

---

## Development of industrial revolution of Europe

Industrialization arrived on the continent and in the United States later than in England, and developed in fits and starts, in contrast to its explosive origins in Britain. In 1830, the British level of industrialization was twice that of France, and was three times the French level in 1860. All other countries, with the exception of the United States, had fallen even further behind. Not all other countries industrialized at the same time. Belgium, for instance, with large iron and coal deposits adopted British technology quickly. Industrial development in France was slow and gradual, hardly "revolutionary." By 1913, Germany was close to passing Great Britain, and the U.S. already had. At the same time, the balance of the world—Latin America and Asia—tended to de-industrialize, leading to significant disparity between the developed and developing worlds.

Britain had led industrial development, and had an early lead over Continental Europe, which was slow to adopt changes in technology until proven by British success. The French Revolution and other disturbances on the continent had disrupted trade, created runaway inflation, and led to anxiety among all classes. During the Napoleonic wars, normal lines of communication between Britain and France were severed; the effect of which was to severely handicap efforts on the continent to adopt British technology and machinery. The years from 1789 to 1815 were a time of catastrophe for the French economy. Only after peace was restored in 1815 did France have the opportunity to follow the British pattern. In the meantime, British manufactured goods had dominated the world market. Also, British technology and machinery had become so advanced that few engineers outside the British Isles even understood it. Steam power had grown expensive, and required massive amounts of iron and coal. After 1830, railroads had become a necessity. Businessmen on the continent found it difficult to raise the large sums of money to invest in railroads and expensive machinery. Landowners and governments were suspicious, and did not encourage innovation. All these factors combined to slow economic development in continental Europe.

After 1815, continental Europe stood up to the plate to face the challenge of Britain's economic empire. Continental nations had three advantages:

1. Continental European nations had a rich tradition of skilled urban artisans, putting out enterprises and merchant capitalism. This made it easy for their economies to adapt and survive in changing market conditions.
2. Continental capitalists did not have to undergo the trial and error method which had slowed development in Britain. They simply had to borrow ideas from their British counterparts.
3. France and Russia had strong independent governments which could—and did—use the

---

### Need help with the assignment?

Our professionals are ready to assist with any writing!

**GET HELP**

---

power of the state to promote economic growth and eventually catch up with Britain.

Agents of Industrialization: The British jealously guarded their technological discoveries and attempted to keep their industrial secrets from escaping the country. It was illegal for artisans and skilled mechanics to leave the country, and up until 1843, the exportation of textile machinery was also illegal. Despite government opposition, however, many technicians and talented workers slipped out of the country illegally. These British technicians and skilled laborers became a decisive and powerful force in spreading industrialization outside of Britain.

One such person was Samuel Lowell, who disguised himself to travel to America and carried with him memorized plans for the construction of a textile mill in the U.S. He was the father of the American textile system. Also, William Cockerill, a carpenter from Lancashire, built cotton spinning equipment in French occupied Belgium in 1799. His son, John Cockerill, purchased a summer palace in Belgium in 1817 and converted it into a factory which manufactured steam engines and later railroad locomotives. He also established a modern ironworks and coalmines. Many of the British workers who emigrated illegally worked for Cockerill, and often brought with them the latest plans and secrets. Cockerill soon bragged that he could duplicate any technological advance in Britain ten days after the fact.

Capable entrepreneurs also aided in the development of Industrialization. One such was Fritz Harkort, a Prussian army officer during the Napoleonic wars who served in England and was impressed with British technological advances. He set up shop in the Ruhr valley and began building steam engines relentlessly; so much so that he became known as the "Watt of Germany." His efforts were expensive, as he had to import workers and machinery from Britain at enormous cost. His business operated at a tremendous loss, such that eventually his financial backers forced him out.

Governmental support was also a substantial factor. After the Napoleonic wars, the French market was flooded with cheap British manufactured goods. The French government imposed high tariffs of imported goods to protect the French economy, and also bore the major cost of building roads and canals to improve transportation. Governments also assisted in the costs of railroad construction, a tremendously expensive undertaking. The Belgian government constructed a state-owned railway system which in turn benefited industrialization in the country. The Prussian government guaranteed the investments of those who bankrolled railroad construction. Since investors had little to lose, money flowed freely into the German railroads. The French government also assumed the cost of laying roadbed, as well as that of constructing bridges and tunnels. Railroads were the single largest factor in continental industrialization, and continental governments were substantial contributing elements.

In Germany, Friedrich List (1789-1846), a dedicated German nationalist, was instrumental in

---

## Need help with the assignment?

Our professionals are ready to assist with any writing!

**GET HELP**

---

instituting the Zollverein, or customs union, among the several German states which eliminated internal tariffs, and imposed a high protective tariff on all goods imported from other nations. List called the British free trade system an attempt "to make the rest of the world, like the Hindus, its serfs in all industrial and commercial relations." His policy of economic nationalism was a significant factor in the unification of Germany and the birth of German nationalism.

Banks were more involved in industrial development on the continent than in Europe. British banks had been secretive partnerships in which all partners were liable for the debts of the firm, meaning that should the bank fail, each partner stood to lose all his personal assets, not just his investment in the company. This looming threat of utter financial devastation led British bankers to lend only to rich clients and big merchants. They avoided industrial investment as too risky. The big change came in Belgium in 1830 when the government allowed to banks to form corporations and to enjoy limited liability, that is shareholders would only be responsible to the extent of their investment in the company. They might lose their entire investment, but their personal assets were protected. As a result, the banks were able to attract numerous shareholders and were able to lend money for industrial development. Similar corporate banks developed in France and Germany in the mid nineteenth century, which helped in the financing of railroad construction and heavy industrial development.

The most famous French bank was the Crédit Mobilier of Paris, founded by two Jewish journalists, Isaac and Emile Perieire. The company advertised extensively, used the savings of thousands of small investors and built railroads all over Europe. Emile Perieire once commented, "It is not enough to outline gigantic programs on paper. I must write my ideas on earth." The company was not always squeaky clean, however. It contracted to build the first transcontinental railroad in the United States, and bribed Congressmen as well as over-billed the government. The Crédit Mobilier scandal was one of the major snafus which soiled the administration of President U.S. Grant. By the 1870's although Britain was still Europe's industrial leader, other European nations were fast closing the gap.

---

## Need help with the assignment?

Our professionals are ready to assist with any writing!

[GET HELP](#)