

CHAPTER 2

The geographical distribution of industries

2.0: Introduction, objective and location of industrial poles

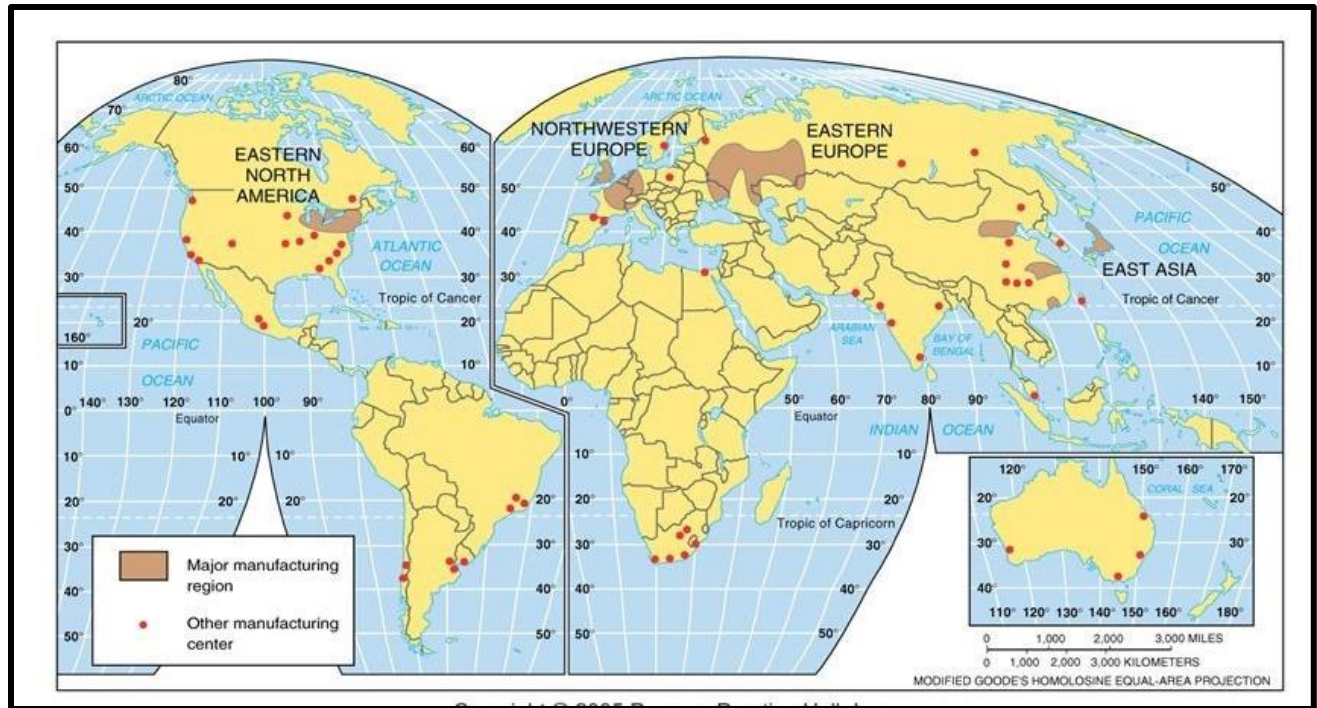
The concentration of the world's industry is mostly in three to four regions of North America, Europe (north western and eastern), and East Asia (Figure 1). It is interesting to note that less than 1% of the Earth's land is devoted to industry. This section describes each of the industrial regions and their subareas.

Objectives of chapter 2:

At the end of chapter two, learners are required to:

- i. Determine the number of industrial regions in the world.
- ii. Map-out these regions and explain the differences between each of the regions
- iii. Explain the peculiarities of each industrial region with respect to its evolution and importance

The major industrial poles of the world can be identified as follow:



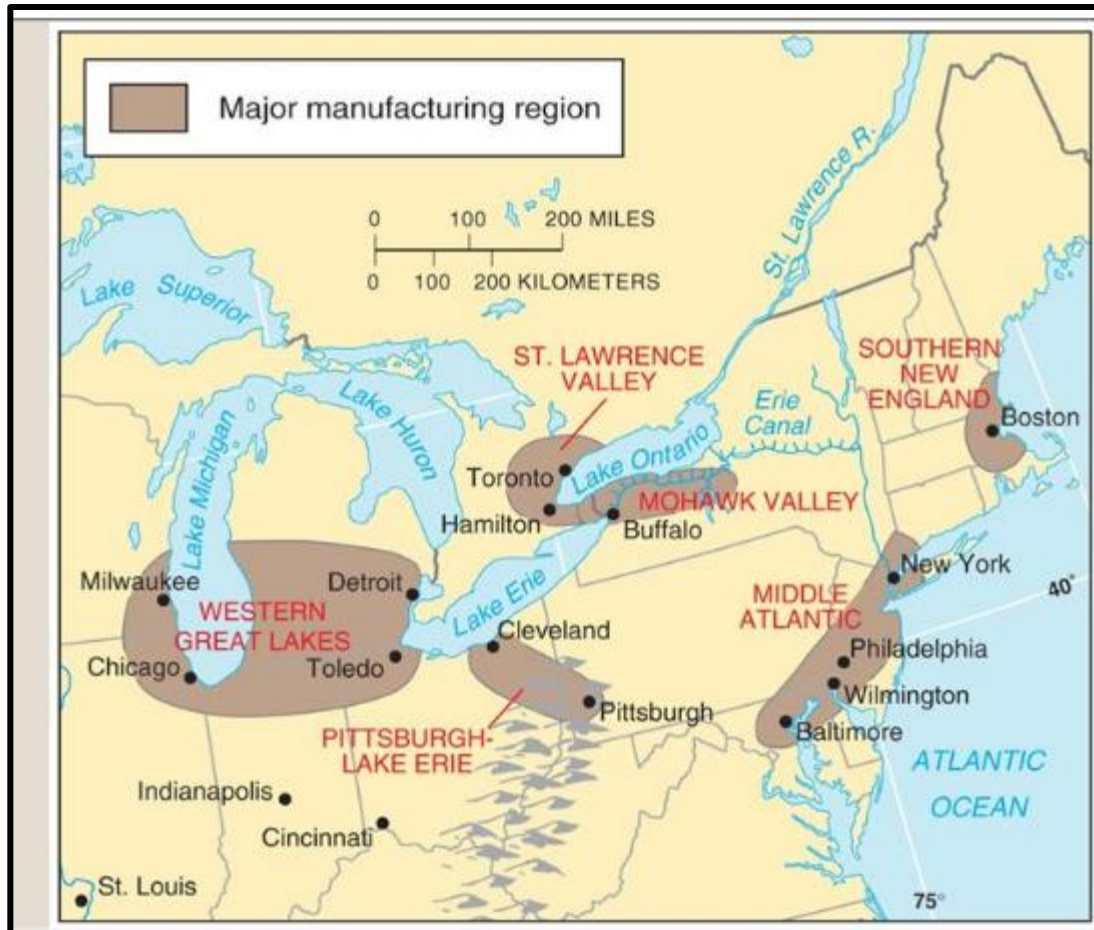
Source: Rubenstein, M. James, 2005

Figure 1: The Industrial regions of the world

2.1: The North American Industrial Pole

Manufacturing in the North America is concentrated in the north-eastern quadrant of the United States and in south-eastern Canada. The region is made up of only 5% of the land area of these countries but contains one-third of the manufacturing output. The North American belt has achieved its dominance through a combination of historical and environmental factors. It was tied to the European markets and industries during the first half of the 19th century. The North American manufacturing belt had several heavily industrialised areas (Figure 2).

The **New England** is the oldest industrial area in the north eastern United States. It developed as an industrial centre in the early 19th century, beginning with cotton textiles. Cotton was imported from the southern states, transformed in the northern area and finished products shipped to Europe. The labour was abundant and inexpensive serving as the area with relatively skilled workers.



Source: Rubenstein, M. James, 2005

Figure 2: The North American Industrialised Belt

The second industrialised area of the North American belt is the Middle Atlantic. It is the stretch between New York City and Washington and is the largest U.S market. With its portal characteristics, many industries that depend on foreign markets or imported raw materials have located in this area. This explains why several industries are found around New York City, Baltimore, Philadelphia, Wilmington and Delaware.

The **Mohawk Valley** is another industrial belt developed in the upper New York States along the Hudson River and Erie Canal which connects New York City and the Great Lakes. Buffalo which is close to the Erie Canal and Lake Erie is the most important industrial centre of the region, engaged in steel and food

processing. However, inexpensive abundant electricity generated at nearby Niagara Falls has attracted aluminium, paper and electrochemical industries to the region.

Pittsburgh-Lake Erie is still another industrialised belt of the North American region. The area between Pittsburgh and Cleveland is the nation's most important steel producing area. This was facilitated when Northern Minnesota became the main source of Iron Ore through the Pittsburgh Lake Erie region. Iron ore could easily be brought through the Great Lakes to increase trade links with Europe.

The **Western Great Lakes** area which extends from Detroit and Toledo, Ohio on the east to Chicago, Milwaukee and Wisconsin to the west is as well one of the belts. Chicago which is the third largest U.S. urban area is the dominant market centre between the Atlantic and Pacific coasts and the hub of the nation's transportation network. Transportation is easy through the area and the regions industries are also the main suppliers of machine tools transport equipment's, clothing, furniture, agricultural machinery and food products to the market and the hinterland.

Another northern pole belt is the **St. Lawrence Valley-Ontario Peninsula**. It is Canada's most important industrial area which stretches across southern Canada along the U.S. border. The region has several assets such as centrality to the Canadian market, proximity to the Great Lakes and access to the inexpensive hydro-electricity power from Niagara. Most of Canada's steel production is concentrated in Hamilton, Ontario whereas most automobile are assembled in the Toronto area. Inexpensive electricity has attracted aluminium manufacturing, papermaking, flour mills, textile manufacturing and sugar refining. These belts enabled the exchange of goods in the Northern American industrial pole.

2.2: The European Industrial Pole

The Western Europe appears as one region of the world map though it has four distinct districts since European countries competed with one another to develop their own industrial areas. Western Europe's four main industrial districts are the **Rhine-Ruhr Valley**, the **mid-Rhine**, the **United Kingdom** and **Northern Italy** (Figure 3).



Source: Rubenstein, M. James, 2005

Figure 3: The European Industrial Pole

Each of these areas is divided into sub areas and the four became important for industry because of their proximity to raw materials and markets.

The **Rhine-Ruhr Valley** is Western Europe's most important industrial area. The region lies mostly in north western Germany but extends into Belgium, France and the Netherlands. However, each of these countries has established its own industrial complex because of independent political uniqueness. The region has two rivers at the heart which are the Rhine that flows north wards through Germany and westwards through Netherlands. Why the Ruhr flows westward across Germany into the Rhine. Within the Rhine-Ruhr Valley region, industry dispersed rather than concentrated in one or two cities. Larger cities in the German belt include Dortmund, Dusseldorf and Essen. The Rhine divides into multiple branches as it passes through the Netherlands. The city of Rotterdam is beside the area where the several major branches flow into the North Sea. This location at the mouth of Europe's most important river has made Rotterdam the world's largest port. Access to Iron and Steel production stimulated the location of other heavy metal industries and improved trade in the region.

The second most important industrial area in Western Europe is the **Mid-Rhine** which is made up of the South western Germany, north eastern France and the small country of Luxembourg. Contrary to the Rhine-Ruhr Valley, the German portion of the Mid-Rhine region lacks abundant raw materials, but it is the centre of Europe's most important consumer market. The Mid-Rhine region became the major industrial centre when Germany was split into two countries after the Second World War. Even though this region is still once again on the periphery of a reunified Germany, it remains the most central industrial area within the European Union. Within this Mid-Rhine region, Germany has the three largest cities which include Frankfort, Stuttgart and Manheim. The city of Frankfort attracted industries that produce goods for consumers countrywide and well

situated to play a comparable role in the European Union. The French portion of the Mid-Rhine region which includes Alsace and Lorraine contains Europe's largest iron-ore field and is the production centre for two-thirds of France's steel. Tiny Luxembourg is also one of the world's leading steel producers because the Lorraine iron-ore field extends into the southern part of the country.

The United Kingdom constitutes the spring board of the spread of industries in Europe and beyond. The industrial revolution originated in the Midlands and northern England as well as southern Scotland. It began in the northern regions of England and southern Scotland because those areas contained a remarkable concentration of innovative engineers and mechanics during the late 18th century. Through the 19th century, this region dominated world production of iron and steel, textiles and coal mining. The United Kingdom lost its international industrial leadership in the 20th century. Although no longer a world leader in steel, textiles and other early industrial revolution industries, the UK expanded industrial production in the late 20th century by attracting new high-tech industries that serve the European country. The British have done more than the other major European countries to lower taxes on businesses, reduce government regulations, convert government monopolies to private ownership and utilize computers. Today, British industries are more likely to locate in southern England, near London. Southern eastern England has the country's largest concentrations of population and wealth and is closest to the Channel Tunnel which has substantially reduced the time needed to ship goods to other parts of Europe and beyond.

The fourth European industrial region of some importance is the **Northern Italy region**, which lies in the Po River Basin of northern Italy. It contains about one-fifth of Italy's land area but approximately half of the country's population and two thirds of its industries. Modern industrial development in the Po Basin began with establishment of textile manufacturing during the 19th century. The Po

Basin has attracted textiles and other industries because of two key assets which are cheap labour and the presence of hydro-electricity from the nearby Alps. This made the raw material processing and mechanical assembly industries to concentrate in this region.

Aside Western Europe, Eastern Europe also developed industrial regions though not as the later. Some important ones include the Russian Central Industrial district, St. Petersburg industrial district, Eastern Ukraine industrial district, the Volga industrial district, Urals industrial district, Kuznetsk industrial district as well as Silesia.

2.3: East Asian Industrial Pole

The third industrial region of the world is the East Asian pole. It is the most heterogeneous industrial region from the perspective of development. Its major countries such as Japan, China, South Korea as well as Taiwan are prominent examples of countries that have employed international trade to become important industrial powers (Figure 4). China has abundant reserves of coal, iron ore and other important minerals but, Japan and other East Asian countries have few natural resources. East Asia which is far from wealthy consumers in North America and Western Europe has become a major exporter of consumer goods.

Faced with isolation from world markets and a short age of nearly all essential resources, East Asia has taken advantage of its most abundant resource which is a large labour force. Although its industries were devastated during the Second World War, Japan became an industrial power in the 1950s and 1960s by producing goods that could be sold in large quantities at low prices to consumers in other countries. Further growth in the East Asian industrial pole was the building of industries based on even lower cost labour from South Korea, Taiwan and other Asian countries. This growth which served as a threat to Japan in the race for

industrial competition made her to engage in the training of workers for highly skilled jobs.



Source: Rubenstein, M. James, 2005

Figure 4: The European Industrial Pole

Since wages remained lower than in other more developed countries, Japan could manufacture high-quality products at a lower cost than those in Northern America or Western Europe. As a result, during the 1970s and 1980s, Japan earned a reputation for high quality electronics, precision instruments and other products that required well-trained workers. This made Japan to become the world's leading manufacturer of automobiles, Ships, cameras, stereos and televisions.

China has become a major manufacturer of steel, farm machinery and construction materials in recent years as well as the leader exporter of clothing to the United States. The combination of a potentially enormous domestic market as well as the availability of low cost labour has attracted foreign investment in China's industry. Industry in Japan is concentrated in the central region between Tokyo and Nagasaki, especially the two large urban areas of Tokyo-Yokohama and Osaka-Kobe-Kyoto. In China, industry is clustered in three areas along the east coast near Hong Kong, Yangtze River valley between Shanghai and Wuhan and along the Gulf of Bo Hai from Tianjin and Beijing to Shenyang. Today, China is the leading country in industrial manufacturing in the world and has dominated the markets.

Although industry is located elsewhere in the world, the three industrial regions of North America, Western Europe and East Asia account for most of the world's industrial production. The industries however are found where they are because of some pertinent reasons which will be examined in the next chapter.