Chapter 24 - Industrial Activity and Geographic Location

CHAPTER OUTLINE

The Industrial Revolution was essentially a revolution in power and transportation. Goods, ideas, and humanity were transported across the Earth in a manner that would forever change our planet and its human occupants. Modern industry increased and intensified regional inequality while mushrooming demand for resources created new global patterns of movement. In the industrial-oriented world of the late l990s success depended on the possession or control of resources. At a time when cultural differences should be reduced with benefits and technical capabilities shared for the good of all, our own innovations and abilities may work to hinder this end.

Location

Economic activities can be categorized according to their purpose, their relationship to the natural resources on which they are based, and their complexity. Economic geographers investigate the reasons behind the location of economic activity. Today, the world is a vast panorama of primary activity within which there are clusters of secondary industries symbolized by the great manufacturing belts of Japan, the United States, Europe, and Russia. What geographic factors created this arrangement and what will happen next? Answers to such questions come from the field of location theory, which attempts to explain the locational pattern of an economic activity in terms of the factors that influence this pattern. Location theory helps explain the spatial positioning of industries and their success or failure. The Industrial Revolution transformed the worlds economic map, dramatically impacting certain areas while totally bypassing others. Understanding the forces and factors that shaped the worlds industrial layout is a prime objective of economic geographers.

Location Decision

industrial activity takes place in certain locations and not others. For primary industries, the location of resources is the determining factor. Secondary industries are less dependent on resource location because raw materials can be transported to distant locations if the resulting profits outweigh the costs. Any attempt to establish a model for the location of secondary industry, however, runs into complications because the location of secondary industries depends to a large extent on human behavior and decision making—cultural and political as well as economic factors, even on intuition or whim. In 1909, the German economist Alfred Weber developed a model for the location of manufacturing establishments, Weber's least cost theory accounted for the location of a manufacturing plant in terms of transportation (the most important), labor, and agglomeration (shared talents, services, and facilities). Despite numerous criticisms of the model, Alfred Weber set in motion a debate over the spatial aspects of economic activity that continues today.

Transportation

As Weber noted, transportation facilities and costs are crucial in industrial location. A huge market may exist for a given product, but if that market is not served by an effective transportation system, much of the advantage is lost. The maps in chapter 26 underscore the fact that highly developed industrial areas are also the places that are served most efficiently by transportation facilities, Industrialization and the development of modern transport systems go hand-in-hand.

In a sense, the Industrial Revolution was a transportation revolution—a revolution that is still going on. Transport costs played a key role in the location of heavy industries but raw-material acquisition and finished-product distribution determined the options. One of the first decisions faced by the capitalists who built the great iron works of Europe, for example, was whether to move either coal to iron ores sites or, iron ore to the coal fields. The iron smelters were built near the coal fields (it generally takes more coal than iron ore to make a ton of finished product). The same decision was made when the American iron industry located near Appalachian coal and hauled iron ore from the Great Lakes Mesabi Range.

Additional Factors of Location

Other factors influencing the location of industries also include labor costs, energy availability, and infrastructure. The availability of cheap semiskilled labor has had an immense impact on regional industrial development. Even in an era of automated assembly lines and computerized processing, the prospect of a large, low-wage, trainable labor force continues to attract manufacturers. Japans postwar success was based in large measure on the skills and the low wages of its labor force. Taiwan and South Korea have successfully competed with Japan for the same reason. In the 1980s, China entered the Pacific Rim picture with its huge labor force and will, in turn, feel the impact of cheap labor when Vietnam enters the picture. The cost of labor still looms large lathe location of industry.

The availability of an energy supply is another factor in the location of industry, but the factor used to be much more important than it is today. The early British textile mills were site-tied" because they depended on falling water to drive the looms. Today, power comes from different sources and can be transmitted or transported over long distances. Exceptions occur when an industry needs very large amounts of energy, for example, certain metallurgical and chemical industries.
When Weber considered the role of agglomeration in location decisions, he could not foresee the dimensions of urban areas or industrial complexes a century hence. One of the most difficult problems that today's industrializing countries or regions face is providing adequate infrastructure—transportation and communication networks, banks, postal service, administrative assistance, energy distribution systems, social services, roads and highways. China has tried to slow industrialization in some regions because of a inadequate infrastructure. Thus many factors of industrial location are not accounted for by models. Even the growth of secondary industries is influenced by factors that are not accounted for in the models, such as political changes and even environmental fluctuations.

Chapter 25 - Resources and Regions: The Global Distribution of Industry

CHAPTER INTRODUCTION

The future of the world is today being shaped by industrialization. The remarkable achievements that began in a single nation have not yet been shared equally by all humanity but this may be about to change. Modern industry is largely a phenomenon of countries in the mid-latitudes of the Northern Hemisphere with few peripheral countries as yet members of this rather exclusive club. As the world approaches the twenty-first century much has changed concerning industrialization and the resources that support it. Industry is presently undergoing a global shift which portends a new era for the world as we have come to know it.
When the Bolsheviks took control of the Russian Empire, they found themselves in charge of a vast realm with a mainly agricultural economy. There was nothing in the Soviet Union of the 1920s to rival what was happening in Europe or North America. Soviet communist rulers were determined to change this. They wanted to transform the Soviet economy into an industrial one. The human cost of this gigantic scheme was dreadful, but the desired transformation was accomplished. The Soviet Union became a major industrial power with vast manufacturing complexes.
Outside the Soviet Union, industrial development took a very different course. Market forces, not state planning propelled the Industrial Revolution in Europe and North America, and industrial economies on both sides of the Atlantic Ocean rose to global prominence. Because of the imposition of Soviet ideology and economic planning on Eastern Europe's industrial development, for more than four decades after World War II, East Europe's economic geography was constrained. Western Europe's industrial growth proceeded more freely, and in the postwar period Japan, Taiwan, and South Korea industrialized under free-enterprise rules as well. China, on the other hand, collectivized its agriculture and put its industries under state control.

Major Industrial Regions

Whatever the ideological basis (market-commercial, communist-state, or some combination), the world map of major regional-industrial development reveals that only a small minority of countries have become major industrial economies. Four major industrial regions have developed, all in the Northern Hemisphere: Western and Central Europe (Figure 25-1), Eastern North America (Figure 25-3), Russia-Ukraine (figure 25-4), and Eastern Asia (Figure 25-5). Each consists of core areas with subsidiary clusters some distance away.
While the older manufacturing regions are quite entrenched, notable shifts are occurring. This dispersal is especially evident in East Asia, where Japan's dominance is being challenged by the "Four Tigers" of East Asia (see Focus on: 'The Four Tigers" in Chapter 24). In addition, the entrance of China into the global manufacturing economy in the 1980s is certain to gain in significance in the twenty-first century.

Europe

The location of Europe 's primary industrial regions still reflects the spatial diffusion of the Industrial Revolution. An axis of manufacturing extends from Britain to Poland and the Czech Republic, and onward to Ukraine. The explanation of this pattern lies in the location of coal fields in Britain and the European continent. Britain's coal fired industries produced a pattern of functional specialization that, for a time, had no equal in the world, for it was coal that fired the Industrial Revolution.

Europe's coal deposits lie in a belt across northern France, Belgium, north-central Germany, the northwestern Czech Republic, and southern Poland—and when the Industrial Revolution diffused from Britain onto the mainland it was along this zone that Europe's major concentrations of heavy industry developed. Europe's industrial success also depended on the skills of its labor force and the high degree of specialization achieved in various industrial zones.

North America

In North America , industrialization occurred first in the East. Served by a wide array of natural resources and supported by networks of natural as well as artificial transportation systems, remote from the destruction caused by wars in other industrial regions, and on the doorstep of the world's richest market, North American manufacturing developed rapidly. Today, this complex, anchored by the American Manufacturing Belt—from the northeastern seaboard to Iowa, and from the St. Lawrence Valley to the confluence of the Ohio and Mississippi Rivers—is the largest in the world (Figure 23-3).

Ukraine and Russia

The most important country detached from the Soviet Empire (after Russia itself) was Ukraine . In the new Europe, Ukraine would be the largest territorial state and one of the most populous. It was a major manufacturing center before the end of the nineteenth century, having been strongly affected by the Industrial Revolution. Coal from its Donetsk Easin (Donbas) and iron ore from the Krivoy Rog reserve and later from Russia's Kursk Magnetic Anomaly allowed Ukraine to grow into one of the world's largest manufacturing complexes. Today, despite Ukraine's political separation from the former Soviet Union (and hence from Russia), Ukrainian and Russian industries are interdependent: Ukraine needs Russian fuels and Russia needs Ukrainian raw materials.

Eastern Asia

Two centuries after the onset of the Industrial Revolution, East Asia is the cauldron of industrialization. From japan to (3uangdong and from South Korea to Singapore, the islands, countries, provinces, and cities fronting the Pacific Ocean are caught up in a frenzy of industrialization that has made the term Pacific Rim synonymous with economic opportunity. Industrial regions in East Asia are the fastest growing in the world. The Asian Pacific Rim, from Japan to Indonesia, includes several of the most rapidly expanding economies, recent setbacks notwithstanding.

Chapter 26 - Concepts of Development

CHAPTER INTRODUCTION

In the last 200 years the benefits and influences of industrialization have spread, in varying degrees, to all parts of the Earth. In many countries this process has produced intra-regional contrasts that tend to intensify the contrasts between urban and rural populations. This development is, unfortunately, often more symbolic than real for many countries and actually helps these societies very little. Industrialization is not the solution for many countries seeking to improve conditions for their citizens. Success is measured in many ways but should be judged based upon criteria and achievement applicable to the society involved. In the late I990s poorer less industrialized countries must balance goals and ambitions with the needs of their populations.

Patterns of Development

The global economic picture is characterized by enormous gaps between rich and poor countries, but the geography of economic well-being also reveals regional disparities within countries at all levels of development. There are even areas within the industrialized countries themselves where change is slow in coming. Parts of the rural South in the United States still experience significant poverty and remain comparatively remote from the effects of national economic growth. Life has changed little in remote areas of western and northern Japan , and areas of isolation and stagnation persist in Europe .

In poorer less industrialized countries, there are places where clusters of industries have emerged and rapid urban growth is taking place, producing local conditions that differ sharply from those prevailing in surrounding areas. Recent economic growth on the Pacific Rim of East Asia has created huge regional disparities in economic conditions between some coastal provinces of China and distant interior provinces. Such regional contrasts have significant as well as political consequences. Regional economic disparities are increasing throughout the world.

Concepts and Approaches

Economists and geographers use a variety of approaches to describe the wide disparities in the global economy. Countries with high levels of urbanization and industrialization and high standards of living have long been referred to as developed countries (DCs), in contrast to underdeveloped countries (UDCs). This

approach divides the world into two major categories, but also assumes that all countries are at some stage of development. But, the concept of development is a complicated one. How, for example, should development be measured? The GNP index provides one approach, but it has many shortcomings. There are a number of things it does not measure, such as the informal economy and contrasts within countries. Other approaches provide a richer basis for thinking about development, but none of these approaches produces a clear dividing line between developed and underdeveloped countries. Since some countries that were classed as underdeveloped began to change, the term developing country came into use in the 1960s and 1970s, but problems still existed, not the least of which was no country wanted to be classed as "under-developed," and with good reason. The definition came from developed countries. Thus the developed-underdeveloped distinction was largely replaced by a developed-developing distinction. What all this showed is that while economic disparities are usually thought to be due to different levels of development, in reality development is much more complex and cannot be reduced to simple categories.

The Core-Periphery Model

Because of many criticisms and shortcomings in the "traditional" divisions of developed, developing, and underdeveloped system, a new approach to describing global economic disparities has been proposed. The new one is more sensitive to geographical differences and the relationships among development processes occurring in different places. The proposed core-periphery model, which is also used in discussions of political power, views the world as characterized by a core, semi-periphery, and periphery. Since the model focuses attention on the economic relationships among places, it is a key component of many theories that treat the global economy as a large system, and is actually quite different than the developed-developing-underdeveloped approach. The most important difference is the explicit identification of the power relationships among places, and it does not assume that socioeconomic change will occur in the same way in all places. This is important, because underlying economic disparities is a core-periphery relationship among different regions of the world. This affects how economies develop in both the core and the periphery.

A Changing World

As the twenty-first century approaches, some states are still subsistence-based and poor (traditional), whereas others are in the takeoff stage. These terms are part of a theory proposed by economist Walt Rostow in the l96Os, referred to as the modernization model. Rostow's model suggests that all countries follow a similar path through five stages of development. The model provides a useful view of how certain parts of the world have changed over time, but it has been criticized because it does not take into account the different constraints that regions face because it suggests a single development path that is not influenced by cultural differences, In the world of the late 1990s, rapid development is taking place under widely different political systems. It is often associated with democratization, but it is also occurring under authoritarian regimes. We should remember that there are many routes to development.

Chapter 27 - From Deindustrialization to Globalization

CHAPTER INTRODUCTION

Ever since the Industrial Revolution, the growing demand for resources, the expansion of manufacturing and trade, and the technological innovation have worked to produce an increasingly interconnected global economy. Almost all places are in some way part of the web of production, exchange, and consumption that make up that economy—and their position in that web has significant social consequences Those in the developed core tend to be in the drivers seat, whereas those in the periphery have far less control. Tracing the historical geography of industrialization can tell us much about why some areas are in a more advantageous position that others, but that is not the entire story.

Changing Patterns

The declining cost of transportation and communication along with changes in the production process, have led to an enormous expansion of the service sector (activities such as transportation banking retail-ing, administration and decision making are some examples). Activities do not generate an actual tangible product. This transition has primarily occurred in the industrialized core. The service sector is sometimes broken down into three categories: tertiary, quaternary, and quinary industries. Over the past 30 years this growth in service-related activities has been accompanied by significant deindustrialization in the core industrial economies This shift had its roots in dramatic decreases in the cost of transporting goods, the

increasing mechaniz4tion of production the growth of the public sector, and the rise of new information and communication technologies.

The changes of the past three decades have not fundamentally altered global patterns of economic well-being, but they have produced significant new spatial orders. They have caused shifts in the locus of production, altered patterns of regional specialization and fostered new centers of economic growth. Deindustrialization in the core has also led to the growth of labor-intensive manufacturing in the periphery where labor costs are dramatically lower and profits thus higher. Such manufacturing ranges from shoes and apparel to computers, automobiles, and television sets. The next time you purchase such items, check and see where they were manufactured or assembled.

Global Dimensions of Economic Activity

To understand the economic shifts that have occurred over the past few decades we must look beyond individual places to the global scale, for both the core and periphery have been significantly changed. The phrase new international division of labor refers to the set of relationships that define the contemporary world economy. Whereas earlier in the twentieth century economic relationships were defined by an industrialized core and a resource-exporting periphery, today the geography of the global economy is far more complex. The countries and regions outside the core that have increased their manufacturing output most rapidly in recent decades are shown in text Figure 27-1. Lying behind the patterns shown is a set of developments that give meaning to the phrase 'new international division of labor." In the traditional core, the shift away from heavy industry and toward the service sector has been accompanied by the rise of labor-intensive manufacturing in new locations More labor-intensive manufacturing particularly assembly activities, is likely to be located in peripheral countries where labor is not only cheap, but regulations (including environmental controls) are few, and tax rates low. Elaborate trading networks and financial relations support the economic web at the heart of the new international division of labor. This new pattern has linked the worlds economies more closely together, but it carries with it patterns of interaction that favors some areas over others.

Specialized Patterns

Developments discussed so far—the growing connections between the developed core and the newly industrialized countries, the decline of the older industrial areas, and the emergence of assembly-style manufacturing in the periphery—are not the only significant changes that have shaped the new global economic picture. One change that is altering the economic landscape of the contemporary world is the development of a set of links between world cities—major urban centers of multinational business and finance; the control centers of the world economy. These cities are not necessarily the largest in terms of population, nor are they the greatest centers of manufacturing. Instead, they are the places where the world's most important financial and corporate institutions are located and where decisions are made that divide the world economy. The basic pattern is shown in text Figure 24-3, which shows that most of the major world cities are located in the developed core. Thus a global economic geography dominated by nation-states is giving way to one in which world cities and multinational corporations play an increasingly significant role.

Time-Space Compression

A key theme of the last few decades is captured by the phrase time-space compression—a set of developments that have dramatically changed the way we think about time and space in the global economic arena. The rise of the World Wide Web plays into the time-space compression. It is too early to know what the full impact of the Web might be, but its role in reducing the importance of distance is self evident. It also clearly plays a role in the decentralization of economic activity.