Chapter 11

Industry
Origin and Diffusion of the Industrial Revolution

• The Industrial Revolution

• Diffusion of the Industrial Revolution
  – Diffusion from the iron industry
  – Diffusion from the textile industry
  – Diffusion from the United Kingdom
Industrial Revolution Hearths

Fig. 11-1: The Industrial Revolution originated in areas of northern England. Factories often clustered near coalfields.
Diffusion of Railways

Fig. 11-2: The year by which the first railway opened shows the diffusion of railways and the Industrial Revolution from Britain.
World Industrial Regions

• North America
  – Industrialized areas in North America
  – Changing distribution of U.S. manufacturing

• Europe
  – Western Europe
  – Eastern Europe

• East Asia
Fig. 11-3: The world’s major manufacturing regions are found in North America, Europe, and East Asia. Other manufacturing centers are also found elsewhere.
Fig. 11-4: The major industrial regions of North America are clustered in the northeast U.S. and southeastern Canada, although there are other important centers.
Fig. 11-5: The value and growth of manufacturing in major metropolitan areas in the U.S. between 1972 and 1997.
Manufacturing Centers in Western Europe

Fig. 11-6: The major manufacturing centers in Western Europe extend in a north-south band from Britain to Italy.
Fig. 11-7: Major manufacturing centers are clustered in European Russia and the Ukraine. Other centers were developed east of the Urals.
Fig. 11-8: Many industries in China are clustered in three centers near the east coast. In Japan, production is clustered along the southeast coast.
Industrial Location

• Situation factors
  – Location near inputs
  – Location near markets
  – Transport choices

• Site factors
  – Land
  – Labor
  – Capital

• Obstacles to optimum location
Copper Industry in North America

Fig. 11-9: Copper mining, concentration, smelting, and refining are examples of bulk-reducing industries. Many are located near the copper mines in Arizona.
Fig. 11-10: Integrated steel mills in the U.S. are clustered near the southern Great Lakes, which helped minimize transport costs of heavy raw materials.
Fig. 11-11: Minimills produce steel from scrap metal, and they are distributed around the country near local markets. These are the two largest minimill operators.
Fig. 11-12: Beer brewing is a bulk-gaining industry that needs to be located near consumers. Breweries of the two largest brewers are located near major population centers.
Chevrolet Assembly Plants, 1955

Fig. 11-13a: In 1955, GM assembled identical Chevrolets at ten final assembly plants located near major population centers.
Fig. 11-13b: In 2003, GM was producing a wider variety of vehicles, and production of various models was spread through the middle of the country.
Fig. 11-1.1: GM considered a variety of economic and geographic factors when it searched for a site for producing the new Saturn in 1985. The plant was eventually located in Spring Hill, TN.
Fig. 11-14: U.S.-owned parts plants are clustered near the main final assembly plants. Foreign-owned plants tend to be located further south, where labor unions are weaker.
Fig. 11-15: Production of cotton yarn from fiber is clustered in major cotton growing countries, including the U.S., China, India, Pakistan, and Russia.
Fig. 11-16: Production of woven cotton fabric is labor intensive and is likely to be located in LDCs. China and India account for over 75% of world production.
Fig. 11-17: Sewing cotton fabric into men’s and boys’ shirts is more likely to be located near customers in MDCs, but much production now occurs in LDCs.
Hosiery and Sock Production

Fig. 11-18: Hosiery manufacturers usually locate near a low-cost labor force, such as found in the southeastern U.S.
Knit Outerwear Manufacturing

Fig. 11-19: Knit outerwear requires more skilled workers, and much manufacturing is still clustered in or near New York City.
Fig. 11-20: Computer and parts manufacturing requires highly skilled workers and capital. It is clustered in the Northeast and the West Coast.
Industrial Problems

• Global perspective
  – Stagnant demand
  – Increased capacity

• More developed countries
  – Trading blocs
  – Disparities within trading blocs

• Less developed countries
  – Old problems for LDCs
  – New problems for LDCs
Fig. 11-21a: The U.S., Soviet Union, and Japan were the largest steel producers in 1973, and with the rest of Europe, accounted for 90% of global steel production.
Steel Production, 1973 and 2002

Fig. 11-21b: About 60% of global steel production takes place in MDCs in 2002, compared to 90% in 1973. Growth of steel manufacturing in China has been especially dramatic.
Change in Steel Production, 1973–2002

Fig. 11-21c: Steel production has generally declined in MDCs and increased in LDCs, especially in China, India, Brazil, and South Korea.