state product (GSP). Recent estimates of Illinois's GSP facilitate comparisons with the overall national economy, although comparable information is not available for many other states.

The mix of goods and services produced in an economy can be classified in a variety of ways. One familiar method is to group output according to (1) goods and services produced for domestic consumption, (2) investment goods and services produced by the private sector, (3) government purchases of goods and services, and (4) the impact of the foreign trade sector on the economy. Since goods flow in two directions between economies, the term "net exports" frequently is used to mean the value of exports minus the value of imports.

The exports of any state are relatively more important to that state's economy than is the export sector of the U.S. economy as a whole. The United States is a vast "common market" made up of fifty diverse states. Although the term "export" may sound awkward in reference to shipments made across Illinois borders to other states, nonetheless the goods do leave the Illinois economy. In 1967 Illinois shipped 78.7 percent of its estimated physical product to other states and to foreign countries. In turn, many physical components of these products had previously been manufactured in other states, and some of these exported Illinois products eventually find their way back into the state in other, refined forms. When the component parts, materials, and finished goods shipped into Illinois from elsewhere in 1967 are subtracted from the value of gross exports in that year, the state registered a net positive balance in external trade that represented 26.9 percent of estimated total GSP. By contrast, the aggregate gross exports overseas by the U.S. accounted for only 5.8 percent of national product in 1967, and in that year the net balance of trade between the U.S. and the rest of the world was only 0.6 percent of GNP.

The bulk of Illinois trade is with other states, but Illinois is also a relatively significant exporter to the rest of the world. Food products, nonmineral oils, and machinery such as farm implements and construction equipment are significant elements of total U.S. exports, and Illinois excels in each of these areas. Illinois ranks

ILLINOIS GOVERNMENT RESEARCH

Institute of Government and Public Affairs
University of Illinois

1201 West Nevada Street, Urbana, Illinois 61801

The Institute of Government and Public Affairs of the University of Illinois is committed to research, service, and teaching in the area of governmental affairs. As part of this mission the institute publishes on an occasional basis *Illinois Government Research*. Each issue brings to the attention of concerned citizens and officials some aspect of public policy research. Although most items are written by institute staff members, manuscripts by other authors will be considered for publication. In each case the views expressed are solely the responsibility of the author and do not reflect institute policy or imply institute endorsement.

Table 4
THE MANUFACTURING SECTOR: VALUE-ADDED BY
INDUSTRY GROUP, 1972 (MILLIONS OF DOLLARS)

	Illinois		U.S.	
	Dollars	Percent of Total Value-Added	Dollars	Percent of Total Value-Added
All industries	25,863.7		352,831	
Food and kindred products	3,128.3	12.1	35,332	10.1
Tobacco products	*		2,630	
Textile mill products	67.3	.3	11,558	3.3
Apparel and other textile products	334.4	1.3	13,227	3.8
Lumber and wood products	176.1	.7	10,101	2.9
Furniture and fixtures	374.7	1.5	6,138	1.7
Paper and allied products	718.7	2.8	12,930	3.7
Printing and publishing	2,216.4	8.7	20,058	5.7
Chemical and allied products	2,103.1	8.3	32,388	9.3
Petroleum and coal products	409.8	1.6	5,801	1.6
Rubber and miscellaneous plastic products	683.0	2.7	12,023	3.4
Leather and leather products	*		2,871	
Stone, clay, and glass products	776.4	3.1	12,563	3.6
Primary metal products	1,936.1	7.6	23,190	6.6
Fabricated metal products	2,521.3	9.9	26,930	7.7
Machinery, except electrical	4,216.4	16.6	37,497	10.7
Electric and electronic equipment	3,082.4	12.1	30,299	8.7
Transportation equipment	1,243.4	4.9	40,146	11.5
Instruments and related products	859.5	3.4	10,452	3.0
Miscellaneous manufacturing industries	545.9	2.1	6,697	1.9

*Withheld to avoid disclosing figures for individual companies.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Census of Manufactures: 1972*, Volume 1, *Summary and Subject Statistics*, MC72(1) (1975), and Area Series, MC72(3)-14 Illinois (Washington: Government Printing Office, February 1975). See especially Table 5.

Agriculture

When averaged over the most recent decade, the value of Illinois agricultural output is comparable to the U.S. in the relative contribution of this sector to total product. Agriculture is the one sector in the Illinois economy, however, whose internal structure is significantly different from that of the entire U.S.

When disaggregated by type of activity, U.S. agriculture reflects the diversity that is a consequence of crop specialization in various states. Illinois is one such state of agricultural specialization: corn production at 40.3 percent of state agricultural product, soybeans at 27.6 percent, and hog raising at 17.2 percent together account for 85.1 percent of Illinois's total agricultural output. Variations in hog prices, in crop yields, and in corn and soybean bushel prices will determine the total contribution to the Illinois economy in any given year.

Illinois has token representation in some other agricultural activities such as commercial vegetables, farm dairy products, cattle and other animals, and fowl that are sold in local and regional markets. Overall the composition of Illinois agricultural output does not reflect the aggregate U.S. agricultural sector. Only in the total effort devoted to agriculture compared with manufacturing, transportation, and other industries is Illinois comparable to the U.S.

Conclusion

We had anticipated that as our analysis became more detailed important differences between the economies of Illinois and the U.S. would emerge. We were surprised to find that some striking similarities between the two economies were actually reinforced when details of specific industries were compared. The distribution of the labor force by both occupation and industrial classification reveals close parallels between the civilian labor force of Illinois and that of the entire U.S. The composition of gross product and the relative weights of output by specific sectors also affirm that the nature of Illinois's diverse production is comparable to that of the nation as a whole. Even the relative contributions of almost three-fourths of the specific industries that comprise manufacturing are similar between Illinois and the nation.

In the final analysis, one must apply one's judgment to decide to what degree the economy of Illinois parallels that of the U.S. In pragmatic terms, no state's economy can be a precise mirror image of the aggregate U.S. economy. Many factors — geography, natural resources, cultural and historical differences — make each state unique. Yet we were not prepared for the detailed similarities between Illinois and the nation that we did find. Illinois has several reinforcing similarities in structure and diversity that may on reflection qualify it as a "microcosm" state.

Table 2
PERCENTAGE LABOR FORCE DISTRIBUTION
BY OCCUPATION, 1970

Employed Persons Age 16 and Over	Illinois	U.S.	50-State Range	
			Low	High
Professional, technical, and kindred workers	14.2	14.8	10.8	19.5
Administrators and managers, except farm	7.5	8.3	7.0	11.5
Sales workers	7.2	7.1	5.4	8.7
Clerical and kindred workers	20.2	18.0	12.5	22.4
Craftsmen, foremen, and kindred workers	13.9	13.9	9.6	17.4
Operatives, except transportation	14.4	13.7	4.7	22.5
Transportation equipment operatives	4.0	3.9	2.9	5.4
Laborers, except farm	4.3	4.5	2.9	6.2
Farm laborers and foremen	0.6	1.2	0.2	4.4
Service workers, except private household	11.0	11.3	8.6	23.9
Private household workers	0.8	1.5	0.7	4.1
Farmers and farm managers	1.8	1.9	0.2	17.2

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Census of Population, 1970*, Volume 1, *Characteristics of the Population*.

Table 3
PERCENTAGE COMPOSITION OF GROSS
PRODUCT, 1967 AND 1973

	1967		1973	
	Illinois	U.S.	Illinois	U.S.
Gross product	100.0	100.0	100.0	100.0
Private nonfarm	88.9	86.5	86.4	87.8
Contract construction	4.7	3.4	4.6	3.0
Manufacturing	33.4	30.3	31.4	32.4
Durable	NA	18.3	20.0	19.0
Nondurable	NA	12.0	11.4	13.4
Wholesale and retail trade	16.9	16.8	16.4	17.4
Finance, insurance, and real estate	12.8	13.5	13.0	12.9
Transportation, communication, and utilities	8.8	9.8	8.5	10.7
Services and other	12.0	12.3	12.2	11.2
Services	NA	9.3	NA	9.2
Other	NA	3.0	NA	2.0
Mining	0.7	0.4	0.6	0.5
Government	8.1	9.7	8.9	8.6
Agriculture	2.9	3.7	4.5	3.4

NA, not available

SOURCES: U.S. President, *Economic Report of the President, January 1973* (Washington: Government Printing Office, 1973), Table C-5; Illinois Department of Business and Economic Development

The machinery, except electrical, industry offsets most of the relatively smaller contributions of the four other industries discussed above. In Illinois there is a concentration of farm machinery and construction machinery manufacturers. These two machinery industries account for 7.7 percent of total Illinois manufacturing value-added, but account for only 2.4 percent nationwide.

The detailing of the manufacturing sector by industries and subindustries provides a very exacting comparison of the two economies. When one considers the complexities of the industries that comprise the important manufacturing sector, it is significant that this sector in Illinois is so balanced as to parallel U.S. manufacturing in many respects.

first or second among the fifty states (depending on annual variations in commodity prices) in the value of products shipped overseas. In the importance of trade, then, Illinois is not a microcosm of the United States. Rather, Illinois stands out as a key commerce state.

A second method for the study of output is to value production by major sector regardless of domestic, interstate, or foreign destination. Table 3 illustrates the percentage composition of gross product by sector for Illinois and the U.S. for two selected years. Similar weights are apparent for most sectors. Agriculture is the most volatile element in Illinois's total product, reflecting the state's specialization in corn, soybeans, and hog raising. Over the past decade, the transportation, communications, and utilities sector has assumed relatively more importance at the national level than in Illinois. Manufacturing continues to be the dominant sector in the economy, accounting for almost one-third of total gross product for both Illinois and the U.S. An analysis of the industries in the manufacturing sector therefore is imperative to a comparison between the economies of the state and the nation.

The Manufacturing Sector

Recent information allows us to compare value-added — the market value of output minus the cost of materials, component parts, and supplies purchased from others — in seventeen manufacturing industries plus a miscellaneous category (see Table 4). This is an important comparison in evaluating whether the Illinois economy is a microcosm of the nation's economy, because in so

many states manufacturing is specialized in regard to the location of raw material, unique transport facilities, or complementary industries. We leave the final judgment to the reader, but the relative contributions by thirteen of the eighteen industrial categories as illustrated in Table 4 would seem comparable between Illinois and the entire U.S.

Five manufacturing industries do deviate significantly in their relative contributions to state and national manufacturing. Historically four of these industries have been less important to total Illinois manufacturing than to the overall U.S. economy: lumber and wood products; transportation equipment; textile mill products; and apparel and other textile products. The smaller relative contributions by these industries are offset by the greater importance of machinery, except electrical, to the Illinois economy. Each of these five manufacturing industries has components, and the details provide some information about these "deviant" industries.

The few forests in Illinois are concentrated in the extreme southern part of the state; they do not generate logging activity that is representative of this industry nationwide. Illinois also produces proportionately less than does the U.S. as a whole in three principal components of transportation equipment: motor vehicles and equipment, aircraft and parts, and ship and boat building. These transportation equipment elements tend to be highly concentrated in other select states that account for overall national production. Illinois also is not a textile state. There is some representation of textiles in Illinois, but this industry and apparel manufacture tend to be concentrated on the east coast.

Table 1
PERCENTAGE INDUSTRIAL DISTRIBUTION OF
EMPLOYED PERSONS, 1970

Persons Age 16 and Over	50-State Range			
	Illinois	U.S.	Low	High
Agriculture	2.7	3.7	0.9	22.2
Mining	0.5	0.8	0.1	9.0
Construction	5.1	6.0	4.8	9.4
Manufacturing	30.3	25.9	4.7	36.2
Railroads, trucking, other transport	4.4	3.6	*	*
Communications, utilities, sanitation	2.9	3.1	*	*
Wholesale trade	5.0	4.1	2.6	5.2
Retail trade	16.1	15.9	*	*
Banking, credit, other finance	1.8	1.7	1.2	2.4
Insurance, real estate	3.5	3.3	1.6	5.1
Business services, repair services	3.2	3.1	*	*
Private household, other personal services	3.7	4.6	*	*
Entertainment and recreation	0.7	0.8	0.4	7.6
Hospitals and health services	5.2	5.5	*	*
All education	7.3	8.0	*	*
Professional, religious, welfare services	4.0	4.1	2.6	5.9
Public administration	4.4	5.5	3.5	16.4

*Seven of the illustrated industries are consolidated from a more detailed presentation in Table 5 of *The Illinois Economy: A Microcosm of the United States?* Because different states are involved, no weights can be calculated for multiple industries.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Census of Population, 1970, Volume 1, Characteristics of the Population.*



INSTITUTE OF GOVERNMENT
AND PUBLIC AFFAIRS
UNIVERSITY OF ILLINOIS

1201 WEST NEVADA STREET / URBANA, ILLINOIS 61801