

UNIT 7

Industrialization and Economic Development Patterns and Processes

Chapter 18 *Industrialization and Economic Development*

Chapter 19 *Development and Trade*

Chapter 20 *Changing Global Economy and Sustainability*

Unit Overview

Great Britain was the hearth of the 18th century Industrial Revolution. As people learned to use water power and coal energy to manufacture goods, they increased their agricultural productivity, population, and wealth. In the last two centuries, industrialization has diffused throughout the world.

Measures of Development

Since the start of the Industrial Revolution, people have developed statistical measures to describe changes in society. Some measure the total output of each country, the distribution of income, rates of childbirth, the percentage of people who can read, and the different opportunities available to males and females. Scholars use this information to create models or theories of spatial patterns of economic and social development in countries around the world.

Variations in Development and World Economy

The diffusion of industrialization generally increased trade and interdependence, which improved the standard of living for most people. However, many people lost their jobs, either because of the greater use of machines or the movement of work from one place to another. As people in some countries specialized in particular types of work, an international division of labor emerged. Industrialization also damaged the environment motivating many people to push for more sustainable practices.

ENDURING UNDERSTANDINGS

SPS-7: Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development.

PSO-7: Economic and social development happen at different times and rates in different places.

IMP-7: Environmental problems stemming from industrialization may be remedied through sustainable development strategies.

Source: AP® Human Geography Course and Exam Description. Effective Fall 2020. (College Board).

CHAPTER 18

Industrialization and Economic Development

Topics 7.1–7.4

Topic 7.1 The Industrial Revolution

Learning Objective: Explain how the Industrial Revolution facilitated the growth and diffusion of industrialization. (SPS-7.A)

Topic 7.2 Economic Sectors and Patterns

Learning Objective: Explain the spatial patterns of industrial production and development. (SPS-7.B)

Topic 7.3 Measures of Development

Learning Objective: Describe social and economic measures of development. (SPS-7.C)

Topic 7.4 Women and Economic Development

Learning Objective: Explain how and to what extent changes in economic development have contributed to gender parity. (SPS-7.D)

A nation's growth depends, among other factors, on whether and how it educates and integrates its talent. Women make up half of the potential workforce available in any economy, and the efficient use of this talent pool is an important factor for growth, prosperity and competitiveness.

—World Economic Forum, “Gender Parity,” 2016



Source: Wikimedia Commons

Containers can be loaded from trucks or trains and stacked onto large ships via the cranes shown in the images. Containers have reduced break-of-bulk costs dramatically. (See Topic 7.2 for more on containerization.)

The Industrial Revolution

Essential Question: How did the Industrial Revolution facilitate the growth and diffusion of industrialization?

Economic activity and development have brought dramatic changes to the world. **Industry**, the process of using machines and large-scale processes to convert raw materials into manufactured goods, has stimulated social, political, demographic, and economic changes in societies at all scales. Industry requires **raw materials**, the basic substances such as minerals and crops needed to manufacture finished goods.

Growth and Diffusion of Industrialization

Before the 18th century, people made for themselves most clothes, tools, and other items they used. They bought only a few items, often textiles or metal goods, in a **market**, a place where products are sold. What they did buy was usually made by other families working in their own homes who had a contract to make products for a merchant. These small home-based businesses that made goods are called **cottage industries**. These industries depended on intensive human labor since people used simple spinning wheels, looms, and other tools.

Starting in the 18th century, a series of technological advances known as the **Industrial Revolution** resulted in more complex machinery driven by water or steam power that could make products faster and at lower costs than could cottage industries. Because the new machinery was so large and required so much investment money, or capital, manufacturing shifted from homes to factories. The replacement of labor-intensive cottage industry with capital-intensive factory production reshaped not only how people worked, but where they lived and how they related to each other spatially.

CHANGES IN MANUFACTURING DUE TO THE INDUSTRIAL REVOLUTION

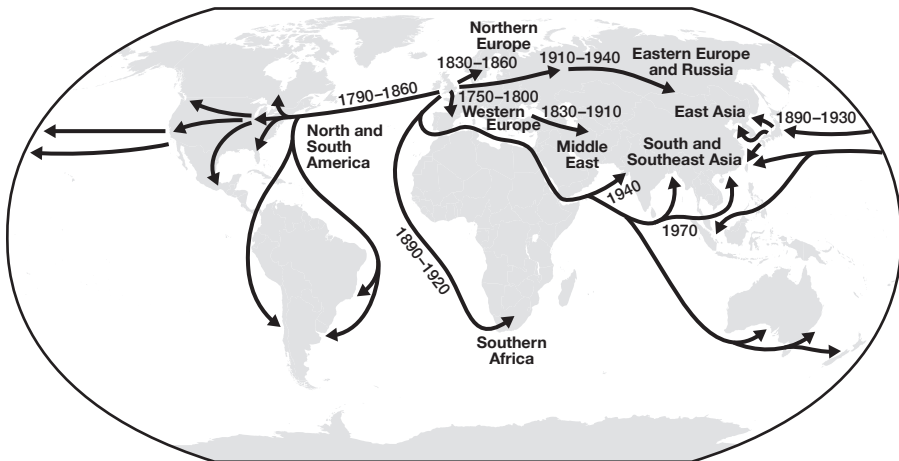
Characteristic	Cottage Industry	Factory Manufacturing
Scale of Production	Small	Large
Size of Labor Force	One family	Dozens to thousands
Method of Production	Human labor	Machines
Typical Building	House or small workshop	Factory
Capital Investment	Low	Large
Speed of Production	Slow	Fast
Efficiency	Low	High
Market	Local	Local and global

The Industrial Revolution spread throughout the world. However, cottage industries remain important, especially in less-developed countries. Many families survive by producing and selling items such as hand-woven fabric and rugs in both local and global markets. Wealthy consumers are willing to pay more for high-quality handcrafted products than they would pay for mass-produced items.

Diffusion of the Industrial Revolution

Starting in the mid-1700s, the Industrial Revolution diffused rapidly on a regional scale and then a global scale. From Great Britain it moved first to nearby France and the Netherlands. By the mid-1800s, industrialization had spread east to Germany and west to the United States. By the early 1900s, it had reached all of Europe, Japan, parts of China, and South America. Today, most of the world is industrialized.

DIFFUSION OF THE INDUSTRIAL REVOLUTION



The earliest adopters of the industrialization process were the countries closest to Great Britain. Explain the relatively short time it took for the diffusion to much more distant places such as North or South America? Was distance the only factor that determined if industrialization would be adopted by a country?

On the local scale, investors originally considered three main factors in choosing where to build a factory:

- energy resources to provide power, such as rivers or coal deposits
- minerals or agricultural products needed for producing goods
- transportation routes, such as roads, rivers, canals, and ports

As new forms of transportation and electricity were developed during the 19th century, industries became less dependent on the location of local coal supplies and companies could build factories in more diverse locations.

As factories grew larger, its location near a large workforce became more important. Hence, factories began to cluster in cities. These population centers also provided a market for the products made in a factory.

As the Industrial Revolution progressed, improvements in farm machinery and farming techniques—the Second Agricultural Revolution—increased agricultural productivity. Machine power replaced human and animal power. As a result, society needed fewer people to work on farms. These displaced farm workers moved to cities in search of work. Industrialization, then, promoted greater urbanization.

Growth of Cities and Social Class Changes

The growth of cities and factories reinforced each other. Factory work drew people to cities, who provided a market for factory goods. The greater availability of goods attracted more people. For example, London grew from one million people in 1800 to six million in 1900.

Such rapid urban growth brought problems. Old systems for handling human waste, burying the dead, and cleaning up horse manure were overwhelmed. Disease was rampant. Since people burned wood and coal to heat their homes and run factories, air pollution increased to harmful, even deadly, levels. At times, smog caused the normal death rate to double. Over time, people supported stronger government action—such as building sewers and regulating cemeteries—to protect public health.

Industrialization changed the class structure of society significantly. Before industrialization, most people worked with their hands, usually on farms or sometimes in a craft. A tiny elite class of people were wealthy landowners or church leaders. In between these two classes was a small class of merchants, clergy, and others who relied more on their knowledge than on their physical skills. With industrialization, this middle class expanded rapidly. Industry needed factory managers, accountants, lawyers, clerks, and secretaries. In addition, as the demand for workers who could read and write increased, so did the demand for teachers and professors. Class differences were stark:

- In rural areas, the mechanization of agriculture drove people away, but those who were able to stay benefited from the increased productivity.
- The urban working class who were employed in factories had hard and dangerous jobs, lived in crowded conditions in polluted areas, and often could not afford to purchase the products they made.
- People in the expanding urban middle class had more comfortable lives and enough income to purchase the low-cost manufactured goods.
- Some factory owners, bankers, and others in business in urban areas became extremely wealthy.
- Landowners often maintained their control of land, but they lost much of the influence in society to the rising business-oriented class.

Physical Changes in Cities

Cities grew both outward (horizontally) and upward (vertically). Horizontally, improvements in intra-urban transportation, such as trains, cars, and trucks, allowed cities to spread out farther from the downtown core. People could live farther from their workplace and still commute to work easily. At the same time, producers could transport food from the countryside into cities to feed a growing population.

Vertically, the development of elevators, stronger and more affordable steel, and techniques to construct stronger foundations combined to allow for people to construct taller buildings. As taller buildings made city populations more dense, public health measures became increasingly important.

Colonialism, Imperialism, and the Industrial Revolution

The Industrial Revolution built on the earlier rise of imperialism, a policy of extending a country's political and economic power. (See Topic 4.2.) As countries such as Great Britain and France industrialized, they desired to control trading posts and colonies around the world. They also looked to colonies to provide various resources:

- raw materials such as sugar, cotton, foodstuffs, lumber, and minerals for use in mills and factories
- labor to extract raw materials
- markets where manufacturers could sell finished products
- ports where trading ships could stop to get resupplied
- capital from profits for investing in new factories, canals, and railroads

By the early 1900s, several European countries and the United States had colonies around the globe. The development of imperialism made wealthy countries even wealthier, leading to a greater divide between the advanced, industrialized states and the underdeveloped, nonindustrialized states.

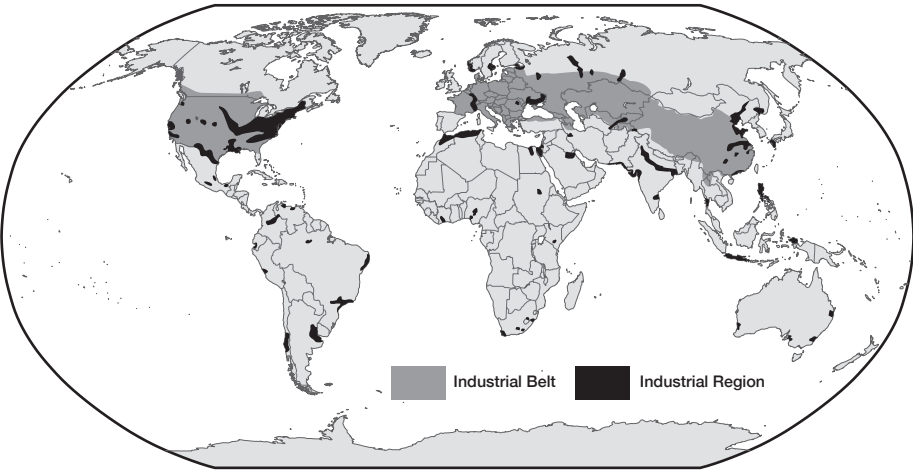
Major Industrialized Regions of the World Today

For most of the 20th century, industrialized regions were often found in large urban areas that provided a significant workforce and along coasts or rivers which provided easy transportation to global markets. Most were part of an **industrial belt** that stretched across the midlatitudes of the Northern Hemisphere. It included the northeastern and midwestern United States, much of Europe, part of Russia, and Japan.

However, near the end of the 1900s, these areas began to **deindustrialize**, a process of decreasing reliance on manufacturing jobs. As a result of improved technology, companies needed fewer employees to produce the same quantity of goods. Further, manufacturing companies transfer production to semiperiphery countries. In places such as China, India, and Mexico, companies could pay workers lower wages and avoid regulations designed to

protect workers and the environment. Workers in the deindustrializing core countries fought against this process, but with limited success. Regions that have large numbers of closed factories are called **rust belts**.

THE INDUSTRIAL BELT AND INDUSTRIAL REGIONS



The industrial belt is found in a strip of the midlatitudes in the Northern Hemisphere. What do most of the industrial regions have in common regarding their relative location? Why are they found in these relative locations?

REFLECT ON THE ESSENTIAL QUESTION

Essential Question: *How did the Industrial Revolution facilitate the growth and diffusion of industrialization?*

Reasons for Growth	Reasons for Diffusion

KEY TERMS

industry
raw materials
market
cottage industry

Industrial Revolution
industrial belt
deindustrialize
rust belt

Economic Sectors and Patterns

Essential Question: What are the spatial patterns of industrial production and development?

For decades, economists grouped jobs into three large categories that included almost all types of work. People either extracted raw resources (farming and mining), processed these materials into usable goods (manufacturing and building), or provided services (teaching and medicine). The category of providing services grew so large that economists divided it further, based on the type of services provided.

Geographers have focused on why some sectors of work are dominant in some regions and other sectors dominant in other regions. Why is any economic activity where it is? As part of this, they use locational analysis to evaluate the optimal location for a business to build a factory or other place of employment. For example, at a global scale, they study why most people in Ethiopia work in the extraction sector while most people in the United States work in the service sector. At the local scale, they study why one city has more jobs in software development than another.

Economic Sectors

Today, economists commonly divide a country's workforce into five sectors. The three main sectors are primary, secondary, and tertiary, with quaternary and quinary being additional sectors that were once part of the tertiary sector.

TRADITIONAL SECTORS OF THE U.S. ECONOMY		
Sector and Focus	Examples	Economic Characteristics
Primary extracting natural resources from the earth	- Farming - Mining - Fishing - Forestry	- Dominated the economy until the late 1800s - Includes many high-risk jobs - A small part of today's economy - Few high-paying jobs - Most jobs require physical skill
Secondary making products from natural resources	- Manufacturing - Building	- Significant growth from the 1840s to the 1960s - Wages vary greatly
Tertiary providing information and services to people	- Retail sales - Medicine - Housekeeping	- A small part of the economy until the mid 1900s - Most people in the U.S. labor force today - Wages vary widely

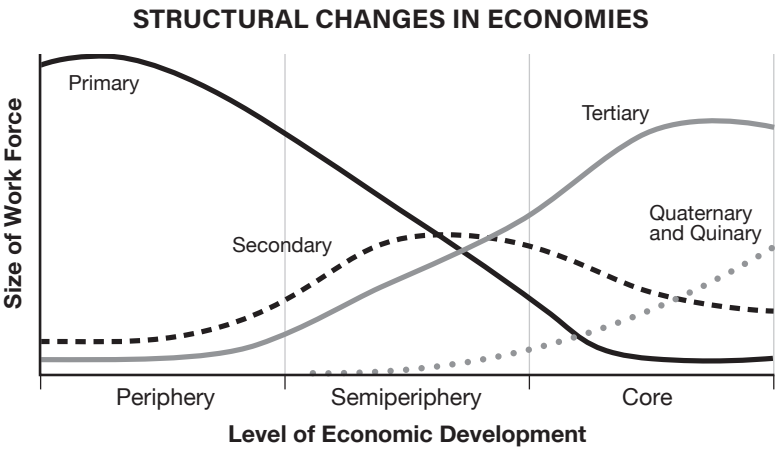
ADDITIONAL SECTORS OF THE U.S. ECONOMY		
Sector and Focus	Examples	Economic Characteristics
Quaternary managing and processing information	- Financial analysis - Software development - Data science	- Small percentage of employees - Most jobs require advanced education or technical skills - High wages - Considered part of the tertiary sector until recently
Quinary creating information and making high-level decisions	- Research - Top managers in corporations or government	- Very small percentage of employees - Very high income - Decisions can affect millions of people - Considered part of the tertiary sector until recently

Identify which sector of the economy each of the following jobs best fits?
 A) Architect, B) Tailor, C) Fisher, D) Assembly line worker at a food processing plant, and E) Chief Executive Officer of the Microsoft Corporation

Employment Sectors and Economic Development

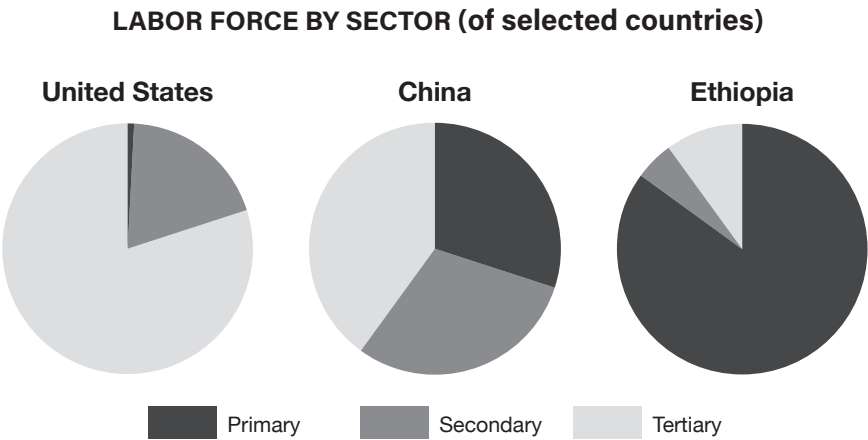
In 1800, nearly everyone in the United States worked in the primary sector, mostly in agriculture. As the country industrialized, the agricultural sector became mechanized and efficient enough to free up workers for other jobs, and the demand for people in the secondary sector increased. The primary sector began to decrease. Today, it is less than 5 percent. Employment in the secondary sector grew until it reached a peak in the 1950s, when it began to decline.

Since then, the economy has become *postindustrial*. (See Topic 7.6.) That is, most job growth has been in the tertiary sector. The shifts in the U.S. economy reflect what has happened in most highly industrialized economies today.



Division of labor varies by level of economic development. What happens to the percentage of workers in each sector of the economy as a country industrializes?

Because the distribution of labor by sector reflects industrialization, countries today have very different mixes in their economies. The following graph shows the percentages of people employed in each of the three sectors for Ethiopia, China, and the United States.



The composition of the labor force changes as the level of economic development changes. Over the next 25 years will China's graph change to look more like Ethiopia's or the United States? Why do you think so?

The Multiplier Effect

As part of this shift, countries become wealthier because wages in the secondary sector are higher than those in the primary sector. In addition to higher wages, the secondary sector jobs also have a large **multiplier effect**, the potential of a job to produce additional jobs. The secondary sector has the greatest multiplier effect of all the sectors. For example, when an auto manufacturer expands a plant and adds 100 new jobs in a community, the new workers will have more money to spend on food, clothes, and movies, leading to the expansion of other businesses and jobs. Economists estimate that every dollar of demand for manufacturers' goods generates \$1.92 of demand for other services and products. In comparison, the respective figures for retail and wholesale activities are \$0.54 and \$0.58.

The multiplier effect also works in reverse. For example, over the past four decades in Flint, Michigan, General Motors has shut down several plants. Because of the reverse multiplier effect, far more people than just GM workers lost their jobs.

Governments in deindustrializing regions often attempt to replace lost manufacturing jobs with new quaternary and quinary jobs. Both types of jobs pay higher-than-average wages, and both can have a multiplier effect. Pittsburgh has used quaternary jobs to drive its rapidly growing economy. As research and high-tech jobs flowed in, entertainment, tourism, and education grew. One challenge of shifting from manufacturing to quaternary

jobs is that many of the displaced workers do not possess the skills required for the new jobs. As a result, the displaced workers may end up in the expanding tertiary sector, but usually at less pay than both secondary and quaternary sector jobs.

Theories on Industrial Location

Geographers have developed many models explaining the geographic distribution of economic activities. Because a model focuses on the key factors, it is useful for making predictions about how changing one factor affects the entire process.

Weber's Least Cost Model

In 1909, the secondary sector was growing rapidly in Europe and the United States. German economist Alfred Weber developed an influential theory, known as the **least cost theory**, to explain the key decisions made by businesses about where to locate factories. Weber proposed that factory owners would locate their factories where they could minimize their total costs by balancing three factors:

- minimizing transportation costs, such as getting raw materials to the factory and moving finished products to where they will be sold
- minimizing labor costs, such as the wages and salaries of employees
- maximizing **agglomeration economies**, the spatial grouping of several businesses to share costs, such as an access road to a public highway or development of a workforce with special skills

The Locational Triangle

Weber's model can be shown with a **locational triangle**. The three points of the triangle are the market for a good and two resources needed to make the good.

Bulk and Industrial Location Transportation costs were often closely related to the bulk (weight and size) of the objects being transported. Weber observed that some raw materials lose bulk during processing and some do not. For example, copper is embedded in heavy rock when first mined, but it loses bulk as it is processed. So copper production is an example of a **bulk-reducing industry**. These types of industry are also known as weight-losing, raw material-oriented, or raw-material-dependent industry.

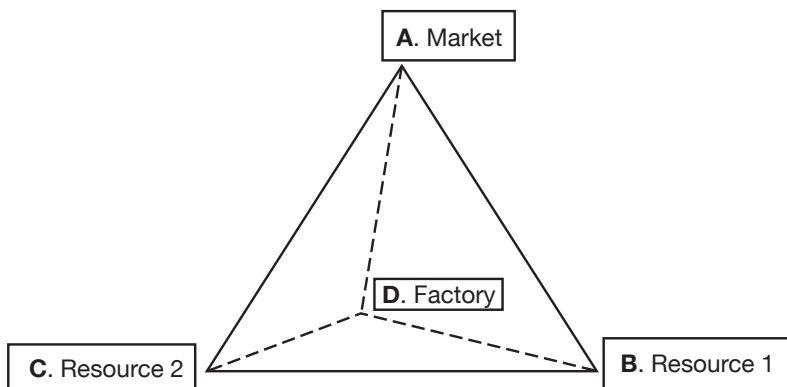
Since transporting the extracted material is more expensive than transporting the finished product, a company can save money by moving production close to the sources of that raw material. It does not need to pay the cost of shipping the full weight of the material when only part of it is needed. Most mining, lumber, and agricultural industries are bulk-reducing. This helps explain why states known for their agriculture, such as Iowa, often have a significant number of jobs in food processing facilities.

In contrast, soft drinks become bulkier as processing occurs. The heaviest component of a soft drink is water. Since water is ubiquitous (widely available), companies try to add it as close to the market as possible, rather than pay to ship the weight of the water. These factories usually locate close to the market and are considered **bulk-gaining industries** (or weight-gaining, market-oriented, or market-dependent industries).

Products are commonly made of multiple bulk-reducing raw materials. Based on a locational triangle, these relationships can be identified:

- The manufacturing site (D) will be somewhere between the locations of the two raw materials (B and C).
- The intermediate location will be closer to the one that loses the greater percentage of its weight (C in this case).
- The finished product would then be shipped directly from the processing facility (D) to the market (A).

WEBER'S LOCATIONAL TRIANGLE



Weber's locational triangle. Considering the location of the factory at D relative to the two resources (B and C), which of the two resources loses the greater percentage of its weight when processed?

Sometimes the cost savings from either cheaper labor or from agglomeration economies could be greater than the savings derived from locating at the cheapest spot relative to transportation costs. In these cases, Weber recognized that business owners would benefit by locating where these other costs were less.

Applying Weber's Theory Like other models that simplify reality, Weber's model had the benefit of focusing attention on key parts of a complex process. However, this benefit came with limitations. In response to these limitations, later scholars refined Weber's model by adding other considerations to it. However, the basic model remains useful. It recognizes patterns that can help people make decisions about the spatial distribution of factories, offices, and all types of business that employ workers.

COMPARING WEBER'S THEORY AND REALITY		
Issue	Weber's Assumption	Real Conditions
Uniformity of Area	The area considered is an isotropic plain, which means that human and physical geographic features are uniform throughout an area.	Isotropic plains rarely exist. Mountains, densely populated urban areas, and other features can alter the transportation costs.
Labor	Sufficient labor is available in fixed locations and it is immobile.	Automation reduces the need for labor. Labor is relatively mobile.
Raw Materials	Raw materials are found only in certain fixed locations.	Raw materials are often available in many locations. The <i>substitution principle</i> allows for alternative inputs.
Number of Products and Markets	There is one good produced, and it is for a single market in a fixed location.	Goods are sold in more than one location. Globalization may result in numerous markets.
Transportation Costs	Transportation costs are directly related to the distance of travel and to the weight of the items.	Cost per mile may decrease as the distance increases. <i>Space-time compression</i> can reduce the overall cost of transportation.
Influences on Location	Economic factors dominate the decision about where to locate a factory.	Emotional factors, such as tradition, a desire to have the factory close to where the owner lives, or the presence of existing facilities can influence where a factory is opened.
Significance of Costs	Owners want to minimize costs.	Owners maximize revenue and establish predictable future costs to generate profit.

Labor Costs

Weber's original least cost model did not differentiate among different types of labor. A company in a **labor-oriented industry**, or **labor-dependent industry**, is highly dependent on a workforce and will want to be near a source of those workers. Companies more dependent on a large quantity of labor will try to locate near a community with an available potential workforce. High-tech companies that depend on highly skilled workers in the computer or engineering fields often locate close to major universities.

Importance of Energy

The history of manufacturing demonstrates the importance of a source of power for machinery. The type of power influenced where factories were built:

- Waterpower was not mobile, so early mills and factories were located on streams and rivers.

- Coal could be transported, so companies had wider options about where to locate factories. However, coal is bulky and expensive to transport. So, companies that needed vast quantities of coal also tried to locate near coalfields. Coal could also power a mobile engine, which made railroads practical. Companies became less dependent on water transportation.
- With the development of electricity in the late 19th century, power became even more mobile. It could move through wires at low costs for hundreds of miles so, the location of energy sources became less important.

Aluminum production relies on the raw material of bauxite, but it is an energy-oriented industry. Companies locate processing plants near low-cost sources of energy and ship the bauxite to the plant rather than process it near a mine where energy costs are high. Low-cost hydroelectricity in Canada and geothermal-electricity in Iceland results in large-scale aluminum processing in both countries.

Bulk, Containerization, and Transportation

The cost of shipping materials decreased dramatically in the last two centuries because of improved technology and methods. As the following table shows, various modes of transportation have various benefits.

COMPARISON OF TRANSPORTATION TYPES			
Mode	Speed	Capacity	Per Unit Cost
Airplane	High	Low	High
Train	Medium	Large	Low
Truck	Medium	Low	Medium
Pipe	Medium	Large	Low to Medium
Ocean Ship	Slow	Large	Low
River Barge	Slow	Medium	Medium

In addition to new technology, people have developed systems for speeding up the **break of bulk**, the procedure of transferring cargo from one mode of transportation to another. This is achieved through **containerization**, the system in which goods are loaded into a standardized shipping unit. The containers are **intermodal**, meaning they can be carried on a truck, train, ship, or plane. For example, a container might be loaded in a computer factory in China and not unloaded until after it has been carried by train to a port on the coast, transported across the ocean to the United States on a ship, taken by a truck to Dallas, and then finally delivered to a warehouse. By making transportation more efficient, additional regions of the world have been involved in the global trade network.

Significance of Government

Government policies and political stability influence location decisions in many ways. Tax dollars pay for much of the transportation network. Companies prefer

to locate in countries and communities that are safe and peaceful, and have predictable enforcement of laws and regulations. Additionally, governments from the local to the national scale offer tax breaks, subsidies, and other incentives to encourage companies to locate their factories in specific areas.

Other Locational Considerations

One refinement to Weber’s theory has been to allow for differences in industries. For example, the cost of raw materials is more influential for a steel plant than it is for a factory making high-end clothing.

Businesses use a hierarchy of locational factors in choosing where to build. The table below uses the example of a new factory being constructed in the United States that will market its product both nationally and globally. The primary location factors are used to pick a general region of the country (e.g. Southeast or state). Secondary factors are used to narrow down the location to a more specific location, such as a particular metropolitan area. Finally, another group of factors may be used to determine the exact site of the factory within a particular metropolitan area.

FACTORS IN LOCATING A MANUFACTURING FACILITY		
Scale of Analysis	Example	Examples of Site or Situational Factors
National	Southeastern United States	- Proximity to the market of the densely populated northeastern United States - Proximity to raw materials - Availability of sufficient labor with the right mix of skills - Lower than average wages for the United States - Access to global transportation network through the Atlantic Ocean and the Panama Canal - Adequate and affordable supply of power
Regional	Charleston, South Carolina	- Favorable government regulations such as tax incentives - Agglomeration economies from nearby factories - Access to global and national transportation networks: Large airport, container ship port, 2 major rail lines and 3 interstate highways - Local universities and tech schools provide skilled workers - Lower than average energy costs for the United States - High quality of education, recreational, affordable housing and medical facilities
Local	Industrial park site beside harbor	- Large, flat piece of land that is easy to build on - Adequate water and sewer lines - Waterfront access and a dock available for ships - Rail spur line connecting to the main rail system - Good road system connecting to major highways and airport - Adequate space for easy truck loading and unloading - Adequate parking space for employees

Other Models While Weber assumed business wanted to minimize costs, other geographers have started with other assumptions. August Lösch assumed that businesses would maximize profits, even if it required higher costs. Harold Hotelling focused on locational interdependence, meaning that businesses choose a location based partially on where their competitors were located.

Additional Locational Considerations

In addition to the factors described above, other factors can shape locational decisions of other sectors of the economy. These refinements show how companies have become more flexible about their locations.

Online Businesses The development of high-speed internet service greatly increased online retail selling. Since some businesses don't rely on face-to-face interactions, they can be based anywhere. However, the location of distribution centers that fulfill orders need access to transportation systems and markets.

Companies that provide informational services, such as call centers, can locate their offices anywhere with good communications systems and a group of trained people who speak the language of their customers. Over the past two decades, hundreds of call centers that serve U.S. customers have been built in rural areas of the United States and Canada, as well as in low-wage countries such as India and the Philippines. However, because locational demands are minimal, these businesses are **footloose**, meaning they can pack up and leave for a new location quickly and easily.

Prestige To signal its prominence and wealth, a corporation might want to locate its main office for its top executives on the expensive upper floors of a skyscraper in a large city. These types of spaces, known as **front offices**, are designed to impress clients. However, the company might decide to locate the rest of its employees in less expensive office spaces, known as **back offices**.

Locational Decisions and World Systems Theory

On a global scale, decisions about where to locate factories, offices, and other businesses shape the wealth and power of countries. Economic historian Immanuel Wallerstein developed what is known as World Systems Theory. (See Topic 7.5.) He grouped countries into three categories:

- Core countries are highly industrialized and wealthy. Examples include the United States, Japan, Australia, and most of Europe. They have strong government support for economic growth, so businesses often locate their quaternary and quinary sector workers in these countries.
- Semiperiphery countries are those in the process of developing industry but are less wealthy than core countries. Examples include China, India, Brazil, and Mexico. Companies often locate factories in semiperiphery countries. As these countries develop, skills and wages increase, so they add more tertiary sector jobs and lose secondary sector jobs to lower-wage countries.

- Periphery countries are more reliant on producing raw materials than on industry. Examples include Bangladesh, Bolivia, Cambodia, and most countries in Africa. Poor infrastructure makes it difficult for these countries to attract jobs in any sector other than the primary sector.

REFLECT ON THE ESSENTIAL QUESTION

Essential Question: *What are the spatial patterns of industrial production and development?*

Identify the Three Elements of Weber's Model	Description of Each Element of Weber's Model

KEY TERMS

primary sector	bulk-gaining industries
secondary sector	labor-oriented industry
tertiary sector	(labor-dependent industry)
quaternary sector	break of bulk
quinary sector	containerization
multiplier effect	intermodal
least cost theory	footloose
agglomeration economies	front offices
locational triangle	back offices
bulk-reducing industries	

Measures of Development

Essential Question: What are social and economic measures of development?

The decisions by companies about where to locate factories, call centers, and other businesses shape each country's economic development. In addition, countries make decisions that affect their own prosperity. The opening quotation of the chapter highlights a key issue in making progress: using the talents of all members of society. Even into the 21st century, many countries restrict opportunities for ethnic minorities and women which slows economic progress. Having measurable data regarding the opportunities for all groups allows people to compare success of development attempts in various regions.

Measures of Development

Geographers use several statistics to indicate the overall wealth of a country and its people. Three of the most common are Gross Domestic Product (GDP), Gross National Product (GNP), or Gross National Income (GNI). These vary slightly, based on issues such as whether money earned by a U.S. citizen working in Korea should be credited to the United States or to Korea. However, they are all attempts to measure the total output of a country.

GNP and GNI The dollar amount of all goods and services produced by a country's citizens in one year is measured in the **Gross National Product (GNP)** and the **Gross National Income (GNI)**. These terms are very similar and often used interchangeably. They involve the money generated by citizens and businesses of a country, regardless of where the citizens are, or live, when money is earned. For example, the income of American citizens working in South Korea and the profits from an American-owned factory in Mexico would both count as part of the United States' GNP and GNI. The money made by Mexican migrant workers in a foreign-owned factory on U.S. soil would not count as part of the United States' GNP or GNI.

GDP The dollar amount of all final goods and services produced within a country in one year is the **Gross Domestic Product (GDP)**. GDP is based more upon geography in the sense that it involves money generated by any business or person within a country. Only money earned in the United States, regardless of who earns it, will be used to calculate the United States' GDP. It does not matter if the money stays in the country where it was earned—the key is that the money was generated within the country. For example, the income earned by Mexican migrant workers, or the profits from a foreign-owned factory on

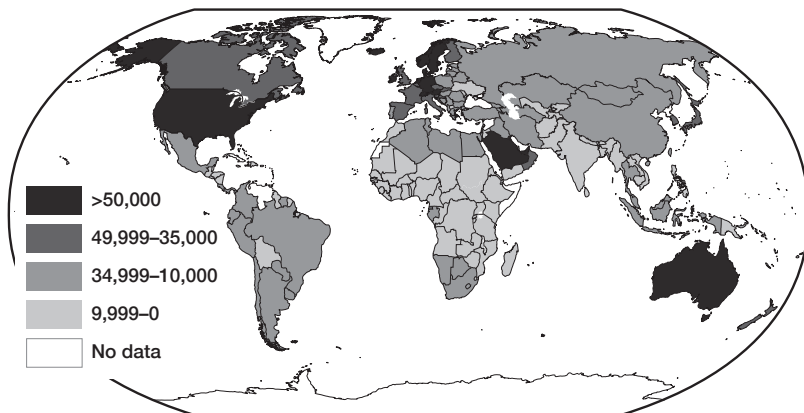
U.S. soil, would count as part of the United States' GDP. This is true even if the migrant workers sent much of their earnings back to family members in their home countries as **remittances**, or the profits from a foreign-owned company were leaving the country and going back to the home country.

Making Statistics More Useful To make comparisons among countries more useful, these statistics are adjusted in several ways:

- Countries use different currencies, so amounts are usually converted into U.S. dollars to make comparisons easier.
- The total size of a country's economy influences the total size of its output. To adjust for the number of people in a country, each country's total output can be divided by the country's total population. This produces an amount per person, referred to as **per capita**. For example, in 2019, the United Kingdom and India has similar total GDPs of approximately \$2.9 trillion but very different GDPs per capita. In the United Kingdom, it was about \$39,000. In far more populous India, it was about \$1,900.
- The prices people pay for identical goods varies from country to country because of transportation costs, the value of its currency, and other factors. To adjust for the variations in the prices of goods in various countries, economists use **purchasing power parity (PPP)**, a measure of what similar goods cost in different countries. For example, in 2016, the same collection of goods that cost \$1,000 in the United States, cost \$590 in the Czech Republic and \$1,620 in Switzerland. So, people with the same income in these three countries could afford more goods in the Czech Republic than in the other two countries.

All three measures of development are based upon money and it is generally accepted that the countries with the high GDP/capita, GNP/capita, or GNI/capita are wealthy countries and therefore highly economically developed, and those with low values are poor countries and not as well developed.

GDP (PPP) PER CAPITA, 2018



Source: Wikimedia Commons

There is a tremendous range of wealth in the world. In terms of the relative location, what do many of the countries in the lowest categories have in common? Explain how the relative location of these countries results in their low GDP per capita.

Terms of Development

The various economic measures reflect a continuum of the relative wealth and development among countries. People use various systems to categorize countries on this continuum. Each system focuses on slightly different traits of countries, so it uses slightly different terms. However, systems divide countries broadly into low-end, middle-range, and high-end categories. The table below summarizes some of these systems. World Systems Theory and Stages of Economic Growth will be discussed in more detail in Topic 7.5.

COMPARING TERMS FOR LEVELS OF DEVELOPMENT				
System	Low End		Middle Range	High End
Economic Level (based on GDP/capita)	Low income		Middle income	High income
Economic Development (based on overall economic characteristics)	Developing economies		Emerging economies	Advanced economies
Level of Industrialization (based on amount of industry)	Nonindustrialized		Newly industrialized country (NIC)	Postindustrial economy
Human Development Index (based on economic and social factors)	Low HDI		Medium HDI	High and very high HDI
World Systems Theory (based on the role in the world economy)	Periphery country		Semiperiphery country	Core country
Stages of Economic Growth (based on types of economic activity)	Stage 1: Traditional society Stage 2: Precondition for take-off		Stage 3: Take-off	Stage 4: Drive to maturity Stage 5: High mass consumption
Income Classification (World Bank designation)	Low income	Lower-middle income	Higher-middle income	High income

The vast number and variety of terms related to levels of development indicate the challenges of both trying to measure development and categorizing it. Suggest a reason why the Income Classification terms recently adopted by the World Bank can be considered as an improvement over the other sets of terms.

Other Measures of Economic Development

In addition to money, other economic variables are often used to determine a country’s level of development. These include the sectoral structure of the economy, income distribution, the use of fossil fuels and renewable energy, and literacy rates.

Sectoral Structure of the Economy

The least-developed countries in the world have higher percentages of their labor force in the primary sector. (See Topic 7.2.) In contrast, more developed countries have higher percentages in the tertiary sector.

Another way to analyze an economy is to distinguish between the formal and the informal sectors. The **formal sector** is the portion of the economy that is monitored by government, so people in it follow regulations and pay taxes. This is the portion of economic activity measured by GDP, GNP, and GNI. The **informal sector** is the portion of the economy that is not monitored by government. It includes several types of economic activities:

- Some activities are done without any pay, such as cleaning your own house or cooking meals for a friend who is sick. Similar services done for money are part of the formal economy.
- Some activities are legal if reported to the government, but are often not reported. For example, restaurant workers can legally accept tips, but not reporting the income from tips on a tax return is illegal.
- Some activities are always illegal, such as drug dealing and identity theft.

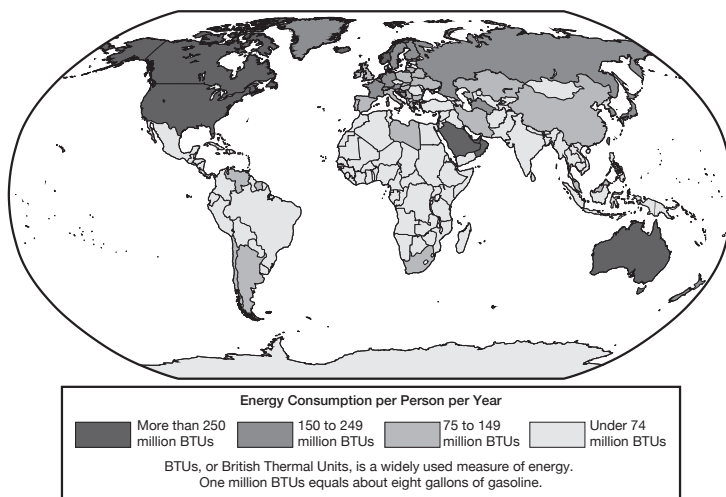
The informal sector is sometimes called the underground economy or the shadow economy. For many people in poor countries, participating in the informal sector allows them to survive. In general, the lower the level of development, the higher the percentage of workers involved in the informal sector. In some countries, it probably includes over half of economic activity. Economists who study the shadow economy estimate that it accounts for about 10 percent of the U.S. economy.

Energy Consumption

As people become more prosperous, they consume more because they can afford to purchase more goods and they live longer. For example, the United States includes about 5 percent of the world's population but consumes about 20 percent of all resources. The spatial pattern of consumption of energy is shown in the map on the following page. At current rates of consumption, a baby born in the United States will consume in his or her lifetime more than 200 times the energy resources as will a baby born in Bangladesh.

While the spatial pattern of consumption is strongly skewed toward the developed world, the environmental impact of the consumption is spread more broadly. Many natural resources used to manufacture goods are extracted and processed in semiperiphery countries and then consumed in the core countries. Consequently, the problems with mining and manufacturing plague poor countries. For example, mining is among the most dangerous jobs in the world, and manufacturing is responsible for significant air pollution. However, problems with using products, such as waste disposal, are more common in wealthy countries.

ENERGY CONSUMPTION AROUND THE WORLD



What regions of the world use the most and least amounts of energy?

Income Distribution

While per capita measures of wealth are useful for comparing countries, they do not reflect the distribution of wealth. South Africa and Paraguay have similar levels of GDP per capita but very different distributions of wealth. Paraguay has a much higher percentage of middle-income people, while South Africa has more people who are either very wealthy or very poor.

One measure of the distribution of income within a population is the **Gini coefficient**, sometimes called the Gini index. The values range between 0 and 1. The higher the number, the higher the degree of income inequality. A Gini coefficient of 0 would mean the population had no inequality—everyone's income was exactly the same. A Gini coefficient of 1 would indicate total inequality—one person had all the income in a population and everyone else had none.

GINI COEFFICIENT BY COUNTRY, 2017



What connection is there between the size of the middle class, industrialization, and the Gini coefficient?

In general, periphery and semiperiphery countries have higher Gini coefficients than do core countries. Often, this reflects the small number of middle-income people in a periphery and semiperiphery country.

Patterns of Economic Development

The spatial pattern of inequality reflects more general patterns of economic development. At a global scale, some regions are wealthier than others.

Africa and South America Many African states have growing economies, but average incomes remain low compared with more-developed countries. South America has both middle- and low-income countries. These continents account for about 20 percent of the world population but only about 8 percent of global GDP.

Asia The largest income gains in the past five decades have been in Asia. First Japan, and then South Korea, Hong Kong, and Singapore, adopted policies of strong government support for education and business, which promoted prosperity. More recently, China and India have shown impressive economic developments. Asia accounts for about 60 percent of the world population and about 37 percent of global GDP.

North America and Europe These regions have been relatively prosperous over the past century. With about 16 percent of the world population, they produce about 55 percent of global GDP. Western Europe and the United States have been the wealthiest parts of this region. Central America is mostly middle income with Mexico and Costa Rica becoming more prosperous.

Uneven Development at the Regional Scale Development can be very uneven within countries. In general, rural or peripheral regions of a country are often less developed than core urban areas. In China, the three wealthiest provinces are along the heavily urbanized Pacific Coast, while the poorest provinces are all in the heavily rural western region.

Social Measures of Development

Relying on just one statistic, or “single numberitis,” is not a reliable way to understand a country’s level of development. Several noneconomic factors also reflect development.

- The total fertility rate (see Topics 2.4 and 2.8) is the number of babies a woman is expected to have in her lifetime. It shows a negative or inverse correlation with wealth and development. That is, as income and development goes up, total fertility typically declines.
- The infant mortality rate (see Topic 2.4) is the rate at which babies die before the age of one. It also has an inverse correlation with development.
- **Life expectancy**, the number of years a person is expected to live, has a positive correlation with development. Life expectancy is also related to the availability of adequate health care. Poor countries that have invested in health care have increased their life expectancy.

- The **literacy rate** is the percentage of population that can read and write, usually at an 8th grade level or higher. In 2015, it topped 90 percent of the world population and 99 percent in highly developed countries. Most who were not literate were females living in less-developed countries.

The Gender Gap

Differences in the privileges afforded to males and females in a society are the **gender gap**. The size of the gender gap varies tremendously among countries. These differences might appear in educational opportunities, employment options, wages, voting rights, health care, political empowerment, property rights, the ability to drive a car, inheritance rights, or the right to make contraceptive decisions.

Gender Inequality Index (GII)

Since 2010, UN's Human Development Report has reported on the **Gender Inequality Index (GII)**, a composite measure of several factors indicating gender disparity:

- Reproductive health, which includes maternal mortality rates (death of a mother during birth) and adolescent (under 19 years old) fertility rates
- Empowerment, which includes the share of government seats held by each gender and the proportion of adult females and males with at least some secondary education
- Labor market participation, which includes the labor force participation rate of female and male populations aged 15 years and older

The composite score is a measure of the percentage of potential human development lost due to gender inequality. The table belows the GII for Switzerland, the United States, and Yemen. The GII for Switzerland indicates that the country lost only 2.5 percent of its potential human development as a result of gender inequality in 2019, while Yemen lost 79.5 percent.

GII WORLD RANKINGS, 2019 (for selected countries)		
Country	Rank in World	GII
Switzerland	1	0.025
United States	46	0.204
Yemen	162	0.795

Source: UN Human Development Report, 2019

The GII varies greatly among countries of different development levels. In which of these three countries would you expect the maternal mortality rate and the adolescent fertility rates to be the lowest?

A closer examination of data used to determine the GII for Switzerland, the United States, and Yemen reveals the discrepancies among the variables—shown in the table on the next page. Of particular significance are the share of seats in parliament and labor participation value. Women in Yemen are severely underrepresented in their governments, as well as in the labor force.

DIFFERENCES AMONG GII DATA, 2018 (for selected countries)			
2018 Values	Switzerland	United States	Yemen
Maternal Mortality Rate (Deaths/100,000 live births)	5	19	385
Adolescent Birth Rate (Births/1,000 for women ages 15–19)	2.8	19.9	60.4
Share of Seats in Parliament (Percent held by women)	29.3	23.7	0.5
Population with Some Secondary Education or More (Percent for ages 25 and older)	Female: 96.4 Male: 97.2	Female: 96.1 Male: 96.0	Female: 19.9 Male: 35.5
Labor Force Participation Rate (Percent for ages 15 and older)	Female: 62.6 Male: 74.1	Female: 56.1 Male: 68.2	Female: 6.0 Male: 70.8

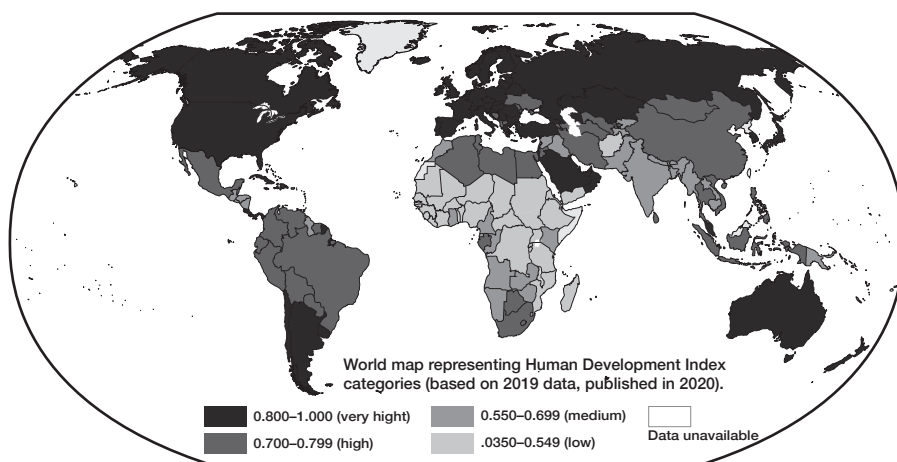
Source: UN Human Development Report, 2019

Notice the very large differences among the data for these countries. Where would a female have the greatest opportunity to study and to potentially earn a seat in the country's parliament?

The Human Development Index (HDI)

Since money alone does not reflect human well-being, in 1990, a group of researchers led by Pakistani economist Mahbub ul Haq released an alternative measure of development. The **Human Development Index (HDI)** combines one economic measure (GNI per capita) with three social measures (life expectancy, expected years of schooling, and average years of schooling). The composite score for each country will range between 0 and 1, with the higher values representing greater levels of development.

HUMAN DEVELOPMENT INDEX, 2018



Source: Wikimedia Commons

The majority of countries with the highest HDI scores are core countries. Which continent has the most countries with very low HDI?

While most countries rank similarly on GNI per capita and HDI, some rank quite differently, as the chart on the following page shows.

HUMAN DEVELOPMENT INDEX SCORE, 2019 (for select countries)			
Country	HDI Score	Rank Based Upon HDI	Rank Based Upon GNI/Capita PPP
Norway	0.954	1	6
United States	0.920	15	11
Israel	0.906	22	45
Qatar	0.848	41	1
Cuba	0.778	72	125
Niger	0.394	189	181

Source: hdr.org

*World Rankings based upon GNI/capita PPP and Human Development Index, 2019

What do the two different rankings suggest about Cuba? What do the two different rankings suggest about Qatar? Note: Niger had the lowest HDI of all countries with data in 2019.

In the table above, notice the differences between the rankings for GNI/capita PPP and HDI for the six countries:

- The rankings of countries by HDI and income are often similar (Norway and the United States). Norway ranks 1st in HDI and 6th in income.
- Some that invest heavily in education and medical care rank higher in HDI than in income (Israel and Cuba). Israel ranks 22nd in HDI but only 45th in income.
- Some countries that are rich in oil or other natural resources rank higher in income than in HDI. Qatar ranks first in the world in income, but only 41st in HDI.

REFLECT ON THE ESSENTIAL QUESTION

Essential Question: *What are social and economic measures of development?*

Social Measures	Economic Measures

KEY TERMS

gross national product (GNP)	purchasing power parity (PPP)	literacy rate
gross national income (GNI)	formal sector	gender gap
gross domestic product (GDP)	informal sector	Gender Inequality Index (GII)
remittances per capita	Gini coefficient	Human Development Index (HDI)
	life expectancy	

Women and Economic Development

Essential Question: To what extent have changes in economic development contributed to gender parity?

Females account for slightly less than half of the world's population, yet they account for far less than half of the world's earnings. Much of their work is not measured because it is unpaid work done for their family, such as raising children and cooking. When women do work in the formal sector, they are often paid less than their male counterparts. This loss of economic potential slows progress toward improving the standard of living. Many countries are trying to expand education for females so they can become fully engaged in economic development.

As countries become more developed economically, the roles open to women often change. In general, higher development and higher status for females are correlated. The Gender Inequality Index (GII) is often used to measure inequality and helps monitor changes in equity over time.

Barriers to Gender Equality

The GI chart in Topic 7.3 shows gender equity at the country scale. Within countries, urban areas often have higher gender equity than rural areas. Overall, conditions are improving but obstacles to gender equity for women still exist:

- Cultural barriers often inhibit participation in the economy. (See Topics 3.2 and 3.7.)
- Lack of educational opportunities can reduce employment options. (See Topic 2.8.)
- Limited access to loans and other resources makes starting or expanding a business difficult. (See Topics 5.10 and 5.12.)

Wages for women have increased in recent decades, but there still is a global disparity in the wages between men and women, even with comparable work. In the United States, if a man and a woman do the same type of job, a man would typically make a salary that is 17.5 percent higher than a woman.

The Glass Ceiling Another trend reflecting employment discrimination toward women is that women rarely obtain upper-level jobs in companies, the civil service, or in governments, particularly in developing countries. The situation has been improving in recent years in developed countries, but the “glass ceiling,” as it is often called, remains. If a country reaches a stage where the glass ceiling ceases to exist, the standard of living will rise tremendously for all of its citizens.

In top levels of corporations and in politics, women often must overcome cultural attitudes that cause people to not see them as leaders. Women such as former British Prime Minister Margaret Thatcher, U.S. Vice President Kamala Harris, and General Motors Company CEO Mary Barra are examples of women who became part of the quinary sector.

Increased Opportunities for Women

Women have made progress toward gender equality despite the significant obstacles they face. Governments of many countries, transnational corporations, non-governmental organizations, and international organizations, such as the United Nations, have aided the efforts to reduce gender inequality.

Transnational Corporations One reason for the expanded employment opportunities for women has been the efforts of transnational corporations. As these businesses have opened more factories in developing countries, they often employed women because they were available and would work for lower wages than men. Another key reason for increased female participation in the labor force is because of very low birth rates. Countries such as Japan and Singapore would face severe labor shortages if women were not accepted as an integral part of the labor force.

Increased educational opportunities for females during the past two decades also prepared more women to work outside their homes. Globally, more than 250 million additional women joined the paid workforce between 2006 and 2015. Many women who previously had low-paying domestic jobs as servants, childcare providers, and store clerks began earning significantly more in manufacturing jobs.

NGOs and Microloans Several programs enacted by governments and international non-profit agencies, known as **non-governmental organizations** (NGOs), empower women to find jobs outside the home. One example of how NGOs have helped women is through **microcredit**, or **microfinance** programs, to provide loans often to women to start or expand a business. The most well-known of these is the Grameen Bank, founded in Bangladesh in 1983. These programs have been particularly active in South Asia and South America. The repayment rate for these loans has been unusually high—more than 98 percent.

The success of microcredit programs resulted in several changes to societies where the loans are available. The increased financial clout of women gave them more influence in their homes and communities. And as working women have more voice in childbearing decisions, more money to pay for contraceptives, and less need for additional children, birth rates have decreased. Women's increased wealth also allows for the children to be better nourished, which has helped to reduce child mortality.

Sustainable Development Goals for Women The United Nations established a series of goals in 2015 to encourage sustainable development. Many targeted areas to improve the lives of females. The creators of these goals recognized that gender equality will lead to economic development. (See Topic 7.8 for more on Sustainable Development Goals and their effects on women.)

REFLECT ON THE ESSENTIAL QUESTION

Essential Question: *What factors have contributed to gender parity?*

Social

Economic

KEY TERMS

non-governmental organizations (NGOs)

microcredit (microfinance)



GEOGRAPHIC PERSPECTIVES: NEIGHBORHOODS FOR NEW CLASSES

Prior to the Industrial Revolution that began in the mid-18th century, most people in Europe were farmers who lived in rural communities. A few were wealthy nobles who lived on estates or in the centers of cities. With industrialization, though, the number of people in the middle class grew tremendously and a new class of factory workers emerged. Where would they live?

Middle Class

As industrialization began, most members of the growing middle class lived and worked in urban areas, but in widely scattered locations. Some could afford to live in the center of the city. Others lived in new areas built on the outskirts of an urban area. And some lived above their shops, wherever they were located. The spatial distribution of the middle class made building a sense of unity in the new class difficult.

Working Class

The other type of job that greatly expanded in numbers was working in factories. People doing these jobs became known as the working class. They found housing in less-desirable urban neighborhoods located outside the central business districts. The spatial dimensions of their lives—toiling side-by-side in large groups in factories and living near each other in distinctive neighborhoods—created strong social bonds among them. These bonds led them to form labor unions, which gave them power to push for higher wages and better working conditions.

1. Which of the TWO rapidly expanding social classes was larger?
2. Explain why the working class resided in a more spatially concentrated pattern than the middle class.



THINK AS A GEOGRAPHER: DEFINING DEVELOPMENT

The Human Development Index illustrates the level of development of countries using both economic and social measures. Immanuel Wallerstein asserted that the inter-regional interaction between economically developed (core) countries and economically developing (periphery) countries was the primary influence on the global economy. Wallerstein believed the core countries had more disposable income to invest in new technologies and to train higher-skilled labor, while peripheral countries provided more low-skill, low-wage labor.

The following chart shows some of the data used to calculate the HDI score for several countries. Use it to answer the questions that follow.

HDI DATA FOR SELECTED COUNTRIES, 2015			
Country	Life Expectancy at Birth (in years)	Expected Years of Schooling	Income per Capita
Japan	83.5	15.3	\$36,927
United States	79.1	16.5	\$52,946
Brazil	74.5	15.2	\$15,175
Bangladesh	71.6	10.0	\$3,191
India	68.0	11.7	\$5,497
Haiti	62.8	8.7	\$1,668
Nigeria	52.8	9.0	\$5,341

Source: United Nations Development Programme, Human Development Reports

1. Using the data above, which countries demonstrate characteristics more closely aligned to be a part of the global economic core?
2. Identify ONE of the countries in the chart above that would be considered in the global economic periphery.
3. Explain why life expectancy is an important indicator of development.
4. Describe the pattern that exists between years of schooling and income per capita.

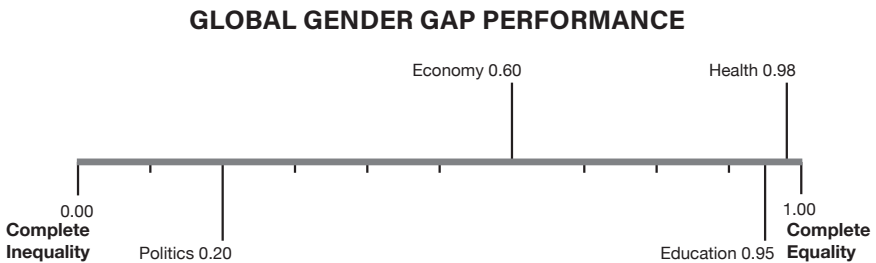
CHAPTER 18 REVIEW

Industrialization and Economic Development

Topics 7.1–7.4

MULTIPLE-CHOICE QUESTIONS

Question 1 refers to the following graph.

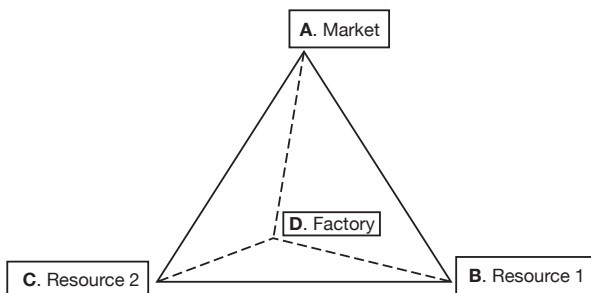


Source: Based on data from the World Economic Forum, "The Global Gender Gap Report 2015."

1. The two areas that have the largest degree of gender inequality are
 - (A) health and politics
 - (B) health and education
 - (C) economy and politics
 - (D) economy and education
 - (E) economy and health
2. The question most likely studied using the Gini Index is whether
 - (A) a country is moving closer to gender equality
 - (B) religious traditions influence educational achievements
 - (C) climate influences the infant mortality rate
 - (D) push or pull factors are more influential on migration
 - (E) the income distribution influences economic growth
3. The Industrial Revolution's greatest impact on the social structure was
 - (A) a significant increase in the percentage of upper-class citizens
 - (B) the growth of a large middle class
 - (C) a large increase in the percentage of people in the primary sector
 - (D) a significant decline in the percentage of middle-class citizens
 - (E) the development of the wealthy nobility

4. Which is the best example of a footloose activity?
(A) A steel mill
(B) An auto assembly plant
(C) A call center
(D) A large research university
(E) An aluminum smelter
5. Fishing, farming, forestry, and mining are part of the
(A) primary sector
(B) secondary sector
(C) tertiary sector
(D) quaternary sector
(E) quinary sector
6. Which statement best demonstrates why purchasing power parity is useful in comparing income and wealth in various countries?
(A) The euro is worth about \$1.05.
(B) A pair of blue jeans that cost \$27 in Pakistan cost \$40 in Laos.
(C) Inflation is 2 percent higher in Indonesia than it is in Peru.
(D) Unemployment is 2 percent higher in Israel than it is in Japan.
(E) Germany's national debt is twice as high as Panama's.

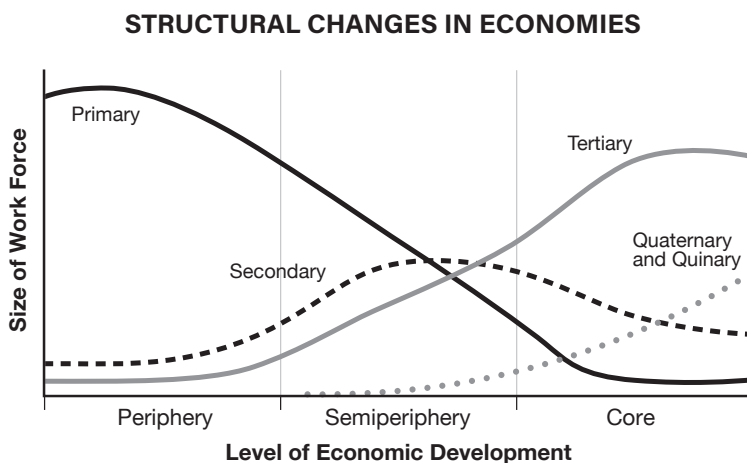
Question 7 refers to the diagram below.



7. The diagram illustrates the optimal location of a factory for which of the following scenarios?
(A) A bulk-reducing raw material-oriented industry
(B) An energy-oriented industry
(C) A market-oriented industry
(D) A bulk-gaining raw material-oriented industry
(E) A labor-dependent industry

FREE-RESPONSE QUESTION

1. One way to analyze a region's economic system is by the type of jobs people perform there. Use the diagram below to answer the questions that follow it.



- (A) Identify the category of jobs and give a specific example of a job that is most common in preindustrial countries or regions.
- (B) Describe the types of jobs in the secondary sector of the economy.
- (C) Explain why the percentage of the workforce in the secondary sector often declines as a country becomes more developed.
- (D) Describe an additional economic impact on a local community when jobs are lost in the secondary sector.
- (E) The number of people employed in the secondary sector in the United States has declined since 1975, but the overall production of goods has increased. Explain how this statement could be true.
- (F) Describe tertiary sector jobs.
- (G) Explain the benefit of quaternary sector jobs.