

## **Industrial Revolution**

### **Introduction**

- Late 18<sup>th</sup> and early 19<sup>th</sup> century Europe experienced an Industrial Revolution that altered the social and economic structures as much as the French Revolution altered the political and legal structures.
- New sources of energy decreased the need for human labor and increased productivity.
- Large factories replaced small workshops.
- Mass migrations from the countryside to the city, with atomized urban life replacing the agrarian community.

### **Great Britain**

- The “agricultural revolution” of the 18<sup>th</sup> century paved the way for industrialization: more people were being fed at lower costs by less people. The disposable income could be used to buy manufactured goods.
- Britain had a central bank with capital available for investment.
- Britain had large supplies of necessary natural resources: coal and iron ore.
- Huge investments in infrastructure made the shipment of materials and goods efficient.
- Parliament facilitated industrialization through business-friendly legislation.
- Britain had plenty of domestic and overseas demand for products.

### **Technological Changes**

- The traditional manufacturing methods of the “cottage industry” were gradually replaced by inventions such as the flying shuttle, spinning jenny, water frame, and power loom.
- These new machines and the laborers were organized collectively into factories rather than separated in family cottages.
- The cotton industry expanded greatly as cotton products were in high demand both domestically and overseas.
- These early factories, however, had to be located near rivers or streams because the machines were water-powered. Once James Watt invented the coal-fired steam engine, factories could be located anywhere and their numbers quickly multiplied (as did the number of coal mines).
- Henry Cort’s “puddling process” enabled the production of wrought iron, which was used in the manufacture of new machinery.
- The invention of the steam-powered locomotive and the construction of iron railroads enabled the quick transportation of natural resources and manufactured goods, which resulted in more use of the resources necessary for railroads (coal and iron).
- Continuous, self-sustaining economic growth came to be seen as a fundamental characteristic of the new industrial economy and the Industrial Revolution’s impact on markets and resources had a snow-ball effect.
- Due to the Industrial Revolution, Great Britain was the wealthiest country in the world by 1850.
- In the new industrial factories the workers did not own the means of production (machinery) but were simply paid wages to operate the machines.
- The Great Exhibition of 1851 symbolized Britain’s industrialization and wealth.

## Spread of Industrialization

- Industrialization developed more slowly on the Continent due to trade barriers preventing the free flow of goods, the influence of guilds on the production process, and more traditional attitudes towards capital investment.
- Governments on the Continent, accustomed to government involvement in the economy due to the dominance of mercantilism, facilitated the process of industrialization by investing heavily in infrastructure and passing protective tariffs to favor domestic industries.
- Industrialization on the Continent occurred mainly in Belgium, France, and the German territories.
- Great Britain's East India Company controlled most of India and began forcing textile manufacturers in India to buy British goods instead. Raw materials rather than finished products would come from overseas colonies such as India, initiating the technological and economic divide between the "developed" or industrialized world and the "undeveloped" Third World.

## Social Impacts of Industrialization

- Population increased dramatically during the 19<sup>th</sup> century due to an increased food supply and a declining death rate from famine, disease, and war.
- Centers of industrialization were small, essentially "islands in an agricultural sea," and most of the population increase took place in the countryside resulting in a mass of landless peasants.
- The major exception to the general trend of population growth was Ireland. The Irish peasants relied on one crop, the potato, to survive on the estates of their British landlords. When the potato crop failed, the Irish experienced severe famine, which resulted in mass migration to Great Britain and the United States.
- The experience of peasants in the overcrowded countryside, whether Ireland or elsewhere, resulted in urbanization as the new industrial factories offered employment.
- Rapid urbanization resulted in unsanitary and crowded living conditions for lower-class wage laborers.
- Government regulation of sanitation, waste, public health, food safety, air and water quality, and housing did not exist as *laissez-faire* remained the approach to social and economic issues.
- The Poor Law Commission investigated the living conditions of urban laborers and summarized its findings in the "Report on the Condition of the Labouring Population of Great Britain" in 1842. The Public Health Act created the National Board of Health to solve public health problems.
- Urban workers were divided between skilled craftsmen who still belonged to guilds and unskilled wage-laborers who depended on the industrial factories for employment. Needless to say, the factory owners worked to decrease the influence and even the existence of guilds and small workshops.
- Many women from the countryside became domestic servants in the homes of the upper-middle class and aristocracy.
- Working conditions in the factories were intense: 12 – 16 hour shifts with 30-minute breaks for lunch and dinner, 6 days a week.
- Government regulation of wages and work environment did not exist as the prevailing economic philosophy was *laissez-faire*.
- Child labor was exploited more systematically in urban centers and the type of labor differed markedly from the typical agricultural work in the countryside.
- Children were cheap labor, easy to discipline, and conducive to labor in tight spaces (coal mines, industrial machinery, etc.)

## Responses to Industrialization

- By the 1830s and 1840s Parliament began passing legislation to reform the abuses of child labor within textile factories and coal mines.
- As child labor declined, female labor increased as factory owners sought the next-cheapest means of labor. Whereas children had been paid 1/3 that of males, women were typically paid 1/2 of male wages.
- Over the long-term, standards of living increased with industrialization as more goods were available at affordable prices to more people with increased purchasing power. However, the first generations to experience industrialization did not necessarily experience this increased standard of living.
- The important point is not whether the poor became poorer or became somewhat better off, the fact is that income equality widened as the rich increased their wealth far more than any gains experienced by the poor.
- For example, the top 1% of the population increased its share of total wealth from 25% to 35% over a few decades.
- The urban poor were particularly vulnerable to the new booms and busts (cycles) of the industrial economy. Periodic “crises of overproduction” wherein production exceeded demand, resulted in massive lay-offs that could include 50% of a factory’s employees.
- Parliament passed legislation outlawing “workers’ associations” (unions), but “trade unions” emerged nonetheless to demand reforms from their employers, even engaging in strikes to achieve their goals.
- In the 1820s and 1830s, the “trade union movement” led by the social reformer Robert Owen emerged with the goal of creating national unions that would unite various forms of employment. The ultimate goal was a general strike to demand the 8-hour workday, but the national goals of the “trade union movement” were not realized and most trade unions remained localized, factory-specific organizations.
- The Luddites were a more radical response to industrialization. They were skilled craftsmen who sabotaged industrial factories by destroying the machinery with the goal of preventing unskilled factory labor from replacing skilled labor.
- The Chartist Movement demanded far-reaching political reforms that went beyond the concerns of trade unions. The London Working Men’s Association issued the People’s Charter in 1838 demanding universal male suffrage, the elimination of property qualifications for members of Parliament, annual salaries for members of Parliament, and annual sessions for Parliament.
- The Chartist Movement wanted to make the Parliament more representative of the population by making it possible for individuals from the middle or even lower classes to serve in Parliament. The Chartists sought reforms through peaceful, constitutional means. The Chartists put pressure on Parliament throughout the 1830s and 1840s, but Parliament rejected their democratic reforms.
- The real benefits of industrialization and the results of expanding the vote, a sizable middle-class, would not emerge until the second half of the 19<sup>th</sup> century.