

WORLD ECONOMIC ACTIVITIES

A GEOGRAPHIC ANALYSIS

Richard M. Highsmith, Jr., and Ray M. Northam

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Preface

On the professional and graduate levels economic geography is advancing rapidly toward a clearer conceptual structure and a more meaningful theory and methodology. However, at the undergraduate level, for which this book is intended, most introductory texts continue to follow the traditional descriptive approach based on a rich body of substantive literature. It has been our goal to integrate the sound elements of the traditional approach with modern concepts and methods. To this end we have employed economic activity systems as the organizational framework of the book, opening with the least complex and progressing to the most complex systems, and introducing the concepts and quantitative procedures characteristic of current trends only after the student has developed the background necessary to grasp them.

Many of the tables, maps, and diagrams amplifying the text were compiled especially for the book. In the belief that clarity and succinctness are crucial in engaging the student's interest in such material, we have taken pains that it be presented in a particularly unambiguous and attractive format.

This book is intended for use in one-semester and one- or two-quarter courses by students majoring in geography or other disciplines. We hope that it will challenge, inform, and stimulate all who use it.

RICHARD M. HIGHSMITH, JR.
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WORLD ECONOMIC ACTIVITIES: A Geographic Analysis

Introduction: The Frames of Reference

Mankind has developed many ways to sustain itself. Earliest man lived by gathering edible fruits, by hunting wild animals, and by fishing. In some circumstances he depended on one of these categories of nature's production, in others on two or all three. Early man was a direct consumer, and his assessment of the resource value of his habitat was based mainly on the richness and variety of these items, although he also needed enough water to sustain human life and, perhaps, wood, plant fibers, and stones, which could be fashioned into crude shelters, weapons, and tools. Access to these basic resources influenced where people lived and in what numbers. The use of these resources made little imprint on the appearance of the natural environment; in a given site man was quite transitory. Even small groups moved frequently in order to find new food supplies, although this movement was commonly within a distinct area.¹

With the passage of time and the advance

of civilization, human wants and needs, populations, and techniques grew, and different and more complex elements of the environment, such as cropland, grazing land, and additional raw materials came to be regarded as resources. Agriculture began to support larger and more permanent settlements and required greater cooperative efforts. Trade and government fostered the growth of urban centers, and improvements in transportation brought external forces into play through the expansion of markets and the exchange of ideas. Such were the processes of growth of the ancient civilizations of China, India, Mesopotamia, Egypt, and the Mediterranean Basin.

During the Middle Ages most people were dependent upon farming, and this was true even into the early years of the modern

1. For an interesting theoretical account of the emergence of man, see Harrison Brown, *The Challenge of Man's Future* (New York: Viking, 1954), ch. 1.

period, much of the increasing population being supported by expansion in the area of the land base used. Since the last half of the eighteenth century, however, man's ability to convert elements of his environment to material benefit has grown remarkably. After the invention of the steam engine—a major turning point in man's mastery of energy—invention followed invention, paving the way for the mass manufacture of countless items that amplify the productiveness of human labor and improve life and make it more pleasant. Twentieth-century science and technology, which have helped man to use his environment as well as to meet his other needs more efficiently, have brought radical changes not only in manufacturing, but in agriculture, forestry, mining, and so forth. Advances in science and technology help to account for the phenomenal population growth of recent years and have accelerated the demand for an increased number and variety of resources. They also account for changes in the settlement pattern in advanced countries, where fewer people are required in agricultural production in rural areas and more are required in manufacturing and service activities in cities. For example, of the 7.7 million persons in the U.S. labor force in 1850, 4.9 million worked on the nation's farms; in 1900, the labor force amounted to 29.1 million, of which 10.9 million were farm workers; and in 1960, out of a labor force of 67.9 million, only 4.1 million were farm workers.²

Few areas of the world have escaped either the direct impact of modern science and technology or the impact these conditions have had on the assessment of or market for resources. Tinned and dehydrated foods, simple tools, and a few other modern products are found in many of the most backward areas. Many advanced nations reach to the far corners of the earth to pro-

cure raw materials; some have encouraged economic development through investment as well as by providing additional markets; and a number are engaged in technical-assistance programs.

Although man's economic activities differ in their details, it is possible to group and classify them according to common relationships, organization, and purpose. The most general classification might group activities into three broad economic sectors: primary, secondary, and tertiary. The primary sector includes those activities involved in direct extraction of a natural resource and those that depend on the natural environment for maintenance. The secondary sector includes those activities that produce goods through the transformation of products of the primary sector. The tertiary sector includes those activities devoted to the provision and dispensing of goods and services. These sectors can be subdivided into divisions. The primary sector is composed of the divisions of agriculture, forestry, hunting and fishing, and mining and quarrying. Manufacturing and construction compose the secondary sector, and the tertiary sector embraces the divisions of professional and personal services; commerce; transport, storage, and communication; and electricity, gas, water, and sanitary services. A still finer classification might subdivide each of the divisions into major groups, such as those of food processing and textile production within the division of manufacturing.³

The economically active population of the world is not equally distributed among economic sectors, divisions, or major groups. Distribution of the combined population of 67 nations including about 60 percent of the world's people is about 47 percent in the primary sector, 22 percent in the secondary

2. U.S. Bureau of the Census, *General Report, U.S. Census of Agriculture, 1959* (1962), II, ch. 4, table 1.

3. One of the most helpful classifications of this type is provided in U.N. Statistical Office, *International Standard Industrial Classification of All Economic Activities*, Statistical Papers; Series M, No. 4, Rev. 1; Sales No. 58, XVII, 7 (New York, 1958).

sector, and 31 percent in the tertiary sector. The major division in the primary sector is, by far, agriculture; in the secondary sector, manufacturing; and in the tertiary sector, services and commerce. As shown in Table 1, the intercountry differences are great, the extremes in population distribution being, in the primary sector, 6.4 percent and 96.6 percent (United Kingdom and Chad, respectively), in the secondary sector, 1 percent and 49 percent (Chad and Switzerland, respectively), and in the tertiary sector, 2.4 percent and 60.2 percent (Chad and the United States, respectively). Data in the table also reflect differences in economic structure among nations. The agrarian nations have over half of their working population in the primary sector; the industrialized nations have over half in the other two sectors, with the ratio of secondary to tertiary around 2:3.

Economic structure undergoes change with passing time, and the contribution of each economic activity is likely to change as well. The primary sector, in which agriculture is dominant, tends toward a decreased

relative contribution as other sectors' contributions increase. One might assume that it is natural that as technology improves, means of resource-exploitation become more mechanized, personal incomes increase, and transportation and communications systems are strengthened attention should be directed to the secondary and tertiary sectors and the efforts devoted to each should increase. It should not be forgotten, however, that not all economic sectors are entered with equal ease by the working population. Further, the talents applicable to one sector are not necessarily applicable to others. Thus, the agrarian peasant hoping to improve his economic position and increase his income might not, under any so-called natural process, have acquired the level of skill needed for the secondary sector (especially manufacturing) but might find a place in one of the less rewarding, urban-oriented, low-skill activities (largely personal services) in the tertiary sector. As a result, the tertiary sector begins to account for a disproportionately large part of the labor force, while the secondary sector lags. Such has been the

TABLE 1

Percentage Distribution of Economically Active Population
by Economic Sector

<i>Nation and year</i>	<i>Sector</i>		
	Primary	Secondary	Tertiary
United Kingdom (1964)	6.4	43.5	50.1
United States (1962)	8.1	31.7	60.2
Switzerland (1960)	11.4	49.4	39.2
Australia (1961)	12.4	36.5	51.1
West Germany (1963)	14.6	45.1	40.3
Japan (1960)	34.1	28.0	37.9
Malaya (1957)	61.8	9.6	28.6
Guatemala (1960)	68.6	14.3	17.1
India (1961)	74.0	10.7	15.3
Thailand (1960)	84.0	4.0	12.0
Gabon (1963)	88.1	3.6	8.3
Chad (1961)	96.6	1.0	2.4

Compiled from various sources.

pattern in some of the developing nations of the world. In the developed nations, however, more of a balance is struck between the secondary and tertiary sectors.

In developing a series of related ideas about the geography of world economic activities, this book uses an activity-systems approach, with each activity viewed as a system or systems that has spatial dimensions and spatial relations. The ultimate interest of the geographer is conditional cause. He must ask why an activity is localized where it is and why it is organized as it is. The answers lie in the relationships of land resources, market characteristics, technology, and cultural influences. Hence, each activity system must be viewed as a complex functional entity with interdependent, interrelated parts. Explanation of a system's location and

character is sought through determination of these components and the processes underlying them and through discovery of their spatial and temporal covariation.

Thus, in this work, the presentation, although, hopefully, not conventionalized, is somewhat formalized in order to highlight with respect to each system: (1) its location or locations (spatial pattern or distribution); (2) its characteristics, structure, and spatial expression; (3) the bases and processes underlying its existence and character; (4) its range of significance and interaction with other systems; (5) its viability and/or the evidences of imminent change.