

Unit 7: Industrial and Economic Development Patterns and Processes

Unit 7 traces how economies industrialize and how development is measured and explained. It covers the Industrial Revolution, the five economic sectors, location theory, measures of development, women and development, three major development theories, trade and globalization, and sustainable development.

AP Human Geography

Industrial and Economic Development

About 14 minutes to read

How to use this guide

Read the sections in order the first time because the unit tells one long story. Industrialization creates the economic sectors, the sectors create patterns of wealth, the measures let you compare those patterns, the theories argue about what causes them, and trade plus globalization describe what the world economy looks like now. Exam questions often hand you a scenario, like a factory location decision or a development statistic, and ask which model or measure fits.

After the first read, use the trap boxes and the comparison tables for the distinctions the exam tests most. Finish with the practice questions, then work through the recall check on the last page out loud and note anything you cannot explain yet.

What this unit is worth. Industrial and Economic Development is about 17 to 19 percent of the AP Human Geography exam, one of the largest units. The models here also connect back to earlier units. Core and periphery show up in political geography, and demographic transition ties to development measures.

7.1 The Industrial Revolution

Industrialization began in Britain in the late 1700s as new technologies, especially in textiles and steam power, made factory production possible. Natural resources mattered too. Britain had coal and iron ore close together and near waterways, so the raw materials for industry were cheap to reach. Technology plus accessible resources is the standard explanation for why industry started there first.

As industrialization spread, it reshaped society. Food supplies increased and populations grew, because agricultural improvements and industry fed each other. Workers left farms for industrial jobs in cities, and class structures shifted as factory owners and wage laborers became the defining groups. Urbanization and population growth in this unit always trace back to industrialization.

Industrialization also pushed outward. Investors in industry needed more raw materials and new markets for finished goods, and that demand contributed to colonialism and imperialism. On the exam, keep the direction straight. Industry created the hunger for colonies, not the other way around. The factories came first, then the search for cotton fields and buyers.

Trap. Questions about colonialism sometimes offer answers that flip cause and effect, claiming colonies caused industrialization. The unit's framing is that investors in industry sought raw materials and markets, which contributed to the rise of colonialism. Industry drives the search, not the reverse.

7.2 Economic Sectors and Patterns

Economists divide economic activity into five sectors. The **primary sector** extracts natural resources: farming, mining, fishing. The **secondary sector** manufactures and processes raw materials into finished goods. The **tertiary sector** provides services: retail, transportation, education. The **quaternary sector** handles knowledge-based services: research, information technology, finance. The **quinary sector** is high-level decision-making and management: top executives, government leaders.

SECTOR	WHAT IT DOES	TYPICAL JOBS
Primary	Extracts natural resources	Farmer, miner, fisher
Secondary	Manufactures and processes goods	Factory worker, construction worker
Tertiary	Provides services	Teacher, retail clerk, truck driver
Quaternary	Knowledge-based services	Researcher, software developer, banker
Quinary	High-level decisions and management	CEO, senior government official

As countries develop, employment shifts from primary toward tertiary, quaternary, and quinary work. That shift is one of the most testable patterns in the unit.

Trap. Quaternary and quinary both sound like office work, so separate them by level. Quaternary is knowledge work itself, like a programmer writing code or a scientist running experiments. Quinary is the people making the big decisions, like executives and government leaders directing those organizations.

7.2 Economic Sectors and Patterns, continued

Weber's least cost theory explains where manufacturers locate. The claim is simple: firms choose locations that minimize total costs, weighing three factors. **Transportation** costs depend on the weight and bulk of raw materials versus finished goods. **Labor** costs can pull a factory toward cheaper workers even if transport costs rise. **Agglomeration** benefits, like shared infrastructure and services, can pull firms toward each other.

A **break-of-bulk point** is where goods switch from one transport mode to another, for example from ship to truck at a port. Because unloading and reloading are expensive, manufacturing often clusters at these points to avoid paying for an extra transfer. Labor, transportation including containerized shipping, break-of-bulk points, markets, and resource access together shape **manufacturing location factors**, which is why factories concentrate in core regions, semiperiphery locations, and resource-rich periphery sites rather than spreading evenly.

Trap. Least cost theory is about minimizing costs, not maximizing profit directly. An answer that says a firm locates "where it can charge the highest prices" is describing market logic, not Weber. Weber's three factors are transportation, labor, and agglomeration.

7.3 Measures of Development

Development is measured with economic and social indicators. **Gross Domestic Product (GDP)** is the total value of goods and services produced within a country's borders in a year. **Gross National Product (GNP)** is the total value produced by a country's citizens, wherever they are located. **Gross National Income (GNI) per capita** is GNI, which is GDP plus net income received from abroad, divided by population. GNI has largely replaced GNP in international statistics, so the two should never be added together.

Economic totals hide a lot. The **formal sector** is regulated, taxed employment, while the **informal sector** is unregulated work like street vending. Countries with large informal sectors look poorer on paper than they are, because so much activity goes uncounted. **Income distribution** matters for the same reason. A high average income can mask deep poverty if wealth is concentrated at the top.

Trap. GDP and GNP differ by whose borders versus whose citizens. A Japanese car factory in Ohio counts toward U.S. GDP because production happens inside U.S. borders, but toward Japanese GNP because the owners are Japanese citizens. Match the definition to the boundary the question names.

7.3 Measures of Development, continued

Social measures capture what money totals miss. The **infant mortality rate**, deaths per 1,000 live births in a year, is one of the most sensitive indicators of development because it reflects nutrition, sanitation, and medical care all at once. The **literacy rate** is the share of a population able to read and write.

Access to health care is the availability of medical services to a population.

Two composite measures appear constantly on the exam. The **Human Development Index (HDI)** combines health, education, and income indicators into one number so countries can be compared and ranked. The **Gender Inequality Index (GII)** is a UN measure of gender inequality based on reproductive health, empowerment, and labor-market participation. Higher GII values mean greater inequality between women and men.

MEASURE	WHAT IT CAPTURES	WATCH FOR
GDP / GNI per capita	Economic output	Hides income distribution and informal work
HDI	Health, education, and income combined	Still an average; inequality within a country is invisible
GII	Gender inequality in health, empowerment, and work	Measures inequality, not development level
Infant mortality rate	Overall living conditions	One of the best single social indicators

Trap. The GII measures inequality, not how developed a country is. A wealthy country can still score poorly on the GII if women face large gaps in pay, political representation, or health outcomes. When a question asks which measure shows gender gaps, it wants the GII, not the HDI.

7.4 Women and Economic Development

As countries develop, women's roles shift in measurable ways. Girls' education and formal workforce participation rise, and fertility rates fall. These changes move together. More schooling delays marriage and childbearing, and paid work gives women economic independence, both of which push fertility down.

That progress is uneven. The **gender wage and employment gap** persists even where more women work. Women have entered the workforce in large numbers but still do not have equity in wages or employment opportunities. Development programs often respond with **microloans**, small loans that let women start local businesses and improve household living standards. Microcredit works because it treats women as economic agents, not just as recipients of aid.

Trap. Rising female workforce participation does not mean the gender gap closed. The exam likes questions where participation is up but wages lag. Read both halves of the data before concluding that development eliminated inequality.

7.5 Theories of Development

Rostow's Stages of Economic Growth argues that every economy passes through the same five stages on the way to development. The stages are traditional society, preconditions for take-off, take-off, drive to maturity, and age of high mass consumption. Traditional society is agricultural and subsistence-based. The preconditions stage builds infrastructure and investment. Take-off is rapid industrialization led by a few key sectors. The drive to maturity diversifies the economy and spreads modern technology. High mass consumption is the endpoint, an economy centered on consumer goods and services.

The standard criticism is that Rostow assumed one Western path fits every country. Not all economies industrialize the same way, and the model gives little room for countries whose development skipped stages or followed different routes.

Trap. Rostow's stages run in order and apply to the whole economy over time. If a question describes a country moving straight to service exports without heavy industry, that is a criticism of Rostow, not an example of one of his stages. Know the five names and know the critique.

7.5 Theories of Development, continued

Wallerstein's World System Theory divides the world into a wealthy **core**, a **semiperiphery**, and an exploited **periphery**, all linked in one capitalist world economy. The core concentrates high-skill, high-profit production. The periphery supplies raw materials and cheap labor. The semiperiphery sits between the two, exploiting the periphery while being exploited by the core. The key move is structural. A country's position in the system shapes what development is possible for it.

Dependency theory makes a sharper causal claim. Poor countries are kept underdeveloped by their dependence on wealthy countries, which extract their resources and labor. Development in the core came at the periphery's expense, and the relationship actively blocks the periphery from developing. A related concept is **commodity dependence**, when an economy relies heavily on exporting raw commodities. Price swings then hit the whole economy, and the country cannot invest in diversification.

THEORY	CORE CLAIM	HOW IT DIFFERS
Rostow's stages	All economies pass through five stages to high mass consumption	Internal and linear; every country follows the same path
Wallerstein's world system	Core, semiperiphery, and periphery form one capitalist economy	Structural; position in the system shapes development
Dependency theory	The core actively keeps the periphery underdeveloped	Causal; exploitation, not just position, blocks development

Trap. Wallerstein and dependency theory both talk about core and periphery, but they make different claims. Wallerstein describes a structure of three zones in one world economy. Dependency theory argues the core's extraction actively causes the periphery's underdevelopment. A question about extraction blocking development wants dependency theory.

7.6 Trade and the World Economy

Trade rests on two ideas. **Complementarity** means one place has what another wants, so exchange makes sense. **Comparative advantage** means a place produces a good at a lower opportunity cost than its trading partners, so it should specialize there even if it is not the absolute most efficient producer. Opportunity cost is the whole point. The question is never who is best in absolute terms but who gives up the least to produce the good.

Neoliberal policies, including free trade agreements, have built new organizations and trade relationships such as the EU, the World Trade Organization (WTO), and Mercosur, deepening globalization. But governments still intervene. **Tariffs**, taxes on imported goods, protect domestic industries at the cost of higher prices, and initiatives at all scales can shape development outcomes.

Global financial interdependence ties economies together through lending and crisis. Debt crises spread across borders, international lending agencies like the International Monetary Fund stabilize struggling economies, and small-scale strategies like microlending connect local development to global finance.

Trap. Comparative advantage is about opportunity cost, not absolute efficiency. A country can have a comparative advantage in a good even while another country produces it more efficiently in absolute terms. If the question gives production numbers for two goods, compute what each country gives up, not who is fastest.

7.7 Changes as a Result of the World Economy

Globalization has restructured where work happens. **Outsourcing** moves production or services to lower-cost locations abroad, which has cut jobs in core regions and added jobs in **newly industrialized countries**, economies that industrialized recently and grew rapidly. The flip side in the core is **deindustrialization**, the decline of manufacturing in a region. The **international division of labor** describes the resulting pattern. Lower-paying jobs concentrate in developing countries while higher-paying work stays elsewhere.

Governments in the periphery and semiperiphery compete for this investment with special zones. **Special economic zones** offer tax breaks and relaxed regulations to attract foreign manufacturing. **Free-trade zones** let goods be imported, processed, and re-exported with reduced tariffs. **Export-processing zones** are where imported materials are processed into finished goods for re-export. All three are ways to pull manufacturing outside the core.

ZONE	WHAT MAKES IT SPECIAL
Special economic zone	Tax breaks and relaxed regulations to attract foreign factories
Free-trade zone	Goods imported, processed, and re-exported with reduced tariffs
Export-processing zone	Imported materials processed into finished goods for re-export

Trap. The three zones overlap but are not identical. A special economic zone is the broadest, defined by tax and regulatory breaks. Free-trade and export-processing zones are defined by what happens to goods moving through them. Read which feature the question emphasizes before picking.

7.7 Changes as a Result of the World Economy, continued

Production itself has changed. **Post-Fordist production** is flexible, small-batch, technology-driven manufacturing that replaced rigid Fordist mass production. Instead of one giant line making identical goods, firms run adaptable systems that can shift products quickly. **Just-in-time delivery** fits this model. Parts arrive exactly when needed, which minimizes inventory costs but leaves no cushion if a shipment fails.

Location still follows economic logic. **Agglomeration** is the clustering of related businesses to share infrastructure, labor, and services. **Economies of scale** are the cost advantages of producing at large scale. A **growth pole** is a place of rapid economic growth that stimulates development in surrounding areas, and the **multiplier effect** is the ripple by which an initial activity generates additional rounds of spending, jobs, and growth nearby. One new factory can lift a whole region through these two mechanisms working together.

Trap. Growth pole and multiplier effect describe different things. A growth pole is a place, the fast-growing center that pulls its surroundings along. The multiplier effect is a process, the ripple of spending and jobs spreading outward. A question naming a city wants growth pole. A question describing rounds of spending wants multiplier effect.

7.8 Sustainable Development

Sustainable development means policies that try to fix the damage from resource depletion, mass consumption, pollution, and climate change while still allowing economies to grow. **Ecotourism** is one small-scale version. Tourism based in natural environments can protect those environments while giving local people jobs, though it only works if the tourism itself stays low-impact. The **UN Sustainable Development Goals**, 17 targets adopted in 2015, give countries shared benchmarks for measuring progress, from small-scale finance to public transportation projects.

Confusions That Cost Points

PAIR	HOW TO KEEP THEM STRAIGHT
GDP vs GNP	GDP counts production inside a country's borders. GNP counts production by a country's citizens anywhere. Match the boundary the question names.
HDI vs GII	HDI combines health, education, and income to rank development. GII measures gender inequality in reproductive health, empowerment, and labor participation. Inequality is not development.
Quaternary vs quinary sector	Quaternary is knowledge work itself, like research and IT. Quinary is high-level decision-making by executives and government leaders.
Wallerstein vs dependency theory	Wallerstein describes a three-zone structure in one world economy. Dependency theory claims the core's extraction actively blocks the periphery's development.
Rostow's stages in order	Traditional society, preconditions for take-off, take-off, drive to maturity, age of high mass consumption. The standard critique is that one Western path does not fit every country.
Comparative advantage	Lower opportunity cost, not absolute efficiency. Compute what each place gives up.
Growth pole vs multiplier effect	Growth pole is the place that grows fast and pulls its surroundings along. Multiplier effect is the ripple of spending and jobs.
Formal vs informal sector	Formal is regulated and taxed. Informal is unregulated work like street vending. Large informal sectors make GDP undercount real activity.

Practice Questions

Original questions written for this guide in the style of the AP exam. Answers and explanations are on the next page, so complete the questions before checking them.

- 1.** A furniture manufacturer is deciding between two sites. Site A is near the timber supply but far from customers. Site B is near customers but far from timber. Timber loses significant weight during processing, so shipping finished furniture costs far less than shipping raw timber. According to Weber's least cost theory, the manufacturer should choose

 - A. Site A, because transportation costs are minimized near the raw material
 - B. Site B, because locating near the market maximizes the selling price
 - C. Site A, because agglomeration benefits are greatest near forests
 - D. Either site, because labor costs are identical at both locations
- 2.** Country X has a high GDP per capita but also a high Gender Inequality Index score. Which of the following best explains this combination?

 - A. The GII is calculated incorrectly when GDP is high
 - B. Economic output can be high while women still face large gaps in health, empowerment, and labor participation
 - C. A high GDP per capita automatically raises the GII
 - D. The HDI and GII always move in opposite directions
- 3.** A country assembles electronics for foreign companies, exports raw copper, and imports most of its manufactured consumer goods. In Wallerstein's world system theory, this country is best described as part of the

 - A. core, because it participates in global trade
 - B. semiperiphery, because it both exploits and is exploited within the system
 - C. periphery, because it supplies raw materials and cheap labor while importing finished goods
 - D. core, because electronics assembly requires advanced technology
- 4.** Which of the following is a criticism of Rostow's Stages of Economic Growth?

 - A. It assumes all countries follow the same linear path modeled on Western industrialization
 - B. It argues that the core actively prevents the periphery from developing
 - C. It claims that comparative advantage harms developing countries
 - D. It denies that industrialization changes class structures

Answer Key

- 1. A.** Weber's theory says firms locate to minimize total costs across transportation, labor, and agglomeration. Because timber is weight-losing, transport costs dominate, so the least-cost site is near the raw material. B confuses Weber with market logic; minimizing cost is the criterion, not maximizing price. C invokes agglomeration, but nothing in the scenario describes shared infrastructure near forests. D invents a fact; identical labor costs would not settle the transportation question anyway.
- 2. B.** The GII measures gender inequality in reproductive health, empowerment, and labor-market participation, while GDP per capita measures economic output. A country can be wealthy and still unequal, which is exactly what the GII is designed to reveal. A treats the index as broken rather than informative. C reverses the relationship; GDP does not determine GII. D invents a rule about the HDI that does not exist.
- 3. C.** Supplying raw materials and cheap labor while importing finished goods is the textbook description of the periphery in Wallerstein's three-zone system. A confuses participation in trade with core status; every zone trades, but the terms differ. B describes the semiperiphery, which mixes some higher-value production with exploitation; this country shows the periphery pattern. D mistakes assembly work for core production, but low-wage assembly for foreign firms is peripheral labor.
- 4. A.** The standard criticism of Rostow is that his five stages assume one linear Western path fits every country, leaving no room for economies that developed differently. B describes dependency theory, not a criticism of Rostow. C mixes in comparative advantage, which Rostow's model does not address. D contradicts the unit's own account; Rostow's framework accepts that industrialization reshaped class structures.

One-Page Recall Check

- Explain why industrialization began in Britain, naming both technology and resources.
- Describe how industrialization changed population, cities, and class structure.
- Explain the connection between industrialization and colonialism, keeping cause and effect straight.
- Define all five economic sectors and give an example job for each.
- State Weber's least cost theory and its three factors.
- Define break-of-bulk point and explain why factories cluster there.
- Distinguish GDP, GNP, and GNI per capita.
- Explain how the informal sector and income distribution can make GDP misleading.
- Name the three components of the GII and explain what a high score means.
- List Rostow's five stages in order and state the main criticism of the model.
- Describe the core, semiperiphery, and periphery in Wallerstein's theory.
- State the central claim of dependency theory and how it differs from Wallerstein.
- Define commodity dependence and explain why it limits development.
- Distinguish complementarity from comparative advantage.
- Explain what tariffs do and how they relate to neoliberal trade policy.
- Describe outsourcing, deindustrialization, and the international division of labor as one connected process.
- Distinguish special economic zones, free-trade zones, and export-processing zones.
- Define agglomeration, economies of scale, growth pole, and multiplier effect.
- Explain post-Fordist production and just-in-time delivery.
- Describe how women's roles change with development and what the gender wage gap shows.
- Define sustainable development and give two examples, including ecotourism.

Where to go next. Turn every missed item above into flashcards and drill them spaced out over several days rather than in one sitting. In Rycal, open the AP Human Geography deck and work the Unit 7 terms. Its practice questions target the same traps named in this guide. If you have a test date, add it in the Test Planner. You can also start your next review with a Brain Dump, then check what you missed against this guide.

Key terms for this unit

Industrial Revolution origins, Industrialization and society, Industrialization and colonialism, Primary sector, Secondary sector, Tertiary sector, Quaternary sector, Quinary sector, Break-of-bulk point, Least cost theory, Manufacturing location factors, Gross Domestic Product (GDP), Gross National Product (GNP), Gross National Income (GNI) per capita, Formal and informal sectors, Income distribution, Infant mortality rate, Gender Inequality Index (GII), Human Development Index (HDI), Literacy rate, Access to health care, Women and economic development, Gender wage and employment gap, Microloans, Rostow's Stages of Economic Growth, Wallerstein's World System Theory, Dependency theory, Commodity dependence, Complementarity and comparative advantage, Neoliberal policies and trade organizations, Tariffs, Global financial interdependence, Outsourcing, Deindustrialization, Newly industrialized countries, Special economic zones, Free-trade zones, Export-processing zones, International division of labor, Post-Fordist production, Agglomeration, Just-in-time delivery, Economies of scale, Growth pole, Sustainable development, Ecotourism, UN Sustainable Development Goals, Multiplier effect