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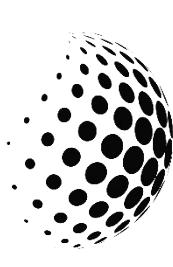
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SECTION: HISTORY

ECONOMIC SITUATION OF ENGLAND IN 1870–1914

Hryhoruk Nataliia

Ph.D., Associate Professor

Department of World History and Religious Studies

Ternopil national pedagogical university

named after Volodymyr Hnatyuk

England in the 70's. 19th century remained the workshop of the world, the master of the world market, the hegemon in the international financial sphere, the owner of a powerful fleet and significant colonial possessions. The 50–70's in English historiography are characterized as follows: "Never before and never later has any country to such an extent as England dominated the world economy". However, the 70's were the last century during which late Victorian England retained the status of "world factory".

Two main processes characterized the economy of the 80–90's: the gradual loss of industrial hegemony; the beginning of the development of free competition capitalism into monopolistic capitalism.

As before, England is a powerful state, maintained important positions, was the "owner of the seas", still held the naval and colonial championship, played the "first violin" in the banking sector. But since the 80's, England's share in the world production system has decreased. The big "Victorian boom" of the 50–70's has gradually exhausted its capabilities in front of rapidly growing young industrial countries. England began to lose its dominant place in the world economy. In particular, in the 70's, the increase in industrial production was 3%, while in the 80–90's – was only 1.8% (USA and Germany – 4.8% and 3.9%).

The reasons for the decline in England's economy were internal and external. Internal: outdated technical equipment of production did not allow industry "to keep up with the rapid technical progress of the last third of the 19th century; although English science developed, the country did not embody technical progress in industry with such intensity as young industrial countries; considerable capital was invested in the country's economy, but in order to modernize the equipment, capital investment was needed again, while the English bourgeoisie reluctantly agreed. External: the country's economy was negatively affected by the export of capital to numerous colonies, which significantly exceeded the import (in 30 years – 1870–1900 – English export increased by 42%), which indicates the lag behind England, since capital is distant from industry, creates obstacles for the renewal of means of production.

Monopolization in England was carried out at a slow pace compared to the growth of cartels, trusts, syndicates in the USA and Germany. This trend is primarily explained by the fact that the English trade and industrial monopoly and its colonial hegemony

for many years provided high profits and did not stimulate capital investment in its own production and its monopolization.

Already in the early 80's, monopolized industries began to appear, uniting about 20 enterprises (in the USA and Germany in the 70's). So, in particular, "Salt Trust" (1887), "Dorman-Long" (1889), "John Brown", "Armstrong-Winworth", "Vickers" (90's), "Coates Trust" (1897).

However, the main role was played by colonial monopolies: "Colonial Company r. Niger" (1886), "Imperial Company of British East Africa" (1886), "British South African Company" (1889), etc. Their profits were significantly higher than domestic monopolies.

Monopolization required investment of capital. These needs had to be met by the banking system, which also underwent the process of monopolization quite quickly. In 1867, there were 247 private banks in the country, by the end of the century there were about 50 of them, but much larger ones, which occupied monopoly positions. The process of monopolization in the banking sector was ahead of a similar process in production.

An integral feature of economic development at this time was economic crises. They, unlike the previous ones, were longer, more frequent and deeper. Their dynamics were as follows: 1873–1880; 1882–1888; 1890–1895. Since the mid-70's, there has been an agricultural crisis, the cause of which was the flow of cheap products from the USA, Canada, and Australia. Consequently, output prices declined, and the volume of capital investment decreased.

This state of crises and between crisis depressive periods was called the "Great Depression" of the British economy, which lasted throughout 1873–1896.

The economic situation of England at the beginning of the 20th century has not changed significantly. The central trends in the development of the economy remained: the further process of monopolization and the trend of losing positions on a global scale.

Again, starting from 1900–1903, another crisis gripped the country: iron production decreased by 15%, shipbuilding decreased by – by 22%.

However, numerous associations of a monopolistic type emerged and strengthened. In this context, the crisis of 1900–1903 was the frontier from which the process of establishing monopolistic capitalism began.

Of course, the process of monopolization in England took place more slowly than in the USA and Germany. However, at the beginning of XX, the following were already clearly defined: cartels – in light industry; trusts – in metallurgy, mechanical engineering, shipbuilding; concerns – in military production.

Steam locomotive construction in the country monopolized 11 companies, production of textile machines – 8 Lancashire associations, smelted pig iron – 30 firms.

Monopolies by structural characteristic were: horizontal (combining homogeneous production – weaving or spinning) and vertical (combining metallurgy, mechanical engineering, mining).

The long crisis of 1907–1910 stimulated the process of monopolization to a greater extent.

The monopolization of heavy industry, railway, and sea transport took place actively. Before the World War, monopolies in the new fields of electrical engineering and chemistry became noticeable. In 1904, – was the first monopolistic artificial silk company, and in 1906, – “Rolls-Royce”, which produced cars. Monopolization in the textile and coal industry took place more weakly.

The news was the formation of international oil monopolies: 1907 Anglo-Dutch (“Royal Dutch shell”); 1909 Anglo-Iranian (“British Petroleum”).

The financial and credit sphere was quickly monopolized. 12 banks (“Lloyd’s”, “Westminster”) gradually stood out in it. Financial capital acquired great economic power. The volume of capital exports was directed primarily to the colony.

Among all monopolies, colonial monopolies still played a priority role. Monopolistic capitalism in England took on a historically colonial appearance.

The general economic situation of England was still at a high level. It was a rich country in Europe, went ahead in the fate of industrial exports, in terms of foreign investment, was a world banker, owned a powerful fleet, a large colonial empire: 57% of all colonial possessions.

However, at the beginning of the 20th century. England finally got rid of industrial hegemony. Newspaper “Daily Telegraph” consoled: “Only our monopoly has disappeared. Our dominance of” remained. However, the dominance was quite relative. The English press stated: “German competition is becoming threatening, “USA – is the most powerful and determined of all the competitors that England has had to deal with.

Anglo-German competition became acute (in 1910, English exports on the European market amounted to 155 million pounds, German – 281 million pounds). In the markets of Canada, Argentina, China and other regions, England was stubbornly supplanted by the USA, Germany, and Japan. The products of these countries successfully competed with English not only on foreign markets, but also within the country. The USA and Germany began to import metals into England.

The value of exports from Germany to England increased in 1912 to £57; the value of imports of English goods to Germany – only to 41 million. pounds sterling. It is significant that German banks opened their branches in London for the first time. English economists urged “entrepreneurs not to spare money to update equipment and improve production methods according to the latest advances in technology in order to defeat the competition.

As a result of the Boer War (1899–1902), a new factor appeared in the economic life of the country –, the flow of gold from South Africa was suspended, trade relations with it were disrupted, and the population of England was burdened with military taxes.

Agriculture continued to be in dire economic straits. Decline of grain farming: cultivated areas decreased to 5.9 million acres (in 1871 they amounted to 8.2 million acres). Between the depressed periods, agricultural production did not reach the phases of rise. England was provided with its own agricultural products for only a third of its needs. To varying degrees, however, all strata of the population had a hard time: landowners-lords, large tenant-capitalists, poor rural workers.

References

1. Daunton M. (2007). Wealth and Welfare: An Economic and Social History of Britain 1851-1951.
2. Court W. H. B. (1965). British Economic History, 1870-1914: Commentary and Documents.
3. Taran L. (2005). England 1870-1914. History of Ukraine. № 21-22.
4. Supple Barry (1994). Fear of Failing: Economic History and the Decline of Britain. Economic History Review.

МАТЕРІАЛЬНА КУЛЬТУРА УКРАЇНСЬКОГО КОЗАЦТВА XVI–XVIII СТ.: СТРУКТУРНО- ФУНКЦІОНАЛЬНИЙ АНАЛІЗ ТА СОЦІОАНТРОПОЛОГІЧНИЙ ВІМІР

Білоус Михайло Віталійович

аспірант

Національна академія керівних кадрів культури і мистецтв

Наукова актуалізація проблематики матеріальної культури українського козацтва детермінована нагальною потребою у багатовимірній реконструкції минулого, яка виходить за межі традиційної позитивістської історіографії та інтегрується в площину історії повсякденності та історичної антропології. Речові пам'ятки розглядаються не просто як ілюстративний матеріал, а як самодостатній інформаційний ресурс, що дозволяє здійснити комплексну експлікацію соціально-економічних та військово-політичних процесів Раннього Модерну.

У соціоантропологічному вимірі аналіз матеріальних залишків відкриває можливості для детального відтворення соціальної архітектоніки козацької спільноти. Дослідження побутових артефактів, одягу та житла уможливлює чітку фіксацію майнової та станової диференціації, увиразнюючи контраст між рівнем життя козацької еліти та рядового товариства. Більше того, речовий комплекс слугує ключем до розуміння адаптаційних стратегій населення в умовах фронтиру – Великого Кордону, де специфічні умови степового порубіжжя диктували особливі форми господарювання та побуту.

Паралельно з цим, вивчення мілітарного сегмента матеріальної культури – озброєння, амуніції та фортифікаційних споруд – дозволяє переосмислити місце України в тогочасній геополітичній системі. Типологічний аналіз зброярських артефактів засвідчує глибоку інтегрованість українських земель у транскультурний простір, демонструючи унікальний синтез європейських військових технологій та східних мілітарних традицій. Важливість таких студій посилюється їхнім джерелознавчим потенціалом: археологічні об'єкти виступають інструментом об'єктивної верифікації писемних джерел. Вони дозволяють скоригувати, а подекуди й спростувати суб'єктивні наративи хронік