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Europe's laissez-faire system and its impact before World War I

The rise of Britain and the laissez-faire system

The “long” nineteenth century, from the 1770s–80s to 1914, was the most spectacular period of economic change in Europe. The British Industrial Revolution opened a new chapter of economic history. By the middle of the eighteenth century Britain had achieved the prerequisites for sustained economic growth. More than 1,000 miles of navigable canals and waterways, 300 Newcomen steam engines, a revolutionized agriculture, and dynamic proto-industrial development made Britain the center of world trade. Domestic markets played a dominant role during this period (Flinn, 1966: 62); only 5–9 percent of British output was exported during the eighteenth century. However, higher profits in foreign markets increased the role of exports to 10–12 percent (Bairoch, 1976: 196). Export activity, nevertheless, became the driving force of industry: during the first half of the eighteenth century the output of export industries increased by 76 percent, while output in other industries grew only 7 percent. The value of British exports doubled between 1700 and 1750, and then more than tripled by 1800. The leading textile industry by then exported half its output. Eric Hobsbawm concludes that the origins of British industrialization were rooted in foreign trade, especially with less developed areas such as India and other colonies (Hobsbawm, 1968: 49).

In the early eighteenth century, Britain defended its domestic market in a traditional mercantilist way. For example, the so-called Calico Law banned the imports of Indian cotton goods. Exports flourished, especially in the leading textile sector. The value of British exports increased thirty-fold during the long nineteenth century to 40 percent of the national income (Schlote, 1952: 53). The rate of export growth also increased, from 2 percent to 4 percent, and then to 6 percent during the 1860s to 1870s. Already by 1820 the value of British merchandise exports surpassed the value of merchandise exports of France, Switzerland, Austria, the Low Countries, and Italy combined. By 1870, British exports reached 40 percent of total Western European exports, and by World War I still accounted for more than one-third (Maddison, 2001: 361). British industrial development also intensified. During the first four decades of the nineteenth century industrial output grew at

rates of 23 percent, 39 percent, 47 percent, and 37 percent. Britain gradually gave up agricultural self-sufficiency.

Free trade became a prerequisite for the country's further economic expansion. No other country had such a vested interest in eliminating trade obstacles. Following early attempts in the eighteenth century such as the Methuen Agreement with Portugal (1703) and the Eden Treaty with France (1786), Britain from the 1840s steadily advanced toward free trade. Sir Robert Peel produced a balanced budget without huge tariff incomes in 1842. Freed from reliance on tariffs to finance the state budget, he was able to reduce import duties for 750 articles and export duties on British manufactured products. Peel made further radical tariff reductions in 1845. The severe Irish famines in these years led to the elimination of the Corn Laws (1846 and 1849), which defended domestic agricultural markets and had reflected agricultural interests. The repeal of the Navigation Law (1849) ended restrictions on mooring foreign ships in British ports. However, it took another quarter of a century and a series of balanced budgets by Gladstone in the 1860s before tariffs were lifted and free trade policy was institutionalized in Britain.

The Cobden–Chevalier Treaty between Britain and France (1860) was the first milestone in establishing a laissez-faire system throughout Europe. The most-favored-nation clause of this treaty became the vehicle for the internationalization of free trade through the mechanism of automatically invoking tariff reductions subsequently negotiated with any third party. Indeed, through a series of agreements with Germany, Italy, Belgium, Sweden, Norway, Spain, Holland, Austria, and Portugal, Europe effectively became a free trade zone during the last decades of the nineteenth century.

This was facilitated by the development of a multilateral payment network. Although the bulk of trade transactions remained bilateral until World War I, at least 20–25 percent became multilateral. This encouraged international trade because countries could offset a trade deficit with one partner by a trade surplus with another so that less gold and hard currency was needed for balanced trade. This reduced a major obstacle to international trade – the lack of sufficient gold and hard currency reserves. The crowning move toward a laissez-faire system was made with the introduction of the gold standard. Until the 1870s, most European countries had a bimetallic (silver and gold) system (France), a silver standard (Holland, Scandinavia, the German states), or inconvertible paper money (Russia, Greece, Italy). Most currencies thus were not convertible, a major obstacle for the expansion of foreign trade. The pioneer of the gold standard was again Britain, which made important progress in this direction at the end of the eighteenth century, and fully introduced the gold standard in 1821. Other European countries followed much later. In 1867 the European Monetary Congress in Paris advocated the introduction of the gold standard. In that year, Holland went on the gold

standard, followed by the Scandinavian countries. United Germany introduced its new currency, the mark, based on gold. By 1878, the Latin Monetary Union also adopted the gold standard, so that Western Europe was in conformity. By the 1890s, when Austria-Hungary and Russia joined, the gold standard became common throughout Europe. Each currency unit had a fixed gold content, and thus currencies became easily exchangeable. Exchange rates became stable, dominated in gold, with only arbitrage determined by supply conditions affecting its fixity and causing some fluctuations. The British pound sterling, unchanged in value between 1821 and 1914, was practically equal to gold and became the international currency (Kenwood and Lougheed, 1971).

Together with the gradual transformation from protectionism cum bimetallism toward free trade cum gold standard, the theory and ideology of laissez-faire was born. It was a slow process, partly because of a dominant kameralist-mercantilist concept of the eighteenth century, and partly because economics was not yet an independent discipline but part of political theory. In the early centuries of commercial capitalism mercantilist economic policy sought to increase exports to gain gold and silver. The state played a central role in promoting domestic production, regulating trade, and increasing state revenues. It was a dynamic concept recognizing the need for domestic industrial development to increase the export capacity of the country. Because the accumulation of precious metal within a country could be guaranteed only through export surplus, strict control of foreign trade and protective tariffs to limit imports were inherent to mercantilism. With industrial development, nevertheless, an increasing number of political thinkers realized the need for “emancipation of capitalism from state tutelage”:

It has been said that mercantilism is the theory and ideological justification of commercial capitalism, whereas the value problem, which is the chief concern of the classical school of economists, emerged only when the transition to industrial capitalism [progressed]. (Heimann, 1964: 35, 39)

First the physiocrats, and especially François Quesnay, changed the way of thinking by attacking the mercantilist belief in trade and money as the only source of wealth. Instead, they emphasized the role of land and the production of goods by the extractive branches for creating wealth. They turned toward free trade and economic freedom. Even stronger arguments followed.

This concept was rooted in the individualist ideal of John Locke and David Hume. Eighteenth-century British philosophers were convinced of a “divine harmony between private advantage and the public good.” The term laissez-faire was, however, introduced by a Frenchman, the Marquis d’Argenson, in the mid-eighteenth century. To govern better, he stated, one must govern less. Jeremy Bentham in his *A Manual of Political Economy* (1793) formulated a law: “The general rule is that

nothing ought to be done or attempted by government.” The nineteenth century was characterized by the gradual rise and then the unchallenged domination of the laissez-faire economic system.

Almost everything which the State did in the eighteenth century in excess of its minimum functions was, or seemed, injurious or unsuccessful. The Economists were teaching that wealth, commerce, and machinery were the children of free competition . . . But the Darwinians could go one better than that – free competition built the Man . . . The principle of the Survival of the Fittest could be regarded as a vast generalization of Ricardian economics. (Keynes, 1927: 13–14)

The pioneers of a comprehensive economic theory and ideology of the industrial age, however, were the first great generations of British economists: Adam Smith, David Ricardo, and John Stuart Mill. Their ideas were based on two foundations: the *Zeitgeist* of Newtonian physics and the Enlightenment on the one hand, and British practice and self-interest on the other. In the perspective of physics, the universe is governed by internal natural laws in a self-perpetuating harmony, which includes humankind. In a departure from previous concepts, the new perspective suggested that free man could employ knowledge of natural laws to create harmony in society and the economy. Outside intervention is harmful. British practice suggested the same: a free economy and trade without state intervention are advantageous. The new theories consequently were formulated as natural laws, expressing the general interest of the world. The British economists firmly believed that free trade was the only system in which each country could be a beneficiary.

Adam Smith, professor of Logic and Rhetoric and later Moral Philosophy at Glasgow University, in his milestone *Wealth of Nations*, the foundation of modern economics, propounded an economic concept of preordained harmony, governed by the “invisible hand” of the market. In Smith’s laissez-faire system, self-interest serves the public interest because of free competition. Division of labor results in productivity increases both in the factory and on an international level. Smith proved that “the greatest improvement in the productive powers of labour, and the greater part of the skill . . . seem to have been the effects of the division of labour” (Smith, 1970: 8). Like individual factories, countries also must specialize in the production of goods they can produce in the most efficient way. Intervention and protection create artificial obstacles to the most productive employment.

David Ricardo was born four years before the *Wealth of Nations* appeared, entered the family business, and became a broker in the City of London. The self-made millionaire became a self-made economist and, without university education, one of the finest ever. His theory of comparative advantage maintained that free trade is advantageous for both partners, since each of them is selling what they

can produce in the most efficient way and buying what they cannot. Trade between industrial and agrarian countries is thus not a zero-sum game, in which one of the parties wins while the other loses.

John Stuart Mill received the best possible education and became one of the finest intellectuals of the mid-nineteenth century. He made fundamental contributions to economics and political philosophy with the concepts of unrestricted private property and a free market as the sole basis of human rights and freedom. In his essay “On Liberty” (1859), Mill stated:

It was once held to be the duty of governments . . . to fix prices, and regulate the process of manufacture. But it is now recognized . . . [that it is much better to leave] the producers and sellers perfectly free, under the sole check of equal freedom to the buyers . . . Restrictions . . . are indeed restraints; and all restraints, *qua* restraint, are evils . . . they do not really produce the results which it is desired to produce by them. (Mill, 1946: 695–8)

In the social-political arena, Mill envisioned the same divine harmony, described in his “Considerations on Representative Government” (1861), when

manual labourers and their affinities on the one side, employers of labour and their affinities on the other, should be . . . equally balanced . . . in Parliament . . . A balance preserved among personal interests, as may render any one of them dependent for its success, on carrying with it at least a large proportion of those who act on higher motives, and more . . . distant views. [Representative government is the] ideal type of a perfect government. (Mill, 1946: 823–4)

In British classical economic and political theory the connection between laissez-faire economy and personal liberty and democracy was seen as natural, and also as the expression of universal interests and guarantor of universal liberty and harmony. The unique success of Britain, the model country of industrialization during the nineteenth century, gradually became a validation of British devotion to free trade and economic thinking. Laissez-faire ideology became broadly accepted, and by the dawn of the twentieth century it became the *Zeitgeist* in the advanced countries, although it remained shallow in practice and was shelved if the national economy was endangered.

Under the banner of laissez-faire ideology, internationalization, or the first globalizing trend of the European economy, made great progress and became institutionalized. The rapid spread of free trade and the gold standard created a no- or low-tariff zone in Europe and a convertible currency with extremely stable exchange rates during the entire period. The British pound sterling, as good as gold, became the international currency. Free trade was accompanied by the building of an international communication network, in particular transoceanic trade and communication, and the European railroad system. After the first

railroad line was opened in Britain in 1825, nearly 363,000 kilometers of rail lines were built on the European continent by 1910. Each country became connected with others. The time and cost of transportation decreased significantly.

Emergent laissez-faire capitalism owed much to international agreements and treaties, which deepened the economic interdependence between participating countries. One such development was the transformation by treaties of major European rivers into international waterways (and economic thoroughfares), as in the case of the elimination of tolls on the Rhine in 1831 and 1868. Railroads were internationalized as well, partly by adopting a generally accepted standard gauge system, and partly by merging railroad administrations and establishing a pan-European Time Table Conference in 1891. In 1865 the International Telegraph Union was established, followed by the International Signals Code (1871), Universal Postal Union (1874), and International Meteorological Organization (1878). Finally in 1878 West European countries accepted the initiative of the International Literary Congress in Paris to work together to regulate the rights of both foreign and local authors. This agreement led to the Berne Union of 1886, which established a continental European standard of intellectual property rights. In 1896 and again in 1908, the original Berne Union agreement was amended in order to eliminate the differences between the French and British systems. One of the subsequent intellectual property rights treaties, the Berlin Agreement, signed in 1908, even expanded authorial rights by requiring permission for adaptation, musical arrangements, novelizations, theatrical productions, and films. While many countries embraced such a standardized agreement, several countries decided to remain independent, as did the United States until it finally adopted the international standard only in 1998 (Baldwin, 2014: 154–6).

Other conferences led to international agreements in fishing, health, and labor to name a few. In 1859, ten countries formed the International Sanitary Conference. In 1884, the International Meridian Conference of twenty-five countries agreed to recognize the Prime Meridian line (Greenwich) as zero longitude, and international time zones were fixed accordingly. In 1864, the International Workingmen's Association was established, along with the Second International of the Social Democratic Parties in the late 1880s. Even international rules of warfare were accepted at the Geneva Convention in 1864, and an International Red Cross was founded in 1876. Attempts were made to create international languages as well.

Before World War I, some 200 international organizations were in operation. Between 1900 and 1914, 1,443 international conferences were held, five times the number of the previous three decades combined. Most of these agreements and organizations were preponderantly European and benefitted from the extensive participation of all of the countries of the continent (Berend 2013: 293–4). All of these developments reflected the strong wave of integration in Europe and paved the way for a pan-European laissez-faire regime.

Rising modern sectors

Nineteenth-century economic development reached its peak during the first decade of the twentieth century. Three banking revolutions and two industrial revolutions were initiated in Europe at that time, accompanied by a revolutionized business organization.

During the British Industrial Revolution at the turn of the nineteenth century, the first banking revolution took place in Britain. Medieval and early modern, mostly usury money lending was banned by modern usury laws and replaced by modern banking, with the National Bank in its center as the bank of the banks and the lender of last resort. Commodity money was replaced by banknotes, issued by the National Bank. Beside the central bank a group of major commercial banks were also established in London and, as a third pillar, a network of provincial banks in the countryside. English and Scottish banks pioneered modern financing and became an instrument for short-term crediting, without dealing with long-term investment financing (Mathias, 1969: 167–73, 353).

Between the 1830s and 1840s, a second banking revolution created a new type of banking in Belgium and France, the so-called *crédit mobilier* type of banks that became involved in investments. While they preserved traditional banking services, they issued shares, supplied funds for investments in railroads and industry and provided long-term industrial credits. A third banking revolution followed from the 1860s–70s in Germany, led by the Deutsche Bank, Dresdner Bank, and other, so-called “D-Banks.” These universal banks built huge economic empires, establishing and taking over industrial and other companies and organizing industrial production. Banks and industry were merged and the banking sector became the dominant economic power. In Germany, they had ten-times the assets as the agrarian-industrial and related sectors combined (Tilly, 1991: 91).

Parallel with this development, the first British Industrial Revolution introduced the mechanized factory and revolutionized the energy system by introducing the coal economy and the steam engine, and creating modern textile and iron industries. The Second Industrial Revolution, led by Germany with a series of ground breaking scientific discoveries, revolutionized the energy system again by inventing electricity. Electricity, its generation, and a series of secondary and tertiary innovations of its applications created a new source of energy and led to the renewal of transportation as well as existing industries such as metallurgy and engineering. Countries without coal, which had been at a severe disadvantage during the nineteenth century, suddenly became energy-rich through the construction of hydroelectric power stations. Switzerland, Norway, and Italy profited greatly from these developments.

Box 1.1 The Brown Boveri Company

Founded in 1890 in a remote township of 4,000 inhabitants in Baden, Switzerland, the Brown Boveri Company was born as an international company. One of its founders, Charles Brown, was the son of an English engineer who moved to Switzerland. He studied engineering in Winterthur and worked for the Oerlikon Engineering Company from the age of twenty-two. The other founder, Walter Boveri, from a French family which emigrated from Savoy to Bavaria in the early seventeenth century, studied engineering and moved to Oerlikon. Brown and Boveri worked together and, in 1890, signed a contract of partnership, founding their own company in Baden, where one of the first electric power stations was also established at that time.

Though a small company with 200 workers, Brown Boveri began producing for export from the beginning. The key to success lay with the founders themselves, especially Brown's engineering talent. He succeeded in transforming low-voltage electricity into high-voltage power and transporting it as early as the late 1880s. This was the last word in turn-of-the-century technology. Switzerland, lacking coal resources, began exploiting its rich water resources and initiated the widespread construction of hydroelectric power stations. The company had plenty of orders. The Swiss market, however, was too narrow and the company became multinational: the Frankfurt and Mannheim power stations also ordered generators and both required Brown Boveri to establish repair shops on the spot. Subsidiaries in Germany (1893), France (1894), Norway (1902), Italy (1903), and Austria (1910) were thus established.

By 1900, the firm had become a joint-stock company. During the first years of the century, Brown Boveri delivered generators for power stations and built transmission lines throughout Europe. The electrification of the newly built Simplon tunnel opened a new market. The company developed marine turbines for the new Dreadnought battleships, the largest of the time. Around the turn of the century, Brown Boveri's foreign sales already accounted for 80 percent of output of its highly reputed precision engineering products. This required the formation of an international sales organization, gradually established in more than 100 countries. Various kinds of cooperative agreements, joint investments, and subsidiaries enlarged the Brown Boveri Group: the British Charles Parsons, and Vickers, the German AEG, the Brown Boveri in Mannheim, the Compagnie Electro-Mécanique in Paris, Tecnomasio Italiano Brown Boveri in Milan, and similar companies in Prague, Budapest, Warsaw, Rotterdam, Brussels, Madrid, and even in Canada, Brazil, Argentina, and New York. Post-World War II prosperity led to skyrocketing turnover from 200 million to 3 billion Swiss francs in twenty years, while employment climbed to 80,000.

During the decades of globalization around the turn of the twenty-first century the company was further enlarged by several mergers. In 1988, it merged with the Swedish Allmänna Svenska Elektriska Aktiebolaget and formed the ASEA Brown Boveri Group. Further strategic acquisitions (Power One and Baldor and Thomas & Betts) strengthened and broadened the Group's activities. The corporation conquered new territories and became – according to the Forbes ratings – the 158th largest company in the world and – according to the MIT ratings – belonged to the top fifty companies in innovation, with 150,000 employees and \$42,000 million revenue and \$1.5 billion investment in research and development programs in 2013. In five divisions the company produces equipment for power stations (representing 42 percent of the output); but it also became a leader in automation and robotic systems (41 percent), and renewable energy generation, and entered into the electric vehicle business (www.02.abb.com/).

In small countries of Europe, several companies in cutting-edge industries emerged from the beginning as multinationals (Brown Boveri, 1966).

Electricity conquered Europe relatively quickly. Paris declared itself to be the *capitale électrique* and 900,000 people surged to see the International Exhibition of Electricity in November 1891. By 1906, nearly 3,000 communities were connected to the network (Beltran and Carre, 1991: 64, 103, 106, 124). London did not remain behind: in 1890, roughly 38 gigawatt-hours of electric energy were sold; in ten years this quantity increased by five times. “Before the First World War . . . [electricity] had concentrated . . . [in] the commercial city center areas and in wealthy suburbs” (Hannah, 1979: 189). By 1903, with the exception of two, all towns in Britain with more than 100,000 inhabitants had electricity supply, although no more than 6–7 percent of the urban population used electric lighting. By 1919, half a million houses were connected to electricity in Britain (Byatt, 1979: 25).

At the same time, the spider web of electric tramlines began forming the new European city transportation networks. The first electric trams appeared in Berlin and Prague in 1884 and in the 1890s, respectively. The London network expanded to 921 kilometers by 1900 and to 3,533 kilometers by 1906. In 1912, the Paris tram network was 2,004 kilometers long. At the same time, Budapest had a 172-kilometer-long electric tram network, used by 214,000 people in a year.

The world’s first subway system began operating between Paddington and Farringdon Street in London in 1863. For decades, the London “tube” operated by steam, but electrification began at the end of the century, and by 1905 the Inner Circle was electrified (Byatt, 1979: 46–50). In 1896 the 2-kilometer-long Budapest subway system began operating; in 1900, the Paris Métro was opened and carried half a million passengers daily before the war.

Electricity also made possible the telephone. Before World War I, nearly 3.5 million telephone lines existed in Europe and 5.3 billion calls signaled the spread of new technology. The other major revolutionizing technological change was the appearance of the motor car as the most important private transportation vehicle. From the very beginning, cars were popular, though in the early days they were luxury toys. They improved fast, and by 1913 the person-to-car ratio was 437:1 in France, 890:1 in Switzerland, and 1,567:1 in Germany (Merki, 2002: 40–1, 78, 91, 95–7). Public transportation also adopted cars and buses early on. In Berlin, the first taxicab appeared in 1900, increasing to nearly 2,000 by 1912. Taxis were first used in the streets of London in 1904. The famous horse-drawn Paris omnibus made its last run in April 1913, by which time 927 buses already carried 206 million passengers.

The other main application of the combustion engine, the airplane, was closely connected to war efforts. In October 1911, for the first time in history, Italy used airplanes against the Turks near Tripoli, and a few days later, at the beginning of November, history’s first air bombing occurred. World War I spurred this trend. The German Junkers–Fokker Works geared up for serial production of all-metal airplanes in 1917 (Morrow, 1993: 154). The German Air Force attacked London

Box 1.2 The Paris Métro

The Paris Métro system grew into a gigantic monument of twentieth-century urban transportation. After decades of debate over a railroad system for the city, the decision was made in 1898 to construct six lines of the subway system, the *Métropolitain*. Fulgence Bienvenüe, an official of the French national railroad, was appointed Director General of construction, responsible for building the tunnels and bridges, while the electrification, access to the stations, and operation of the system was run by a Belgian engineer, Baron Empain. Construction of the first six lines began in February 1899.

It was not the first modern metro, since London already had a large system, and a single 2-kilometer-long metro line was opened in Budapest in 1896. The Paris system, however, was ambitious. Bienvenüe decided to use the open trench method (unlike London, but like Budapest). The lines were not deep and the trenches were dug by hand, then the tracks were laid and walls and ceilings were built to complete the tunnels. After a strikingly short sixteen months, the first line with eighteen stations was opened in July 1900 between Port Maillot (later from the Grande Arche de La Défense) to Chateau de Vincennes, linking the west and east sides of the city. By the end of the year, 16 million Parisians traveled by Métro, an immense success in the year of the Paris World Expo.

Bienvenüe continued working on the planned six lines. From the construction of the fourth line, instead of bridges, tunnels were built under the river Seine. Another five lines followed. Meanwhile, a private company began building two north–south metro lines in 1909, which, in 1929, became part of the Paris Métro system as lines 12 (between Porte de La Chapelle and Mairie d'Issy) and 13 (between Châtillon-Montrouge and Saint Denis-Université). By the time Bienvenüe retired in 1934, the bulk of the thirteen lines was ready. A fourteenth line between Bibliothèque François Mitterrand and Madeleine was added in 1998.

In 1899, the design of stations and entrances also began with the participation of twenty companies, but the Compagnie Métropolitain de Paris was dissatisfied with the plans and commissioned the famous Art Nouveau architect Hector Guimard to design all of the stations and entrances by 1913. They became art historical monuments of the city.

The Métro is a symbol of Paris, and certainly the best, most dense network, and most accessible subway system in Europe. In the last decade of the twentieth century 1.2–1.3 billion trips were taken annually on the Paris Métro (Plotkin, 2000).

with its Me-109 fighters during the war. Civil aviation and air transportation, nevertheless, developed simultaneously. The world's first airline company, the German DELAG, was founded in 1909.

Although new technology opened up previously non-existent spheres of endeavor, it had a tremendous impact on old technology sectors as well. The symbol of nineteenth-century modernity, the railway, began to be modernized; the first lines were electrified around the turn of the century. Electricity, cars, and airplanes, however, were in their infancy; they did not yet affect the everyday life of the population, but heralded the future. The new sectors, nevertheless, gave tremendous impetus to economic development and Europe's industrial output more than doubled between 1890 and 1913 (Bairoch, 1976). The other new