

250 years of Capitalism

A reconstruction of its dynamics

Marcel Roelandts, August 2019 (translated by [AFRD](#))

Foreword - A work in progress

« I pre-suppose, of course, a reader who is willing to learn something new and therefore to think for himself. [...] Every opinion based on scientific criticism I welcome » Karl Marx, Preface to the First German Edition of *Capital*.

Taking up a longstanding concern of Marx's he was unable to fulfill, the following presents the first part of an article series treating 250 years of Capitalism at the hand of examined statistic sources on its economic dynamic, in order to draw out its perspectives.

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Introduction

In the hell of the workshop of the world, which is 19th Century's England, Marx and Engels developed their critique of capitalism and became involved in the first expressions of the workers movement. Engels began to do this in 1845 in his book *The Condition of the Working Class in England*, and a few years later Marx analysed all its aspects in *Capital*. But the latter's concern is "private" and has existed "for a long time": to construct graphs illustrating the evolution of the main economic indicators he has developed, in order to mathematically determine the essential laws of the [economic] crises: "*I submitted here to Moore [The translator of the Communist Manifesto in English] a story with which I have tussled around privately for a long time (...) you know the tables where prices, discount rates, etc., etc. are represented in their fluctuations during the year, etc. by zigzag curves that go up and down. I have tried several times – to analyse the crises –, to calculate these ups and downs as irregular curves, and I have believed it possible (I still believe it is possible, with sufficiently studied material) to determine the essential laws of the crises mathematically from there. Moore, as said, takes the case as not feasible until further notice, and I have decided to give it up for the time being*" (Letter from Marx to Engels of May 31, 1873 ¹). The paucity of the statistical apparatus of his time and Marx's poor health did not allow him to continue his attempts and carry them out. This contribution attempts – at least in part – to fill this gap "*with sufficiently studied material*" for the country under examination : England ².

¹ Marx/Engels, Der Briefwechsel, Bd. 4 (1868 – 1883), p. 398 (DTV Reprint from MEGA, Berlin 1931).

² The sources of the data on which we rely, and the necessary indications on how we present them, can be consulted at the end to this article series. As these data are easily accessible, anyone can consult them and check our calculations and graphs in order to complete, correct or contradict the analysis we propose.

I. 250 years of Capitalism – A rapid overview

From the Industrial Revolution to the End of the twofold Bipolarization of the World

The period from the second half of the 18th Century to the First World War constitutes a turning point in the world's economic history. The industrial revolution that is born in England spreads to Western Europe and the New World : North America, Australia and New Zealand. Some germs are also disseminated in certain other countries of the Americas, who had gained political independence in the early 19th Century – Argentine in particular. Then come Russia and Japan.

These countries, which held only 20% of the world's manufacturing production in 1800, concentrate nearly 80% of it in 1913. In other words, the first arrivals have taken the benefits of the industrial revolution at the expense of the rest of the world. This economic gap attains its maximum during the inter-war period. It is the result of a predatory colonial policy that deindustrializes the colonized countries. In effect, while it is very limited at the beginning of the 19th Century, colonization reaches its apogee on the eve of the first worldwide conflict.

This formidable concentration of wealth at one pole of the planet configures a first geo-economic bipolarization between a few industrialized countries and the rest of the world. In other words, while capitalism exercises its domination over all continents in 1913, it is still far from having developed everywhere. It was not until the end of the 'Thirty Glorious Years' and the 'Cold War' that it spread geographically throughout the world in a significant way, especially in Asia, but also in Africa, where some countries begin to experience very significant growth since several years (See chapter VI).

From the middle of the 18th Century, Great Britain occupies a prime position as an early laboratory of this dynamic : as the cradle of modern capitalism³ and of political economy, this country dominates the world until the last third

³ "...as is shown by the fact that with the crisis of 1825 it for the first time opens the periodic cycle of its modern life" [Afterword to the Second German Edition of Capital \(1873\)](#).

of the 19th Century, gradually giving way to the United States of America and to Germany on the European continent. In this context of overwhelming power of a few imperial economies, no country can claim real independence, not even those in South America who formally had already emancipated from their colonial tutelage. It is the extroverted economic logic of capitalism – that is, of a system that structurally needs to extend its sphere of valorization geographically and sector-based – which will be at the basis of this colonial and then warlike competition between the first industrialized countries. This imperial competition constitutes the framework of a second bipolarization of the planet, which is superimposed on the first. The Cold War is the ultimate outcome of this configuration, a total nuclear war that, albeit it has remained only a potential one, has generated multiple local hot wars that have claimed as many victims as the second imperialist planetary conflict.

The first bipolarization is essentially of an economic order ; it separates a few early industrialized and rich countries from the – extremely poor and dependent – others, known as the Third World. The second one is mainly geopolitical and pits constellations of countries against each other who are competing for continental or planetary domination : the Triple Entente and the Triple Alliance, who confront each other since the end of the 19th Century in order to lead to the First World War ; the Axis countries opposed to the Western bloc during the Second World War ; the Soviet and the American bloc during the Cold War.

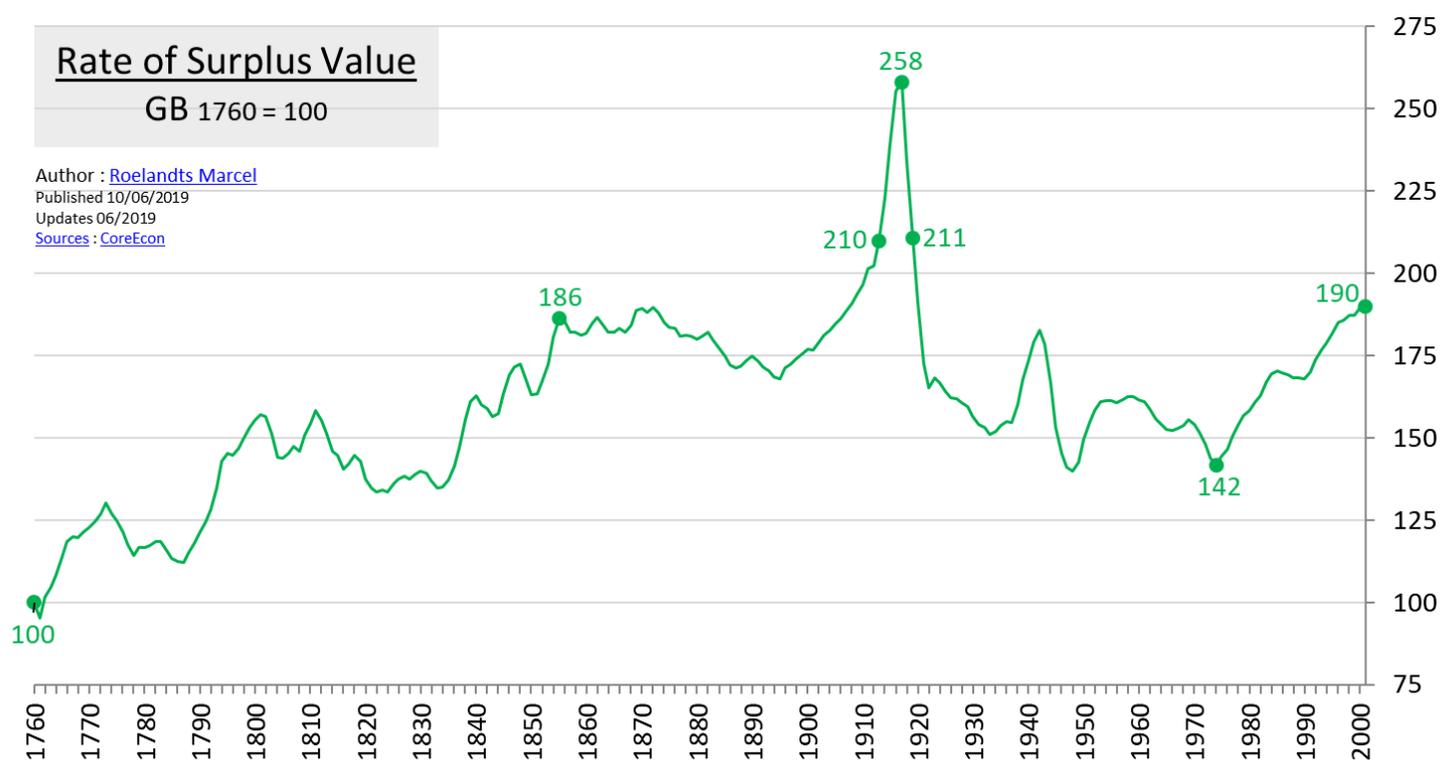
By loosening this double bench-vice of economic and geopolitical bipolarization that organized the world since the 19th Century, the end of the ‘Thirty Glorious Years’ (1975) and of the ‘Cold War’ (1989) allowed many countries to become autonomous and take off in an increasingly reunified economic world. This dynamic is developing all the more easily as the United States are losing ground to the point of being bitten in the tail by a China that has set itself the objective of disputing the former’s world leadership.

However, such a configuration is not likely to continue because a “pacified” multi-polar world operating within the framework of multilateral agreements is an illusion. Increasing economic competition, the nationalist-protectionist tendencies, the imperial aims of each nation, the relentless defence of American leadership and the contesting thereof by many countries gather all ingredients to create a new planetary wrench on the ground, in the air and in cyberspace.

The four times of the power relations between the classes

By dividing total profits by total wages, Marx constructs a measure of the economic rate of exploitation of the wage earners⁴. Its evolution over two centuries of modern capitalism illustrates his thesis that “*The history of any society up to the present day has been nothing but the history of class struggles*” very well⁵ (Graph 1.1). In effect, four main times give rhythm to its evolution in function of the power relations between the classes.

Graph 1.1 : Rate of Surplus Value 1760 – 2001, GB (Index: 1760 = 100)



The first high point corresponds to savage capitalism and extends from the Industrial Revolution to the middle of the 19th Century. Numerically still weak, illiterate, poor, weakly organized and facing increasing unemployment, the wage earners of that time have little capacity to offer a sufficiently consequent resistance to attenuate the shameless exploitation of their labor

⁴ As this fraction increases, the exploitation rate increases and inversely. In effect, in the annual total of created wealth (the net interior product or NIP), the exploitation rate (which Marx called the rate of surplus value) measures the part that falls to the employer (the profit or surplus value) and the part that falls to the wage earner (i.e. his wages). In other words : the **Rate of Surplus Value = Surplus Value / Wages = (NIP – Wages) / Wages**. This measure of the degree of economic exploitation of the wage earners has to be distinguished from the degree of physical exploitation, like the work stress or the risks of the work. Its statistical calculation since 1760 until recently is provided in the Annex on the data and on methodology.

⁵ The first phrase of the *Communist Manifesto* by Marx and Engels (1847).

force by the new entrepreneurs of the Industrial Revolution. It is a period during which the English ruling class amasses fortunes, multiplying the rate of surplus value of the wage earners by 1.86, from index 100 to index 186 between 1760 and 1855. As profits are abundant in a context in which investments are still modest, profit rates are high ⁶. This first century of savage capitalism exacerbates economic and social inequalities and allows a small minority of entrepreneurs to capture a growing share of the wealth produced on the basis of a fierce exploitation of pauperized wage earners.

The second high point extends from 1855 to the Russian revolution of 1917 ⁷. The English working class, which had become more numerous, better educated and organized, for the first time in a century, succeeds in imposing a progressive increase in real wages during the following half-century (from 1855 to 1901, see below Graph 2.1) and in securing some legal advances in the social sphere. This explains the capping of the rate of surplus value between 1855 and 1872, and its subsequent, slow decline until 1895. If it hence recovers strongly, this is following a violent counter-offensive by the English bosses to take back what had been conceded to the wage earners. As a result, the overall increase in the rate of surplus value over the half-century preceding the conflict is much lower than during the century of savage capitalism when it almost doubled.

The third high point in the power relations between the classes begins with the year of the takeover of power by the Workers' Councils in Russia in 1917 and extends until the end of the glorious thirty years. If the exploitation rate of the wage earners has more than doubled throughout the first century and a half of capitalism, 1917 marks a turning point since this rate was reversed during the following sixty years: the index of the rate of surplus value diminishes strongly from 258 in 1917 (or 211 in 1919) to 142 in 1974. This downward turn of the rate of exploitation of the wage earners is the result of the wave of revolutions and large-scale social movements that develop to put an end to the

⁶ The profit rate is the ratio between the obtained profits and the total investments consented to obtain these profits.

⁷ The magnitude of the rate of surplus value in 1917 seems exceptional, even overestimated. It is however consistent with what can be observed in times of war, at least at the beginning of a conflict (a lowering of real wages and an increase of productivity gains). Nevertheless, we prefer to rely on the data of 1913 and 1919 to calculate the evolution of the rate of surplus value before and after the war, because the data between 1914 and 1918 may be less certain or overestimated. However, the year 1917 remains politically and socially very significant as a turning point in the evolution of the rate of surplus value.

horrors and massacres of the World War and to show solidarity with the Russian revolution.

The fourth and final high point begins at the end of the ‘thirty glorious years’, when the power relations between the classes reverse once again in favour of a ruling class that arrives at raising the exploitation rate, up to the present day. This reversal is the result of a combination of factors, in particular the rise of unemployment since 1974, which undermines the wave of struggles that began in the mid-1960s and that is exhausted at the end of the 1970s.

What are the driving forces behind all these dynamics of wealth accumulation, of geographical and sector-based extension of capitalism, of imperialist relations, of economic crises, of social conflicts, and what are their evolution over two centuries and a half of modern capitalism? Are they carried out according to the modalities of the analysis traced by Marx in *Capital*? Does the 20th Century confirm or contradict his analysis since the rate of surplus value is almost halved over the sixty years from 1917 to 1974 (from index 258 to 142)? Among others, these are the main questions that motivate us in this first exercise of illustrating and deepening his work⁸.

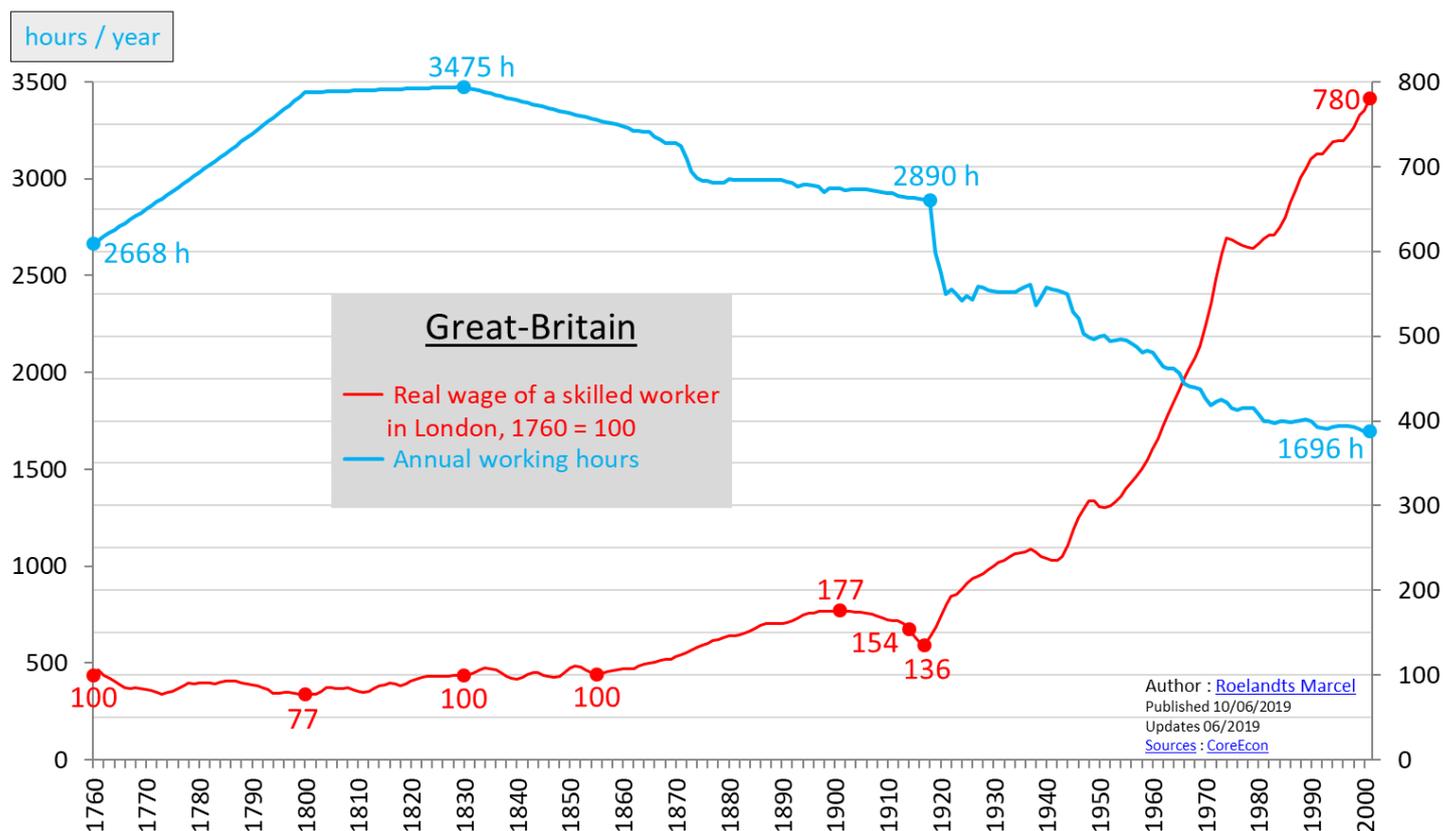
II. The Class Struggle from 1760 to the Russian Revolution

Working more to earn less

The reduction of working time and the maintenance or increase of real wages (purchasing power, i.e. with inflation deducted) have been the main focus of the wage earners’ struggle to reduce their exploitation. And for good reason, the latter first saw their living and working conditions deteriorate for almost a century before a slight and slow improvement occurred during the subsequent half-century. In fact, the Graph 2.1 below shows us that the workers’ real wages stagnated from 1760 to 1855. Worse, already very miserable in 1760, they began to decline by a quarter until 1800, then recovered around 1830 and stabilized until 1855.

⁸ This contribution therefore has only a limited objective, which complements Marx’s *Capital* and the more qualitative works of Marxist and other historians of the industrial revolution and the development of capitalism, works to which the reader should refer in order to have a complete vision.

Graph 2.1 : GB : Real wage (1760 = 100) and Annual working hours



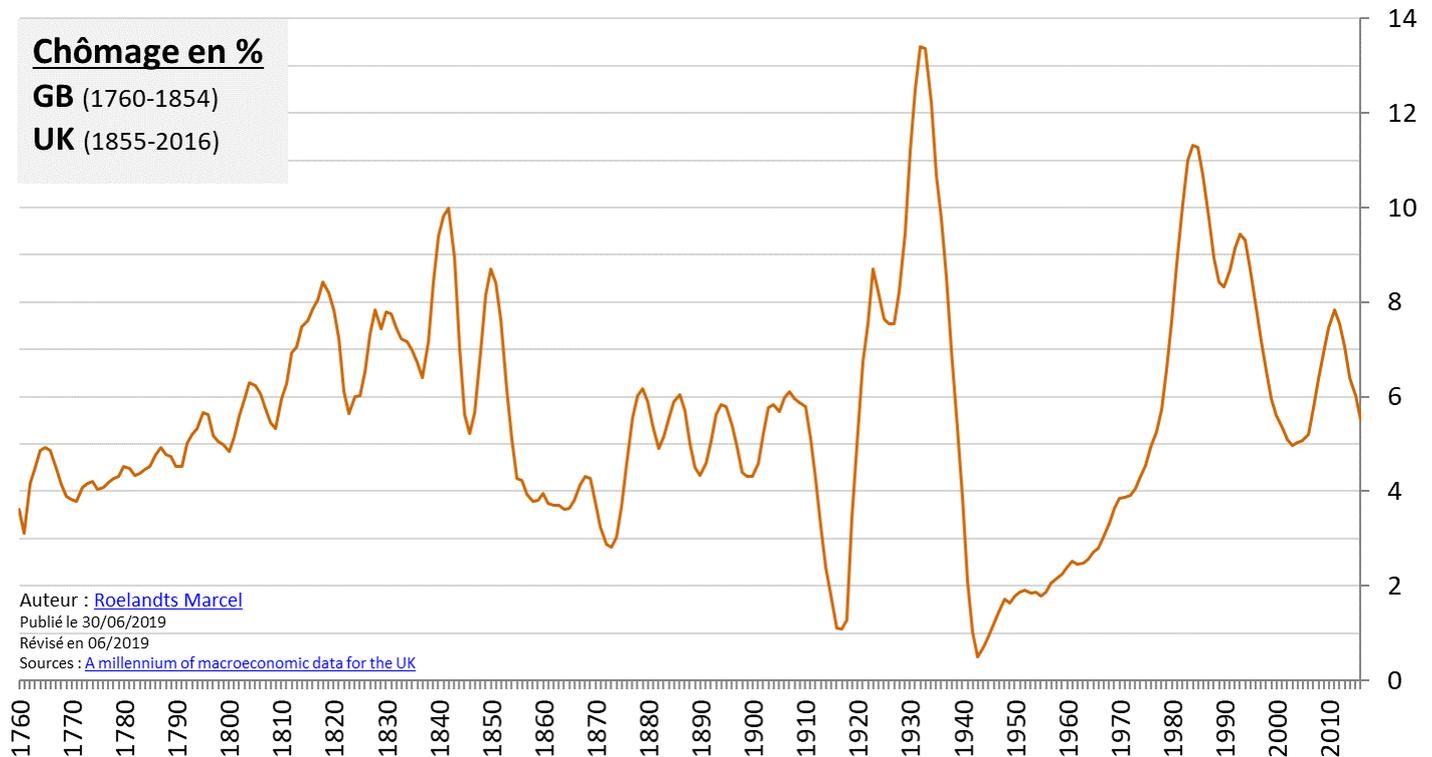
The annual working time increased by almost a third from 1760 to 1830, and then declined only marginally until 1855. Undoubtedly, the slogan of the ruling class at that time was : “*work more to earn less*” to paraphrase the formula of former French President Sarkozy. And this is still without considering the frequent labor by children aged from six to eight years old ; the prohibition of demonstrations and coalition building (trade unions, strike funds, mutual societies, cooperatives...) ; the arbitrariness of the employers who can dismiss at will and without compensation, while workers are liable to prison if they leave their employers ; the right to vote limited to a minority of rich men ; etc.

Moreover, in addition to these miserable living and working conditions, there is the scourge of growing unemployment resulting mainly from a galloping urban demography⁹ and, subsequently, from the bankruptcy of small craftsmen as a consequence of competition from capitalist production and an exodus of rural people dispossessed of their land and/or impoverished by the prohibition of access

⁹ This first century of industrial revolution was characterized by a strong demographic growth resulting from a widening gap between the birth and death rates: while the former increased from 3.4% to 4.2% between 1760 and 1876 and then stabilized at a high level (3.6%) until 1876 (the date of its rapid and continuous fall), the mortality rate fell from 2.9% in 1760 to 2.1% in 1876 (Source : [Our World in Data](#)).

to the commons¹⁰. Thus, the unemployment rate increased from 3.6% to 10% between 1760 and 1842, see Graph 2.2 below :

Graph 2.2 : Unemployment in %, GB 1760-1854, UK 1855-2016



Without any social and legal protection, and still too few in number to be able to impose a balance of power in their favour, these first wage workers are subjected to the horrors of competition among them, a competition induced by this growing unemployment that will allow the employers to keep wages as low as possible and to impose a sharp increase in working time.

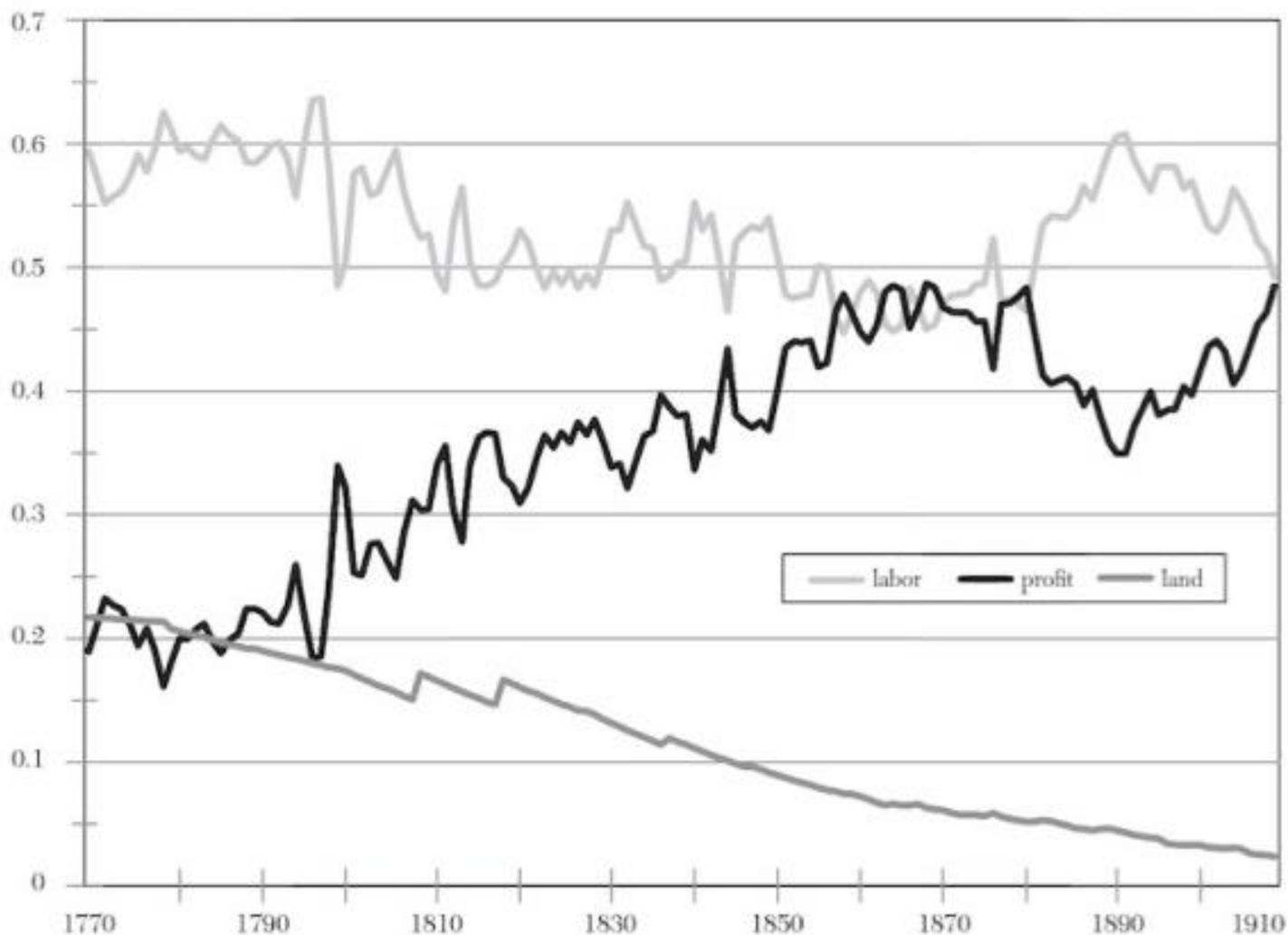
Profit share and profit rate

This first century of savage capitalism is therefore confounded with increased work, for a miserable wage, carried out in atrocious social conditions and a lack of political and social rights. Its operating logic is still largely based on increasing absolute surplus value, where profits are mainly increased by extending working hours and lowering or maintaining low real wages in a context of increasing unemployment. This explains the doubling of the rate of surplus value during this first century of savage capitalism, both according to our calculation (see Graph 1.1)

¹⁰ Free access to forest resources, grazing rights on fallow land, etc., all of which enable many poor farmers to survive in the countryside. Read in this regard the excellent contribution of J.M. Chevet (1996) on [the agricultural revolution in England](#) (French language).

and according to Allen's calculation (see the following Graph 2.3), since our index is multiplied by 1.82 from 1760 to 1855 and the other by 2.6 from 1770 to 1855 ¹¹.

Graph 2.3 : Share of wages, profits and land rent in national income, GB, 1770-1910, constant prices 1850, (Allen, 2007)



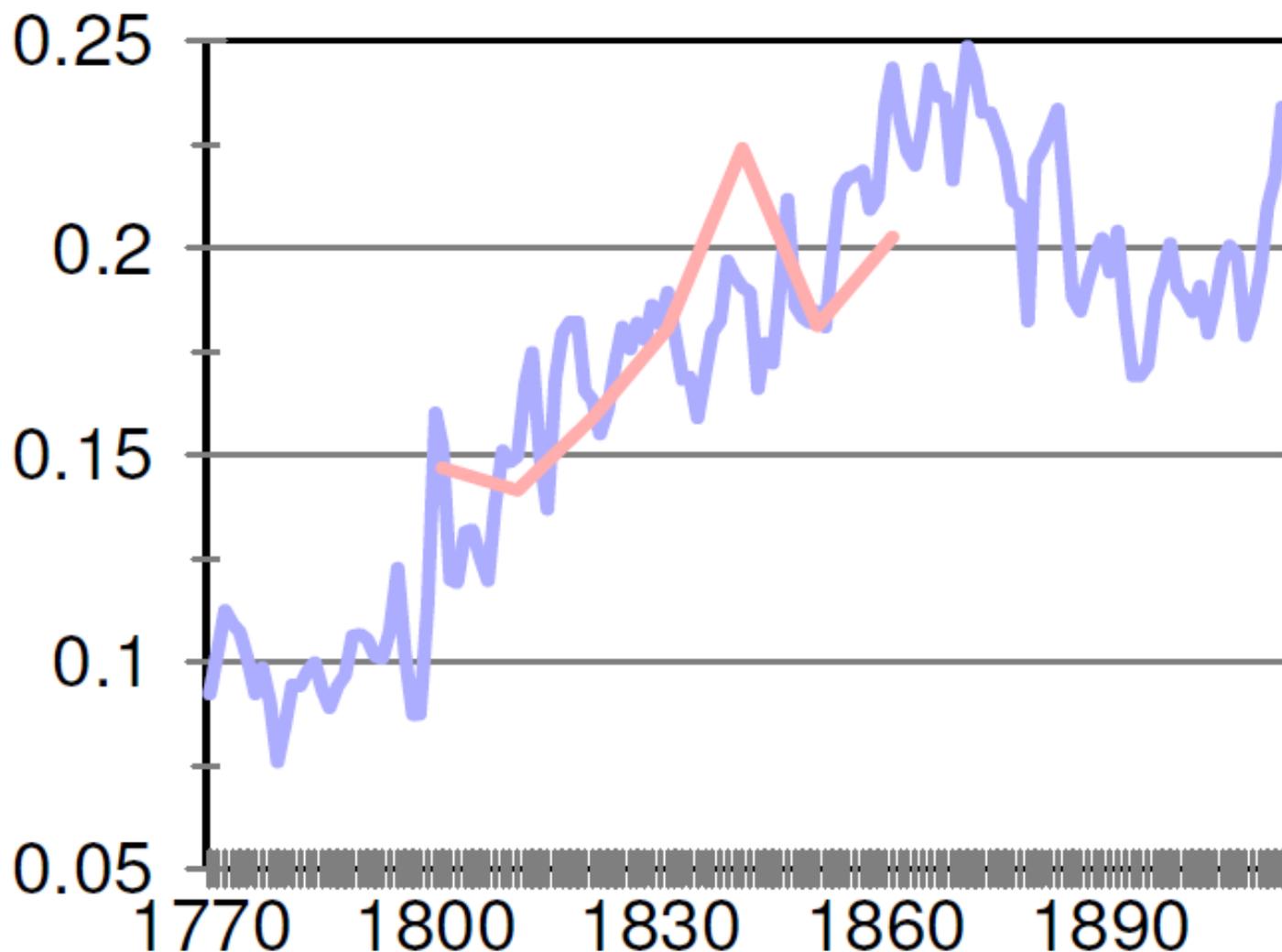
This excessive exploitation of waged workers – an exploitation that goes as far as their physio-logical exhaustion, since the average life expectancy of a worker in Liverpool is only 25 years in 1860 – results in a decrease in the wages' share in GDP (from 60% in 1770 to 45% a little before 1860) and a corresponding increase in the profit share (from 20% to 50%). It should be noted that the latter also increases following the decline in the share of land rents resulting from the progressive domination of capitalism over the remains of the land aristocracy ¹². This doubling of the exploitation rate of wage workers largely compensates for the

¹¹ Calculated by dividing the profit share by the wage share from the data in graph 2.3. This results in a rate of surplus value of 32% in 1770 (19% / 59%) and of 84% in 1855 (42% / 50%), which leaves us with a multiplication by 2.6 from 1770 to 1855 (84% / 32%).

¹² This share of land rent in GDP declines from 22 per cent in 1770 to 7.5 per cent in 1855 (Graph 2.3). It will only be residual throughout the 20th Century.

increase in the organic composition of capital during this first century of savage capitalism, since the profit rate progressively increases from 10% in 1770 to 24% in 1860 (with a maximum of 25% around 1875) as shown in Graph 2.4 (Allen, 2007).

Graph 2.4 : GB, Profit rate, real (1770 – 1913) and nominal (1800 – 1860)



Big sacrifices for meagre results

This phase of savage capitalism ends around the middle of the 19th Century, when we witness a reversal of the trend, as capitalism enters its typically colonial phase¹³ : instead of continuing to grow, annual working time begins a slow decline until 1917, albeit it remains still higher than at the beginning of the industrial revolution ; similarly, real wages stop stagnating and increase slowly and modestly from 1855 to 1901, but then decline significantly until the First World War, following a counter-offensive by the English employers (explanation below). They have nevertheless increased by a factor of 1.54 in sixty years (from 1855 to 1914).

¹³ For a more detailed description of the productive orders that pace the life of capitalism, we refer to the article Crisis – Conflicts – Struggles – Populism (Part 1) in [‘A Free Retriever’s Digest’ Vol.2#6 \(December 2018 – January 2019\)](#).

In addition, a decline in unemployment occurs between 1842 and 1873, from 10% to 2.8%, certainly, only to rise again, but to a lower level (5%). Finally, the first basic social rights are wrested away, such as limiting the work of very young children (declared prohibited under the age of nine in the textile industry in 1833), the restriction of the daily working time for women and children (to 10 hours a day in 1847), the acquirement of the right to organize in trade unions in 1875, etc. This reversal of the trend is the result of social resistance that develops as the working class grows in number and concentration. This explains a) the capping of the rate of surplus value from 1855 to 1872 and its subsequent slight decrease until 1895 (Graph 1.1) ; b) the stabilization and subsequent rise of the wages' share, respectively the stabilization and drop of the profits' share from 1855 to 1890 (Graph 2.3) ; and c) the stabilization and subsequent drop of the profit rate from 1860 to 1890 (Graph 2.4).

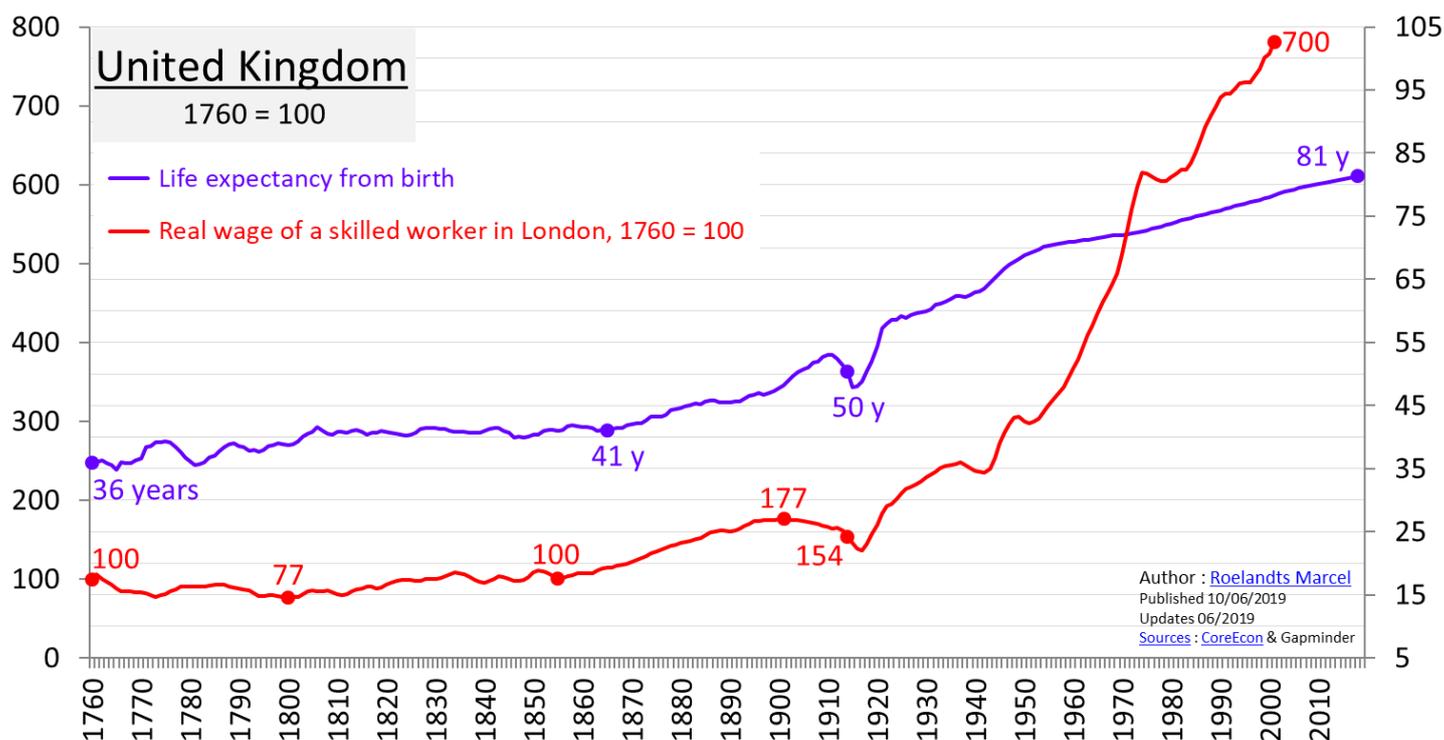
At the end of the 19th Century and the beginning of the 20th (1895-1917), there is a counter-offensive by the English employers to restrict the concessions granted during the previous four decades and to restore their profit rate (Grey, 2018). It succeeds partially, helped by a restoration of unemployment at the turn of the century, since real wages fall from 1901 to 1917 (Graph 2.1). The wages' share drops and the profits' share rises from 1890 to 1910 (Graph 2.3) ; since, the rate of surplus value soars from 1895 to 1917 (Graph 1.1), as does the profit rate from 1890 to 1910 (Graph 2.4).

However, if we look at the entire century and a half from the beginning of the industrial revolution to the outbreak of the Russian revolution (1917), and if we ignore the particular dynamics during its two sub-periods (1760-1855 for savage capitalism and 1855-1917 for colonial capitalism), it must be said that the real improvements in working class conditions are very meagre, especially in view of the enormous sacrifices made to achieve them, and compared to what the workers succeeded to obtain after the First World War. In fact, despite the fierce struggles to reduce an excessively long working time, it is still higher in 1914 than it was at the beginning of the industrial revolution ! More than a century of struggles has failed to recover the sharp increase in working time by nearly 800 annual hours imposed by the employers from 1760 to 1830. As for the real wages, after a decline and stagnation for a century, they have increased only very slightly and slowly until the First World War. Unemployment, although fluctuating between 3% and 10%, has been almost permanent from 1760 to the First World War (5.5% on average). Finally, with regard to social safety nets, social security and pensions, the timid progress is minimal and has only come about at the very end of this period. There remain the legal rights that have been obtained in hard-fought struggles, but whose practical provisions are rarely followed in practice. A significant fact attesting to the still miserable conditions of the wage earners after 150 years of capitalism :

millions of them are still pushed to emigrate on the eve of the First World War, in search of a less worse life. Thus, from 1861 to 1914, 45 million people emigrate from Europe to the United States (28 million), Canada (5 million), and Argentina (2 million) (Chalmin, 2019).

The same is true for life expectancy at birth, which offers a different point of view of the socio-economic and health status of a population at a given time (Graph 2.5). It evolves very weakly during the first century of savage capitalism (from 36 to 41 years of age from 1760 to 1865) and only progresses by about ten years thereafter until the First World War. It should be noted, however, that the evolution reproduced here is that of an average population, combining all social classes ; the life expectancy of a worker is obviously lower ! Thus, in the workers' cities par excellence of the English industrial revolution, Liverpool and Manchester, it is only 25 and 29 years respectively in 1860 (Szreter & Mooney, 1998), whereas it has already reached 41 years for the average English population ! Similarly, the life expectancy of a worker in France in 1913 is barely ± 35 years, whereas its average population already reaches an age of 53 years (Leridon, 2012). This is a measure not only of the misery of the living and working conditions of the workers during the first century and a half of modern capitalism, but of a very shortened life because of these conditions !

Graph 2.5 : Life expectancy from birth, UK (1760 - 2018) / Real wage of a skilled worker in London (1760 - 2001), UK 1760 = 100

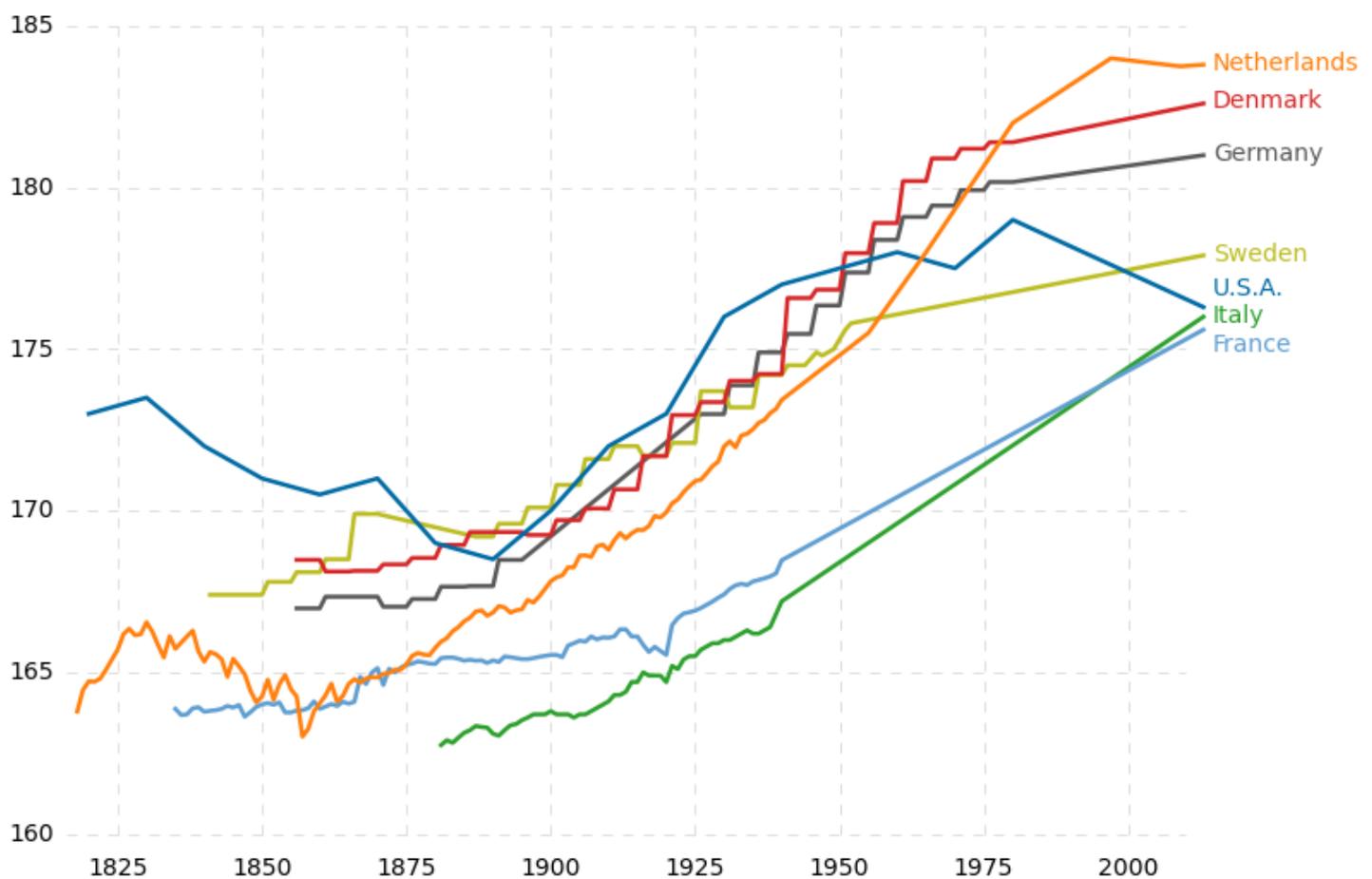


This state of endemic poverty in the working-class world will change significantly after the revolutionary explosions following the First World War, and even more

radically after the Second World War, given the much faster growth in real wages and of the reduction in working time. Thus, if life expectancy rises only by 14 years in one century and a half (1760-1914), it will rise twofold in less time: by more than 31 years in 104 years (1914-2018).

This multi-secular evolution is confirmed again if we observe variations in male body length. Thus, the median length of men generally declines, or remains stable, during the first century of savage capitalism. It slightly increases just since the last quarter of the 19th Century and rises significantly only in the 20th Century (Graph 2.6).

Graph 2.6 : Median male body length in various countries (1820 – 2013) ¹⁴



Sources: dx.doi.org/10.6084/m9.figshare.1066523 | Author: Randy Olson (randalolson.com / [@randal_olson](https://twitter.com/randal_olson))

¹⁴ Olson, R. S. (2014). [‘Why the Dutch are so tall?’](#)

Annex on the data and on methodology

**The grayed values have been included
in the text and in graphs**

	Life Expectancy	GDP/Capita	Productivity	Real Wage	Rate of Surplus Value	Annual Working Time	Unemployment Rate	World Population < \$0.9/day
	Years	Index	Index	Index	Index	Hours	%	%
Smoothed →	5 years	5 years	5 years	5 years	5 years	-	5 years	-
1760	36,0	100	100	100	100	2668	3,6	-
1800	38,7	120	119	77	155	3446	4,8	87
1827	41,3	126	136	98	139	3472	7,3	86
1830	41,5	128	140	100	140	3475	7,8	86
1842	41,5	137	160	100	159	3392	10	84
1855	41,0	148	187	100	186	3305	4,3	82
1865	41,0	172	208	114	182	3241	3,6	79
1870	42,1	183	230	121	189	3183	3,8	78
1873	42,6	193	243	129	188	3037	2,8	78
1901	48,2	255	312	177	177	2950	4,6	69
1913	51,3	282	339	161	210	2908	3,3	64
1914	50,3	283	344	154	223	2899	2,4	64
1917	48,8	311	350	136	258	2893	1,1	65
1918	50,5	313	339	145	234	2890	1,3	66
1919	52	280	329	156	211	2618	3,4	66
1945	66,0	405	418	273	153	2315	0,9	62
1974	72,6	681	873	616	142	1845	4,3	50
1975	72,8	691	886	614	144	1814	4,6	50
2001	78,3	1238	1482	780	190	1696	5,3	26
2015	80,9	1473	1636	-	-	1669	6,0	12
2016	81,0	-	-	-	-	1668	5,5	11
2018	81,3	-	-	-	-	-	-	11

Data sources for our graphs

Data on GDP per capita, labor productivity per worker and real wages (see below for more details) are from the Core project: : [Unit-2-data-file-for-charts.xlsx](#). Those on **life expectancy at birth** are from [version 7 of the Gapminder database](#). The **rate of surplus value** has been calculated in a traditional way, by dividing productivity by real wages (See below for more details). **Annual working time, unemployment rate, syndication rate** and the **number of social conflicts** in Great Britain were taken from the [Bank of England's historical database](#). The **level of industrialization in the world, developed countries** and the 'Third World' are drawn from the work of Paul Bairoch (Volume III p. 860, 1997). The **distribution of income worldwide** and the **number of people living below the absolute poverty line** are from [Our World in Data](#) (also available in the Gapminder database mentioned above).

Presentation of the data

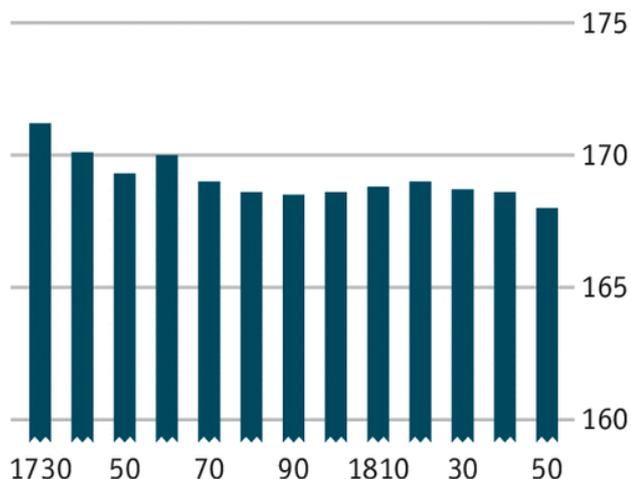
In order to better reveal the true trends, beyond purely cyclical variations, we have smoothed most of the data over five years, i.e. each annual value is replaced by the average of itself and the values of the two adjacent years. In order to better compare their respective evolution, we then transformed our data into indices starting on a given date, usually 1760. Finally, in the same vein, three of our graphs are presented on a logarithmic scale (instead of an arithmetic one) to better understand the respective growth rates of the indicators because, in this case, the slope of the curve gives us its growth rate.

Notes on the choice of the series on the evolution of real wages

From the various estimates of real wages' developments, we have chosen the most recent and consistent one. It is also the one that enjoys the largest consensus at the moment. It was prepared by one of the best economic historians at present : Robert C. Allen. It is based on estimates that were already considered as the best (those of Charles H. Feinstein and Gregory Clark), while improving them. It makes it possible to rule out with certainty a significantly divergent estimate prepared by Peter Lindert and Jeffrey Williamson, which is flawed and very ideologically oriented. Moreover, and not least, it is also corroborated by other sources and methods, such as changes in the average population height (see graph below), or in life expectancy at birth (idem). Indeed, the body height data follow the same trend as that of R. C. Allen's real wages. The same is true for life expectancy, which also suggests a deterioration in living conditions during the first century of the industrial revolution, only to improve from 1860 onward. Life expectancy in 1860 in the two centres of the industrial revolution, Liverpool and Manchester, of 25 and 30 years respectively, are a sufficient indication of the deterioration suffered by the working class during this first century of the industrial revolution (see graphs below).

Mean height of English soldiers

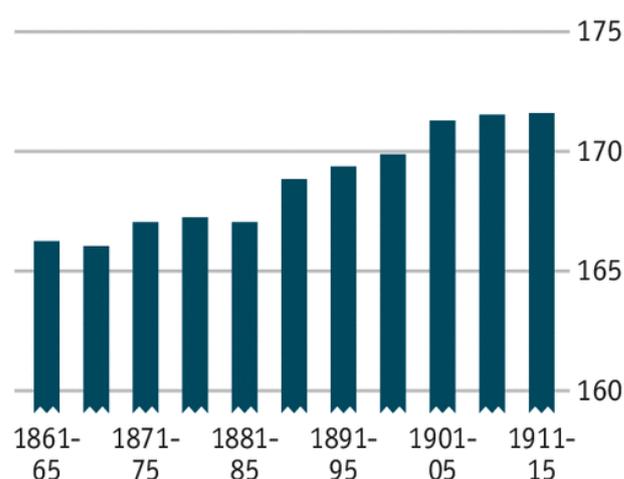
Aged 20-23 years old, cm



Source: Komlos, 1998

Mean height of men

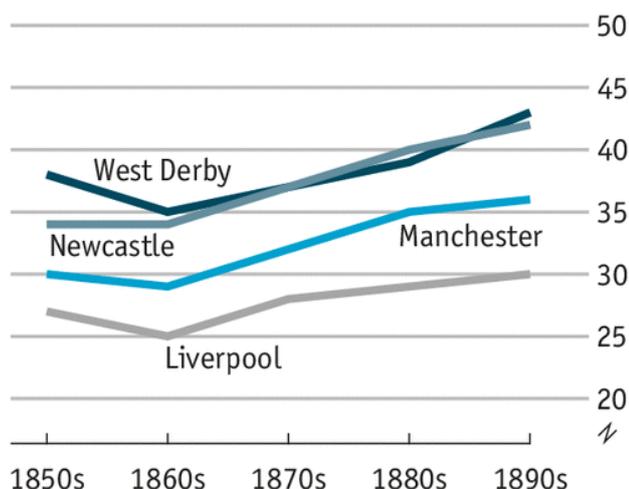
By birth cohorts, cm



Source: Hatton & Bray, 2010

Life expectancy at birth

Cities in England, years



Source: Szreter and Mooney, 1998

The calculation of the rate of surplus value in Great Britain

The rate of surplus value has been calculated as follows : starting with its classical formulation : **Surplus Value / Wages**, or : $(\text{NIP} - \text{Wages}) / \text{Wages}$, we have divided each term of the aforementioned expression by the wages. This results in : $(\text{NIP} / \text{Wages}) - 1$. By subsequently dividing the numerator and the denominator by the number of wage earners, the two determinants of the rate of surplus value are made to appear, labor productivity in the numerator and the real wages in the denominator : $(\text{NIP} / \text{Wage Earners} : \text{Wages} / \text{Wage Earners}) - 1$. In other words : **the rate of surplus value = (Productivity / Real Wage) - 1**. Its evolution depends thereby from the respective relationship between the variations of labor productivity and those of the real wage : if labor productivity increases more rapidly than the real wage, the rate of surplus value increases, and inversely. This approach permits to make the two essential determinants of

the rate of surplus value appear, and to escape from the delicate bookkeeping decisions posed by the calculation of the Gross Interior Product (GIP) and the wages over long periods, by relying on two very solid statistical series that constitute a near consensus among economic historians. Marx had well understood the whole importance of this relative relationship between the growing labor productivity and the increase of real wages, since he discerned one of the possible causes of overproduction crises in their growing mismatch : *“Over-production arises precisely from the fact that the mass of the people can never consume more than the average quantity of necessaries, that their consumption therefore does not grow correspondingly with the productivity of labour”*¹⁵.

¹⁵ Karl Marx, “Theories of Surplus Value” (1863), Vol.2, Ch. 16: Ricardo’s Theory of Profit, [3.] Law of the Diminishing Rate of Profit; [e] Ricardo’s Explanation for the Fall in the Rate of Profit and Its Connection with His Theory of Rent] (Translation by Progress Publishers, Moscow).

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