

Making of Modern Europe: State, Economy and Empire

Module 4 Industrial Revolution: France

Script

Industrialisation in Continental Europe: the case of France

While industrialisation constitutes the dominant motif in the global economy since the second half of the 19th century, it needs be pointed out that the trajectory of industrialisation in no two countries is the same. The most interesting point in all this is the fact that despite being the first economy to industrialise – or in fact precisely because it was the first economy to industrialise – the British model could not be emulated by any other economy. The presence of three factors of capital, labour and market at the particular historical conjuncture of 18th century had given the technological transformation of British industry a revolutionary dimension. The absence of these factors, or at least any one of these, came in the way of bringing about similar transformation in other parts of Europe or the world at that conjuncture.

Thus at a stroke Britain ended up as an advanced economy in comparison with all the rest. Again it was not possible for any of the other contemporary economies to ignore the revolutionary

transformation of industrial technology once it had come to transpire in Britain. Wherever in the world the British had some commercial presence, the industrial revolution in Britain pitted the local economies in competition with the British industry, which motivated them to overcome their relative backwardness. In societies where the British had established political dominance, (such as its **colonial possessions like India**), the local economies failed to overcome this backwardness despite being exposed to competition with British industry. However, wherever the British did not enjoy any hegemonic position or colonial domination over local economies (such as in mainland **Europe or North America**), local economic forces adopted alternative trajectories of industrialisation trying to overcome backwardness on account of absence of labour, capital and market in a bid to neutralise the competitive advantage that Britain had gained.

Alexander Gerschenkron presented an original theory about these alternative trajectories of industrialisation in his work, *Economic Backwardness in Historical Perspective*. According to him, right away after the onset of industrial revolution, the various economies of Europe became mindful about their own backwardness. Each of the countries tried to locate themselves on a matrix of advancement and backwardness, identifying the various impediments to industrialisation. In this manner, in different **countries of Europe**, different factors were

identified as impediments in the path of industrialisation, and different measures were undertaken to remove these. Thus, not only did no country of Europe follow the British trajectory for industrial development, but neither did any two trajectories for industrial development turn out to be the same.

In the 19th century, the principal protagonists of alternative trajectories of industrialisation were **France, Germany and Russia**. In each case, the nature of the impediments was different, therefore their trajectories were different, leading in their turn to different sorts of industrial societies.

Obstacles to Industrialisation in France

Claude Fohlen, Merczewski, and other historians believe that the French economy was moving at par with the British till as late as 1760s. In overseas commerce as much as colonial markets, the French were barely trailing the British.

David Landes in fact argues that if industrialisation was caused only on account of technology, then it should have happened in France because France was the principal seat of scientific learning in 18th century Europe. Most historians are agreed that the principal reason why France did not have an industrial revolution at the same time as Britain was the

dislocation caused by the French revolution of 1789, which disturbed the regular rhythm of French economy. Hence when in 1815, after the fall of Napoleon, Britain emerged as the greatest force in the global economy on account of its industrial revolution, the French economy was lagging quite far behind. Although French economy tried to pick up thereafter, bringing about gradual industrialisation, transformation was slow in coming. One can thus say France witnessed industrialisation, but not an industrial revolution.

A deeper probe, however, would reveal that the cause of French backwardness lay deeper in French history than 1789. On the eve of the French Revolution of 1789, the French market was divided into more than 36 *generalite* or provinces with their own inland customs frontier. Owing to high customs barriers, the prices of manufactured commodities tended to be so high that market used to remain confined to chiefly urban or aristocratic demand. Economic ties between the northern and southern parts of France tended to be nominal, because by the time a commodity would reach one part of France after originating in another, the cumulative impact of inland tariff would push the prices beyond the level the masses could afford. Northern parts of France had greater ties with comparatively less remote and geographically contiguous German speaking markets. Similarly Brittany found the southern coasts of

England its natural trading partner, while southern parts of France found Corsica commercially more proximate.

Hence even at a time when French colonial commerce was flourishing, the size of France's domestic market remained restricted to its component regions. Because of the uncertainties of overseas commerce, entrepreneurs proved unwilling to risk investing in expensive technology. Even though the size of the French market began to grow during 1760-90, the market before French entrepreneurs was by no means as certain as the one in Britain. Hence not much need was felt for mass production, nor for any technology that would facilitate it. To remove this problem, the demand was raised in the 1780s to abolish all inter-province tariff barriers, and the demand was fulfilled right away after the revolution began.

However, even after the market was consolidated by removal of tariff barriers, French industrialisation could not begin right away. Landes believes at least some of this was due to the abundance of France's natural resources. As in England, charcoal was the main source of fuel in France as well. But England switched over to the more economic resource, coal, thereby enjoying cost benefits. By contrast, owing to the abundance of French forest resources, charcoal proved more economic in the French context. But charcoal could not be easily transported, and

completely unsuitable for steam-powered machines. Thus the innovations that had helped British textile and iron industry to surge forth could not be adopted by the French industry. Hence, after the Revolution began, French industry was unable to face British competition and was forced to seek political protection. The consequent Continental System propounded by Napoleon was meant to drive British goods from the European market, and help the French industry establish a stranglehold over that market. French industry ultimately failed to realise this objective because French industry was yet to move over from proto-industrial stage to that of technology-driven industrial dispensation of the factory system.

There was also a social reason for the delay in the emergence of the factory system of production in French industry. Till **the revolution of 1789**, French agricultural economy had not been adequately commercialised. Demands of the crown, the aristocracy and the Catholic Church together prevented full development of the potentials of agricultural wealth. Besides, no foreign trade component emerged based on agriculture or animal husbandry due to strictures of regional and inland customs barriers. Hence agriculture remained the principal source of minimum subsistence for the **French peasantry**. As in Britain, so in France, proto-industry was essentially a means of earning additional income for the French peasants. In 1789, seizing the opportunity

provided by the outbreak of the revolution, French peasantry took the initiative to finish off aristocratic control over land. This brought a segment of aristocratic land in the hands of a segment of French peasantry. This transfer of agricultural land from aristocratic to peasant control made French rural society more conservative than it used to be. At a time when the British peasantry were leaving the confines of agriculture to look for means of livelihood in the newly emergent factories, agriculture continued to be the mainstay of an overwhelming majority of people in the French countryside. Thus as late as early 19th century, it was difficult to come by Frenchmen to work in the industrial workshops during the agricultural seasons. The second impact of this social conservatism flowing from ownership of land tended to be the propensity of making heavy investments in land and land-ownership. The volume of capital down in land made it that much difficult to find investible capital for industry in the early part of 19th century.

The pattern of French Industrialisation

Historians like Claude Fohlen believe that the real genesis of modern industry in France took place after 1830. After almost two decades and a half of revolution and revolutionary warfare, French industry had quite some difficulty competing with British industry. **Louis XVIII** of the restored Bourbon dynasty certainly tried to provide some protection to French industry by imposing high tariffs in accordance with traditional

economic thinking, nevertheless such measures could not prevent British hegemony of the global market. Moreover, sheltered behind high import tariffs, French industry did not see the immediacy of the need to transform. Additionally, foreign exchange earned through agricultural exports also relieved the pressure on the national treasury.

Because of all these factors, French industry was faced with a major problem in the 19th century. In the wake of the Continental System, French textiles market came to be dominated by either the British or the Germans. This left only two options open before **the French textile sector**. French entrepreneurs could either follow the path of revolutionary transformation opened by the British textile industry, or they could render themselves indispensable in any one niche sector of the textile market. The first option could not be followed on account of paucity of capital for **French entrepreneurs**; hence they resorted to the other alternative. The principal feature of British textile industry was bulk production of cheap clothes for the masses. The French textile entrepreneurs decided to cater to the demands of **the social elite**, manufacturing luxury and expensive items. Also, they began to purchase cheap semi-finished piece-cloths from Britain and manufacture dresses according to specific demands of their clientele – i.e. they began to **specialise in ‘finishing’**. Such shifts in the French textile sector did

not require any considerable capital outlay, because all of these were accomplished within the structure of proto-industry itself.

Since 19th century French textile production continued to rely on workshops relying on skilled artisans instead of factories relying on machinery, capital did not quite emerge as a major problem. But the failure to mechanise also meant that the market horizons of French textile industry did not expand adequately, and in the larger economic perspective French textile sector failed to play the role of catalyst for industrialisation in the 19th century, unlike its British counterpart in the 18th.

A gentle beginning of the course of French industrialisation could be seen in the 1830s, on the back of heavy industry. Iron and steel industry and other metal industries and coal proved decisive in transforming France into an industrial society. French heavy industry completely transformed its organisation in order to survive against British competition, and began to embrace technological innovations. During 1840-70, the rate of production of iron grew by 3-6%, steel by 10% and other metals by 20%. In 1868, two large factories in France produced 40% of the country's total iron production.

The use of modern technology in heavy industry generated a phenomenal demand of the principal source of energy, i.e. coal. This in turn prompted introduction of modern **technology in metallurgy**, and particularly in **the mining of coal**. In 1789, France registered a demand for coal to the tune of 450,000 tonnes, of which 230,000 tonnes were produced domestically. By 1830, the demand for coal in France increased to 2.5 million tonnes, of which 1.5 million used to be raised from French mines. In 1850, the demand was still higher at 7.2 million tonnes, of which 4.4 million tonnes came from French mines. But perhaps the most dramatic surge in the production of coal came in the 1850s. Of the 14 million tonnes of coal consumed by France, 8.3 million tonnes was produced in France, i.e. double the production of 1850. By 1880, the respective figures for the total demand coal for coal and total production stood respectively 28.8 million tonnes and 19.3 million tonnes.

With the growth of heavy industry, use of industrial machinery also grew exponentially. While in 1830, French economy saw the use of only 625 machines of 10,000 horsepower, by 1850 over 4,114 machines of 50,000 horsepower capacity were in use. In 1862, 17,000 machines of 205,000 horsepower were in operation, and by 1875 32,000 machines had a capacity of 400,000 horsepower.

In the course of this phenomenal transformation of French economy, the spread of railways in the 1830s and 1840s played a pivotal role. The beginning of commercial use of railways in Britain had opened up the possibility of revolutionising transport, a prospect that the French state began to explore with some keenness. Motivated by the agenda of making every part of France equally accessible, France's King Louis Philippe stood forth as the principal patron of railway transport. The synergy generated by this project of railway development began to remove some of the long-standing problems of French industry. During 1835-44, 34 million francs were invested for railway development, to the extent that in 1845, 903 trains served to integrate the French nation physically.

By 1852, the number of trains plying across France rose up to 1852. During 1845-54, investment rose up to 175 million franc, and during 1855-64 it rose up further to 487 million franc.

Despite all such developments, till the 1840s, modern industrial system did not succeed to transform the overall character of French economy or society. Just as some French industrial ventures began to modernize like their British and German counterparts, it is equally true that the overwhelming majority of French industrial ventures continued to be of the traditional type. Rural-based proto-industry continued to be its

principal pillar. One of the principal factors behind this was the instinctive suspicion of the bourbon dynasty about any big enterprise. All big industrial ventures had to begin with state approval, which was not easy to come by unless the entrepreneur was considered particularly trustworthy by the state. During 1815-42, only 342 industrial ventures were given the state licence. Even in promoting its agenda of railway development, the French monarchy was more comfortable with a cluster of small ventures instead of a great corporation.

Conservatism of the French monarchy was also held responsible for the biggest obstacle faced by French industry, the dearth of capital. Because of tight regulation on the banks imposed by the restored Bourbons in general, and **Louis Philippe** in particular, it was considerably difficult to mobilise capital from the market. The French state was concerned that if the financial market was opened up, the authority of the central bank of the country, **the Bank of France** would be badly impaired. In a bid to overcome this problem of dearth of capital, some banking institutions were set up in 1817-18 under private initiative in Rouen, Bordeaux, Nantes, etc. Yet official resistance made mobilisation of capital quite difficult. The government even rejected Lafitte's proposal in 1825 to set up a bank for industrial development. Lafitte however was not cowed down by the refusal. He went on to conduct the only major financial innovation in France during 1815-48, by laying the foundations of

commandite bank. The organisation he set up, Caisse Generale du Commerce et Industrie, began to develop operational stake in the industrial ventures it invested in. But in course of the financial meltdown of 1848, the French state merged this organisation into the Bank of France. Thus, even though French industry was not averse to the technological revolution that characterised British industry at the time, it failed to do so largely on account of government policies.

The real surge in France's bid to industrialise came towards the close of the 1840s. Many historians believe that one of the principal reasons behind the surge lay in the repeated agrarian crises of 1829, 1831, 1837, and 1846-47. As consecutive harvest failure or economic disaster created something like an economic depression, many small and marginal farmers began to migrate to towns and cities looking for alternative sources of livelihood. As a consequence, there was an exponential growth in settled urban population (as against migratory population) of France for the first time in several centuries. In 1846, 75% of all Frenchmen lived in the countryside; by 1872 this proportion declined to 69% and by 1901 it came down to 59%. The population of **Paris and Pas de Calais** alone increased by 40% and 20% respectively during 1850-72.

Historians believe one of the determining factors propelling the industrialisation of France during 1848-75 happened to be the positive disposition of the state under Napoleon-III. Gerschenkron maintains that government policy functioned essentially like instrumental alternative, which artificially generates a factor of production which is in short supply. The **Credit Foncier**, set up with state patronage, is a good example.

This banking institution was a centralised body which lent 10 million francs against land and property mortgages towards urban reconstruction, building of railways and roadways, i.e. social overhead capital. Similarly **Credit Agricole** and **Comptoir d'Agriculture** and other such institutions were set up to provide agricultural credit. But the real floodgates of capital mobilisation were opened by the institution of joint-stock banking, with the patronage of the French state under **Napoleon III**. This type of institutions rested on the mobilisation of capital from a large number of small investors investing together in a big venture. The principal instance of this type was **the Credit Mobilier**, founded by the Jewish banking family of **the Pereire**. The Credit Mobilier was the first organisation to experiment with mixed banking – i.e. they mobilised capital from savings deposits of its customers to invest in industrial ventures, and met its obligations towards its primary investors from the returns generated by industrial investment. Although

the Credit Mobilier, founded in 1850, itself did not do much business, it set a new trend. The principal business rivals of **the Pereires** in European financial world, **the Rothschilds**, were also forced to resort to mixed and joint stock banking to remain financially relevant.

However, despite the removal of the obstacle posed by the dearth of capital, French industry did not quite undergo any revolutionary transformation like its British counterpart. Although machineries began to grow increasingly in use, a large segment of French industry did not reorganise production along the capital-intensive lines of heavy industry. Thus by the 1870s, France began to experience the perverse phenomenon of surplus capital, and since French industry was unwilling/unable to utilise this capital France began to export it. But owing to the fact that the export of capital was tied to the political agenda of the French state, French economy did not benefit from this in the long term. The best example of this was the diplomatic alignment between the French and the Russians in the 1890s, which was underwritten by French bankrolling of Russian industrialisation. This involvement not only did not serve the interests of the French economy, but on the contrary with **the fall of Czarist regime in Russia**, the entire capital invested in Russia was actually lost to the French.