Piketty against Piketty. The tendency of the rate of profit to fall in United Kingdom and Germany since XIX century confirmed by Piketty´s data

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ABSTRACT - In Capital in 21st century, Thomas Piketty criticizes Marxian theory and the law of the tendency of the rate of profit to fall in the long term. His main argument, asserted by other authors since decades, is related to the capacity of increases in productivity to counterweight the tendency. The French author establishes a stable "rate of return" too, but this rate and his critics on Marx are founded on a neoclassical perspective. Thus Piketty denies the validity of the law but changing its determinations as a result of the labor theory of value and the valorization process. When a proper definition of the matter in Marxian terms is done, Piketty´s data itself confirms the law of the tendency of the rate of profit to fall.

Introduction

The work of Karl Marx has had a widespread influence in different academic disciplines. However, the interpretation of his work has been influenced by specific historical contexts. The current global crisis has renewed interest in his theory and its implications for the analysis of economics and modern history. The latter has involved a growing debate, not only between the Marxist school and neoclassical and Keynesian schools, but also within Marxism.

The crucial work of Marx, Capital, has seldom been considered in its real dimension. Throughout Capital, continuing the work of the classical economists of the theory of labor value as Smith and Ricardo, Marx unravels the determinations of the capitalist economy.

Recently, Thomas Piketty´s book, Capital in 21st century, attempted to deny the conclusions reached by Marx in his work, despite the fact that Piketty outlines some vindication of partial aspects of Marx. But as often happens, this partial claim hides a strong condemnation of the general results implied in Marx's analysis of capitalism. This article does not intend to be a review of

Capital in 21st century, but can be read too as a demonstration of Piketty´s mislead of Marxian economics and its results which, as we´ll demonstrate later, are well supported by empirical data. Actually, by Piketty´s own data for the British and German cases.[1]

1. The law of the tendency of the rate of profit to fall

Classical economists recognized in their own way the existence of this law of the tendency of the rate of profit to fall. Marx, however, has the merit to create a coherent and complete explanation. Ricardo´s explanation was related to the increase in labor costs. As Ricardo believed that agricultural production could expand only on worst lands, productivity in food manufacturing would fall, and being the main item consumed by the labor force, the cost of reproduction of the latter would be increased by reducing the share of profits in the product. However, the Ricardian assumption of a diminishing marginal productivity in agriculture (that neoclassical extrapolated to all productive activity) has proved unreal. The rate of profit shows a downward trend, not because productivity decreases, but precisely because it increases in historical terms.[2]

The necessity each capital has to sell at a lower price than competitors, and cover a larger market share, implies a constantly increasing expenditure mainly on fixed capital -equipment and infrastructure- which allows to increase productivity and to reduce the individual value of commodities, including the labor force. The relative growth of constant capital is given at the expense of variable capital for the reproduction of the labor force, the latter being the only source of profit. Capital thus finds its own internal limit. As such, its sole purpose is to increase the surplus value extracted from labor force, but its only mean is by the relative increasing of constant capital to variable capital.[3]

[1] Indeed, apparently Piketty has not read Capital by Marx, as he mentioned in an interview with New Republic (http://www.newrepublic.com/article/117655/thomas-piketty-interview-economist-discusses-his-distaste-marx). Piketty asserted: "I never managed really to read it". Unfortunately, most of the critics of Marx made a superficial reading of his work, criticizing, in the best case, the caricature of Marx that they have built. In this case the contrast between the total lack of Marx reading and the obvious reminiscence in the book title of Piketty is, at least, striking and disconcerting, presumably more related to marketing strategies.

[2] "A fall in the rate of profit and accelerated accumulation are different expressions of the same process only in so far as both reflect the development of productiveness". (Marx, 1894, p.166).

[3] "This continual relative decrease of the variable capital vis-a-vis the constant, and consequently the total capital, is identical with the progressively higher organic composition of the social capital in its average. It is likewise just another expression for the progressive development of the social productivity of labour, which is demonstrated precisely by the fact that the same number of labourers, in the same time, i.e., with less labour, convert an ever-increasing quantity of raw and auxiliary materials into products, thanks to the growing application of machinery and fixed capital in general". (Marx, 1894, p.146)

These determinations of the rate of profit are expressed as profits (P) in the numerator and capital in the denominator (K) or, dividing all terms by variable capital, stressing too in the formula the relevance of labor force as value source, as the rate of surplus value (P/VC) and the value composition of capital (VCC):

$$RoP = \frac{P}{K} = \frac{P/VC}{VCC} \qquad (I)$$

The downward trend in the rate of profit is not necessarily imposed in a steady pace, or is exempt from recovery periods. There are factors counteracting this trend, some of which have been identified by Marx (1894, pp. 159-164) and Grossmann (1929, pp. 72-131): cheapening of constant capital, payment of the labor force below its value, increasing turnover speed of circulating capital, capital export, foreign trade to expand markets, among others. Grossmann concludes that these countertendencies introduce cyclical trends on the long term one: ´The operation of these countertendencies transforms the breakdown into a temporary crisis, so that the accumulation process is not something continuous but takes the form of periodic cycles´ (1929, p. 74).

These counteracting factors may alleviate only in a relative way the decrease in the rate of profit on the long run. Their own characteristics, which initially tend to increase profitability, then get diluted or reversed in the opposite direction. For instance, if the cheapening of the elements of constant capital, reduces its relative value to variable capital, raising profitability, then will promote increased spending on constant capital, in the context of capitalist competition. In the case of capital export, in the new area where capital flows the capitalist accumulation process, despite its initial better accumulation conditions, tends to develop the same determinations and tendencies that in the exporting area. Thus, although initially this export of capital prevents its accumulation in the source area depresses even more the profit rate, even allowing a rise in the global profitability by increasing the rate in the new area, then accumulation trend continues to develop and is now expressed in both spaces, now falling the rate of profit in global terms.[4]

[4] Harman (1981) explained it in the following terms: “In the period 1880 to 1913 something like 15% of the British national product went into overseas investment. If invested in Britain, this would have had to increase the pressure for capital intensive investment domestically and to have reduced the rate of profit. (…)This ‘outside’ existed when capitalism was still restricted to the Western edge of the Eurasian land mass and to part of North America, with precapitalist forms of exploitation dominating even in those parts of the rest of the world which were integrated into the capitalist world market. But once imperialism had done its work, and capitalist forms of exploitation dominated more or less everywhere the ‘outside’ no longer existed. In a world of multinational corporations, surplus value which flows away from one area reducing the upward pressure on the organic composition of capital, merely serves to increase the upward pressure elsewhere. The average world rate of profit falls. The world system is driven to stagnation just as the national economy was in Marx’s time.”

Authors who denied the law often argued that by increasing productivity and the rate of surplus value, capital compensates the increase of the composition and the previous fall of the rate of profit, resulting in a general indetermination that is intertwined with a characterization of economic cycles as detached from any general long-term trend. Capitalism then it would be an eternal repetition of mutually compensatory increases and decreases.[5]

Rosdolsky asserted that those authors

> overlook that the increase in the rate of profit secured by raising the intensity of the exploitation of labour is no abstract procedure or arithmetical operation; (…) the surplus labour which a worker can perform has definite limits. On the one hand, the length of the working day, and on the other, the part of the working day necessary for the reproduction of the workers themselves (1968, p. 408).[6]

Moreover, labor shares showed, despite the decrease in recent decades, a smooth upward trend on the long run, while net profits reduced their share due to increases in shares of consumption of fixed capital and net taxes. These trends are not considered by Piketty who has focused on national income rather than the gross domestic product, but national income represented in 1855-1874 98,5% of GDP and just 88,4% in 1990-2009.[7] The gross surplus value, leaving aside net taxes, has to replenish the fixed capital transferred to ensure the continuity of the process of capitalist reproduction. Due to a long-term increase of fixed capital related to living labor, consumption of fixed capital will tend to extend its share on GDP. The reduction of net profits is progressively related to the accumulation of capital itself. This is not a casual relation, but the historical trend to over-accumulation of capital expressed in the functional distribution. So, surplus value rate, as net profits/wages, has indeed been decreasing.

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[5] See for instance Sweezy (1946, pp. 96-108), Robinson (1942, pp. 35-42), and more recently Heinrich (2013) and Reuten & Thomas (2011). Heinrich suggested that even with decreasing surplus value rate or profit share, to confirm the law, it has to be confirmed that capital value or composition has not been decreasing at a higher rate than surplus value rate.

[6] "If the normal working day amounts to 8 hours, no increase in productive power can squeeze more surplus labour out of the worker than 8 minus as many hours as correspond to the production of the wage. If the technique of production succeeded in reducing the necessary labour-time from e.g. 4 hours to half an hour, then surplus labour would still not come to more than 15/16 of the working day (with an 8-hour day) ; it would increase from 4 to 7i; i.e. not even double. At the same time the productivity of labour would have to grow enormously(…)The larger the surplus-value of capital before the increase of productive force, the larger the amount of presupposed surplus labour, or surplus-value of capital; or the smaller the fractional part of the working day which forms the equivalent of the worker, which expresses necessary labour, the smaller is the increase in surplus-value which capital obtains from the increase of productive force. Its surplus-value rises, but in an ever smaller relation to the development of the productive force." (Rosdolsky,1968, pp. 408-409).

[7] See Piketty´s TableUK8 in his UK dataset. National income considers profits and wages, while gross domestic product considers profits, wages, consumption of fixed capital and net taxes. As Piketty focused on national income, the rising share on consumption of fixed capital and net taxes hasn´t been properly considered.

In Marx's terms, downward trend on the rate of profit would take place regardless of a decline or stagnation in wages relative to profits, i.e., a rate of surplus value (profits/variable capital) constant or increasing:

> This mode of production produces a progressive relative decrease of the variable capital as compared to the constant capital, and consequently a continuously rising organic composition of the total capital. The immediate result of this is that the rate of surplus-value, at the same, or even a rising, degree of labour exploitation, is represented by a continually falling general rate of profit. The progressive tendency of the general rate of profit to fail is, therefore, just an expression peculiar to the capitalist mode of production of the progressive development of the social productivity of labour (1894, p.146).

Another expression of the relation between the cyclical crisis and the downward trend in the rate of profit is given by the concentration and centralisation of capital, the mechanism by which, during crisis, capital increases its productive force absorbing or leaving out of competition the less concentrated ones. As a counterpart to the downward trend in the rate of profit, historical trend in concentration and centralisation of capital, also ignored by critics in this regard, has developed and currently reaches enormous proportions worldwide.[8]

In conclusion, the law expresses the historical transience of capital as a mode of production and its historical limits. Nonetheless, the debates on this issue lacked of empirical support. In the next section, considering the German and British case and demonstrate with Piketty´s own data the tendential fall in the rate of profit and the reasons and definitions that Piketty introduce to assert a flat and stable trend in his "rate of return". The results strongly support the law of the tendential fall in the rate of profit, despite a smooth recovery in last decades.

2. Piketty´s stable "rate of return" and the Marxian rate of profit

In first place, Piketty's critique of Marx is based on assertions with no real relation to Marxian economics due to Piketty´s confessed own lack of read. According to the French economist, ´like his predecessors, Marx totally neglected the possibility of durable technological progress and steadily increasing productivity, which is a force that can to some extent serve as a counterweight to the process of accumulation and concentration of private capital´ (Piketty, 2014, p. 10).

[8] "On the other hand, a fall in the rate of profit again hastens the concentration of capital and its centralisation through expropriation of minor capitalists, the few direct producers who still have anything left to be expropriated. This accelerates accumulation with regard to mass, although the rate of accumulation falls with the rate of profit" (Marx, 1894, p. 166).
See also Nolan and Zhang (2010).

Above we have developed some arguments against this kind of objections. Piketty claims, like other authors previously mentioned, that productivity (the rate of surplus, or even GDP per capita) may counterweight the downward trend. According to Marxian theory, this could be the case for some periods, but not the long term. Beyond the latter, the Marxian theory clearly states that the decline in profitability in the long term is closely related to the increase in productivity, so the argument set out by Piketty corresponds more to a misreading of Marx´s work than to Marx's work itself. There is no contradiction between the tendency to fall in the rate of profit and increase in productivity.

On the other hand, Piketty asserts that the rate of profit in the long term both in France and Great Britain ´has oscillated around a central value of 4-5 percent a year, or more generally in an interval from 3-6 percent a year. There has been no pronounced long-term trend either upward or downward´ (Piketty, 2014, p.206). It also seems to be the case for other countries like Germany.

However, Piketty´s "rate of return" consider "capital", in the denominator of the equation, as a synonymous of "wealth".

> I define "national wealth" or "national capital" as the total market value of everything owned by the residents and government of a given country at a given point in time, provided that it can be traded on some market. It consists of the sum total of nonfinancial assets (land, dwellings, commercial inventory, other buildings, machinery, infrastructure, patents, and other directly owned professional assets) and financial assets (bank accounts, mutual funds, bonds, stocks, financial investments of all kinds, insurance policies, pension funds, etc.), less the total amount of financial liabilities (debt) (Piketty, 2014, p,48).

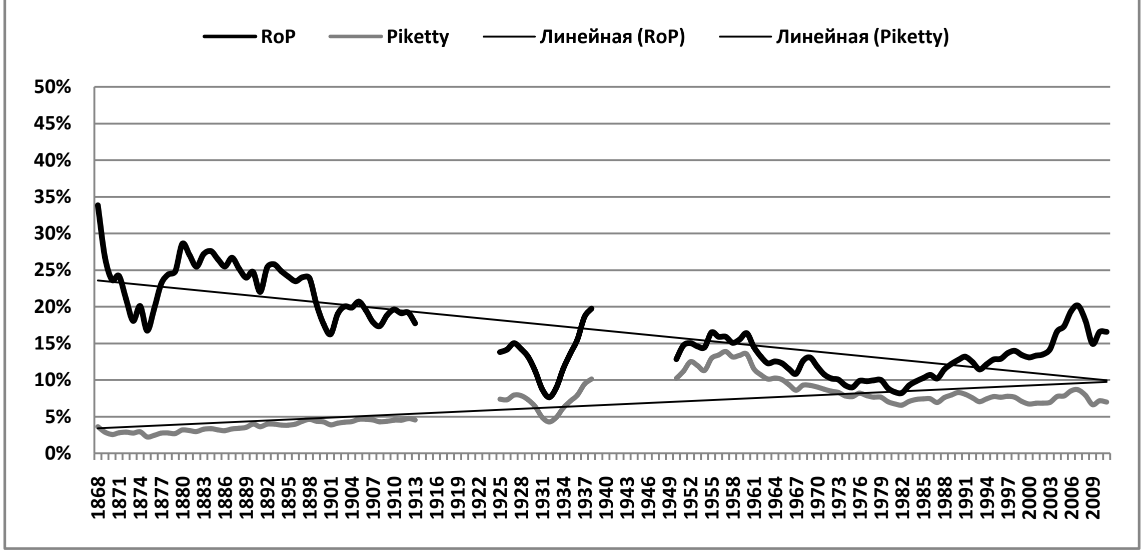
The author is fully aware of some implications of this definition related to his particular perspective influenced by neoclassical theory. But Marx´s approach has no relation with that particular definition of capital. Moreover, in Marxian terms the rate of profit is calculated considering productive assets, conventionally machines and equipment, infrastructure and non-residencial buildings. Thus Piketty denies the validity of the law of the tendency to fall of the rate of profit but changing its determinations as a result of the labor theory of value and the valorization process.

The capitalist production process is a valorization process (M - M') through the exploitation of the labor force (M - C ... P ... - C ' - M'). The capital advanced in the form of money (M) is exchanged for commodities (C) - means of production, inputs (constant capital, CC) and labor (variable capital, VC) - . The labor force, unlike the means of production and inputs, has the power to generate an additional value that required to its own reproduction. Thus, the production process itself (P) in which the labor force, using the means of production, transforms inputs is realized, resulting in a mass of commodities of a greater value than the prior (M '). In the final product appears transferred this constant capital employee, plus an additional amount generated by labor force, equal to variable capital (reproduction value of labor force) exchanged with the capitalist, and a surplus-value. Thus capital transmutes from money-capital to commodity-capital, then productive-capital, to finally return to the form of commodity-capital and money-capital of a greater value. This last step is the one that involves the sale on the market (C'-M '), the realization of the profit and the completion of the valorization process.

Fixed capital, consisting of means of production, increases from the succession of this circuit that allows the valorization of capital in general, from M to M ', but performing the entire circuit which implies, by the way, successive shapes taking by capital: money-capital, commodity-capital, productive-capital.

In Piketty´s perspective, capital is not related to the production or valorization process. As a synonym for the word “wealth”, any good or service exchangeable in the market is capital. But the trends described by Marx refer to capitalist production. In this respect, any assessment of Marxian theory, even its empirical validation, has to consider this basic aspect in its analysis. In such a way, “dwellings” should not be considered part of the capital, as particular consumer goods rather than means of production. Similar considerations may be stated in other cases like “financial assets” (a pure circuit M-M´) or “land”.

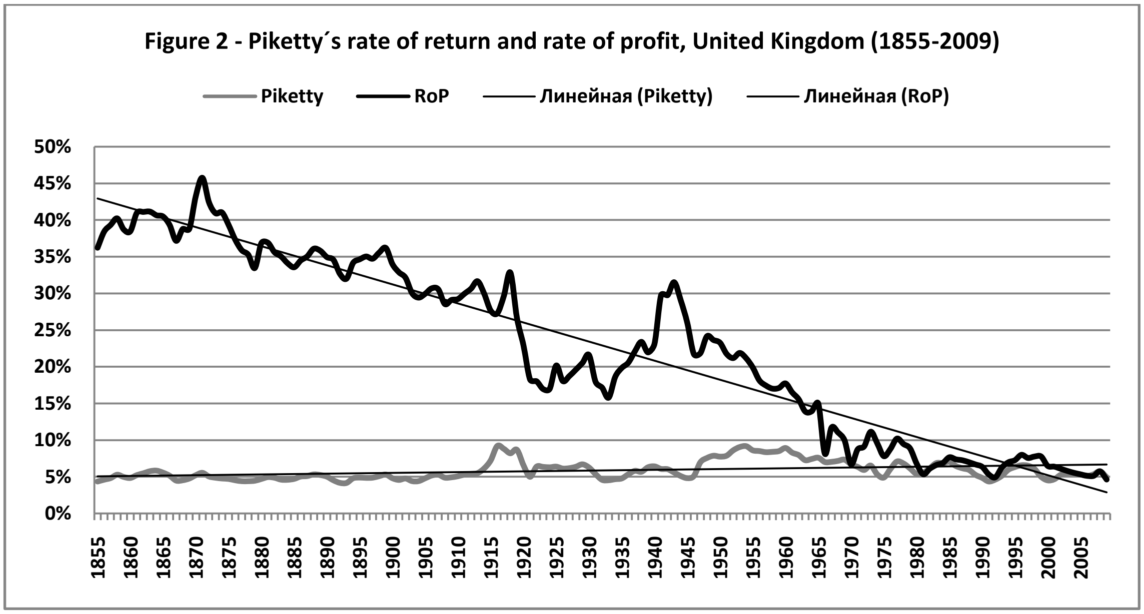
Figure 1 - Piketty rate of return and rate of profit, Germany (1868-2011)



Source: own elaboration based on Piketty (2014).

Ironically, using Piketty´s own data we can express the historical evolution of the rate of profit in a Marxian sense, which presents a clear downward trend and strongly denies what Piketty asserted. In

Figure 1, “total capital income” of Piketty has been divided by “total private wealth” (similar to his own “rate of return”) and by “business assets”, both in current terms, available in Piketty´s dataset for Germany (tables DATADE1C for 1868-1939, and DATADE2B -Machinery and Other Buildings- for 1950-2011).

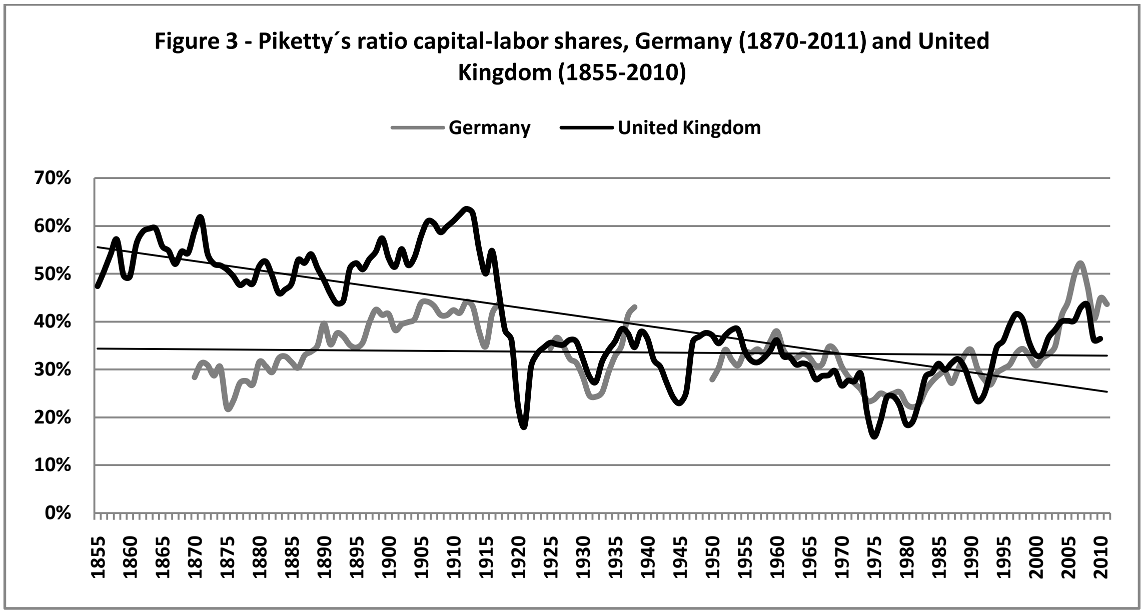


Source: own elaboration based on Piketty (2014) and ONS.

For the British case, in Figure 2, we used Piketty´s stats on “total capital income” share (table UK11A) and “total private wealth” (table UK1, in 2010 billion pounds) for his “rate of return”, and official series of ONS for real productive capital for the rate of profit. This estimation is, as Piketty consider the right way, in real terms. In nominal or current terms, the right way in Marxian terms, the downward trend is a little bit less pronounced because constant capital cheapening effect is cancelled as relative prices of investment and output are excluded.

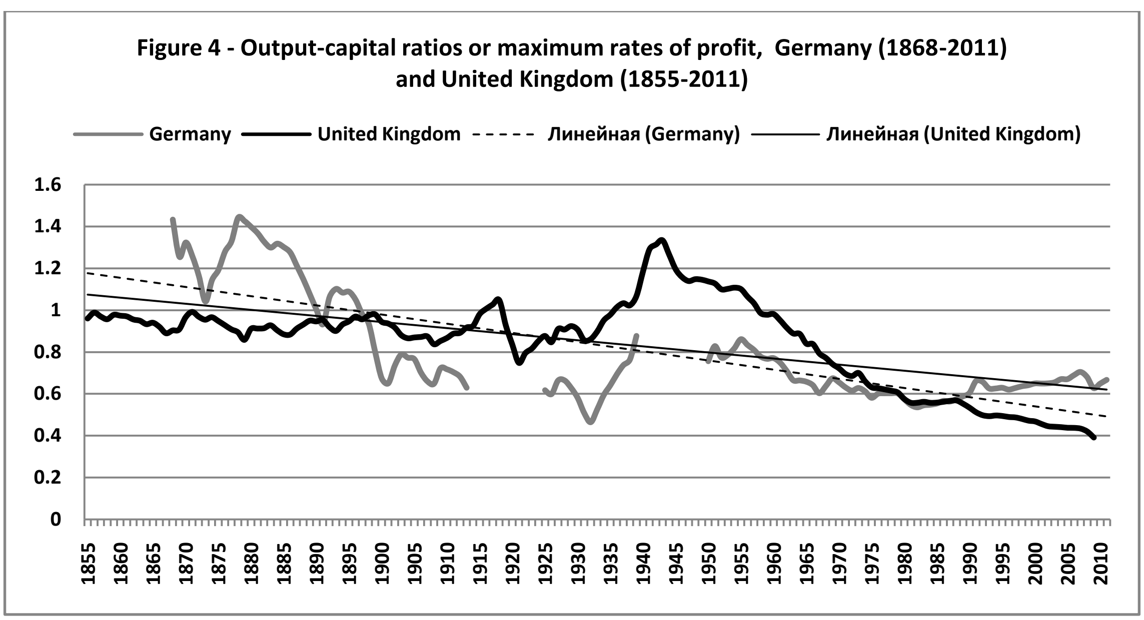
Increases in productivity or the simple rate of surplus value have not shown a development that could counteract the downward trend in the rate of profit, contrary to the assertions of many authors.

Figure 3 includes ratios of capital-labor shares on national income from Piketty´s tables UK11A and DE11B as a measure of the simple surplus value rate (P/VC). In both countries the ratio has remained stable within a certain percentage range.



Source: Piketty (2014).

On the other hand, increases in productivity could counterweight the downward trend not only by increasing surplus value rate but increasing, despite the relative stability in the latter, in general the value added relative to fixed productive capital. Although the stable or even falling surplus value rate on the long term, larger increases in value added than in fixed capital, could counterweight the tendency. This should be expressed in the output-capital ratio, or the maximum rate of profit (the rate for the extreme case in which the time required for reproduction of the labor force has been reduced to zero and all the value added became profit).



Source: own elaboration based on Piketty (2014) and ONS.

But that was not the case neither, as Figure 4 shows. Here we use the same capital measures that we used in Figures 1 and 2, while in the numerator for Germany we included national income from Piketty´s table DE1 and real GDP from ONS in the British case.

The downward trend in the rate of profit is based, firstly, in what the output-capital ratio, or maximum rate of profit, reflects: the inherent trend of capital to its own over-accumulation.

3. Conclusions

Despite the unfounded critics on Marx in Capital in 21st century, in this article the law of the tendency of the rate of profit to fall has been empirically validated with Piketty´s data. On the other hand, as we mentioned above, the French economist aimed to discredit this Marxian law but introducing a neoclassical definition of capital that affects the estimations. As a result, his "rate of return" shows, both in Germany and United Kingdom, a smooth upward trend.

Piketty´s critics on Marx related to a counterweight by productivity increases which cancel the downward trend just mislead the matter. Profitability in capitalism tends to fall despite, or even with, productivity increases. This is a basic conclusion of Marx´s Capital. And the evidence presented here not only refutes Piketty´s arguments but other authors, really a huge majority even within Marxism.

Across the relative stability on Piketty´s rate, his "wealth" shares changed in the long run. In XIX century and first decades of the XX, "land" and other items, which does not take part in a Marxian definition of productive capital, has a longer share. In last decades, machinery and non-residential buildings showed a larger relative increase. For this reason, levels of Piketty´s and Marxian rates show some convergence in the long term. And for that reason too, Piketty´s "rate of return" will probably continue to show a "Marxian" downward trend like it showed since the sixties (see Figures 1 and 2).

Finally, Piketty´s "rate of return" doesn´t show any relation with history or historical development of capitalism. In this sense, logically, Piketty seems to consider, for instance, World War I and II as external events related to capitalism. In fact, this a-historical approach and naturalization of capitalism leads Piketty to state a "rate of return" for ancient civilizations. And a rate that has an eternal entity could be hardly related with the historical development of the capitalist mode of production and its inherent tendency.

Statistical Annex: Piketty´s Rate of Return (P-RoR, Total capital income / Total private wealth) and Rate of Profit (RoP, Total capital income / Fixed Capital).

GERMANY 1868-2011

	P-RoR	RoP		P-RoR	RoP		P-RoR	RoP		P-RoR	RoP
1868	3,6%	33,8%	**1904**	4,3%	19,9%	**1940**			**1976**	8,2%	9,9%
1869	2,9%	26,8%	**1905**	4,6%	20,7%	**1941**			**1977**	7,9%	9,8%
1870	2,5%	23,7%	**1906**	4,6%	19,5%	**1942**			**1978**	7,6%	9,9%
1871	2,8%	24,2%	**1907**	4,5%	17,9%	**1943**			**1979**	7,6%	10,0%
1872	2,9%	21,0%	**1908**	4,3%	17,3%	**1944**			**1980**	7,0%	8,9%
1873	2,7%	18,0%	**1909**	4,3%	18,8%	**1945**			**1981**	6,7%	8,3%
1874	2,9%	20,1%	**1910**	4,5%	19,6%	**1946**			**1982**	6,6%	8,2%
1875	2,2%	16,7%	**1911**	4,5%	19,1%	**1947**			**1983**	7,0%	9,2%
1876	2,4%	19,7%	**1912**	4,7%	19,2%	**1948**			**1984**	7,3%	9,8%
1877	2,7%	23,1%	**1913**	4,5%	17,7%	**1949**			**1985**	7,4%	10,3%
1878	2,8%	24,4%	**1914**			**1950**	10,2%	12,8%	**1986**	7,4%	10,7%
1879	2,7%	24,8%	**1915**			**1951**	11,2%	14,7%	**1987**	6,9%	10,2%
1880	3,2%	28,6%	**1916**			**1952**	12,5%	15,0%	**1988**	7,6%	11,4%
1881	3,1%	27,1%	**1917**			**1953**	12,0%	14,6%	**1989**	7,9%	12,2%
1882	3,0%	25,4%	**1918**			**1954**	11,3%	14,5%	**1990**	8,3%	12,7%
1883	3,3%	27,2%	**1919**			**1955**	12,9%	16,5%	**1991**	8,0%	13,1%
1884	3,3%	27,6%	**1920**			**1956**	13,4%	15,9%	**1992**	7,6%	12,4%
1885	3,2%	26,5%	**1921**			**1957**	13,9%	15,9%	**1993**	7,0%	11,4%
1886	3,1%	25,5%	**1922**			**1958**	13,1%	15,1%	**1994**	7,4%	12,1%
1887	3,3%	26,7%	**1923**			**1959**	13,4%	15,5%	**1995**	7,7%	12,8%
1888	3,4%	25,2%	**1924**			**1960**	13,5%	16,4%	**1996**	7,6%	12,9%
1889	3,5%	24,0%	**1925**	7,3%	13,8%	**1961**	11,5%	14,5%	**1997**	7,7%	13,6%
1890	4,0%	24,7%	**1926**	7,3%	14,1%	**1962**	10,7%	13,2%	**1998**	7,6%	14,0%
1891	3,6%	22,0%	**1927**	7,9%	15,0%	**1963**	10,1%	12,3%	**1999**	7,1%	13,4%
1892	4,0%	25,3%	**1928**	7,9%	14,2%	**1964**	10,2%	12,5%	**2000**	6,7%	13,1%
1893	4,0%	25,8%	**1929**	7,3%	13,1%	**1965**	10,0%	12,3%	**2001**	6,8%	13,3%
1894	3,8%	24,8%	**1930**	6,3%	11,2%	**1966**	9,3%	11,5%	**2002**	6,8%	13,5%
1895	3,8%	24,1%	**1931**	4,9%	8,7%	**1967**	8,6%	10,8%	**2003**	6,9%	14,2%
1896	4,0%	23,5%	**1932**	4,3%	7,6%	**1968**	9,3%	12,6%	**2004**	7,7%	16,6%
1897	4,3%	24,0%	**1933**	4,9%	8,9%	**1969**	9,2%	13,0%	**2005**	7,8%	17,3%
1898	4,6%	23,9%	**1934**	6,2%	11,5%	**1970**	9,0%	11,8%	**2006**	8,5%	19,4%
1899	4,4%	20,3%	**1935**	7,1%	13,6%	**1971**	8,7%	10,7%	**2007**	8,6%	20,1%
1900	4,3%	17,6%	**1936**	7,9%	15,5%	**1972**	8,5%	10,2%	**2008**	7,9%	18,1%
1901	3,9%	16,2%	**1937**	9,4%	18,6%	**1973**	8,3%	10,0%	**2009**	6,6%	14,9%
1902	4,1%	19,0%	**1938**	10,1%	19,7%	**1974**	7,8%	9,2%	**2010**	7,1%	16,5%
1903	4,2%	20,0%	**1939**			**1975**	7,7%	9,0%	**2011**	7,0%	16,5%

UNITED KINGDOM 1855-2009

	P-RoR	RoP		P-RoR	RoP		P-RoR	RoP		P-RoR	RoP
1855	4,3%	36,2%	**1894**	4,8%	34,2%	**1933**	4,5%	15,8%	**1972**	5,9%	9,1%
1856	4,6%	38,4%	**1895**	4,9%	34,6%	**1934**	4,7%	18,6%	**1973**	6,5%	11,1%
1857	4,8%	39,3%	**1896**	4,8%	35,0%	**1935**	4,8%	19,8%	**1974**	5,3%	9,5%
1858	5,3%	40,2%	**1897**	4,9%	34,7%	**1936**	5,3%	20,5%	**1975**	4,9%	7,8%
1859	5,0%	38,7%	**1898**	5,1%	35,6%	**1937**	5,8%	22,1%	**1976**	6,1%	8,8%
1860	4,8%	38,5%	**1899**	5,3%	36,2%	**1938**	5,7%	23,4%	**1977**	7,1%	10,2%
1861	5,2%	41,0%	**1900**	4,8%	34,0%	**1939**	6,3%	22,0%	**1978**	6,8%	9,4%
1862	5,5%	41,1%	**1901**	4,6%	32,9%	**1940**	6,4%	23,1%	**1979**	6,1%	8,9%
1863	5,8%	41,2%	**1902**	4,8%	32,1%	**1941**	6,1%	29,8%	**1980**	5,4%	6,8%
1864	5,8%	40,7%	**1903**	4,4%	30,0%	**1942**	6,0%	29,8%	**1981**	5,6%	5,3%
1865	5,6%	40,5%	**1904**	4,4%	29,4%	**1943**	5,6%	31,5%	**1982**	6,2%	6,1%
1866	5,1%	39,3%	**1905**	4,8%	29,9%	**1944**	5,1%	29,1%	**1983**	6,9%	6,6%
1867	4,5%	37,2%	**1906**	5,2%	30,7%	**1945**	4,8%	26,0%	**1984**	6,9%	6,9%
1868	4,5%	38,8%	**1907**	5,3%	30,6%	**1946**	5,1%	21,7%	**1985**	7,0%	7,6%
1869	4,8%	38,8%	**1908**	4,9%	28,5%	**1947**	7,0%	21,8%	**1986**	6,5%	7,4%
1870	5,2%	43,3%	**1909**	4,9%	29,1%	**1948**	7,6%	24,2%	**1987**	6,1%	7,2%
1871	5,5%	45,8%	**1910**	5,1%	29,2%	**1949**	7,9%	23,6%	**1988**	5,9%	7,0%
1872	5,0%	42,4%	**1911**	5,3%	30,0%	**1950**	7,7%	23,3%	**1989**	5,2%	6,7%
1873	4,9%	40,9%	**1912**	5,4%	30,6%	**1951**	7,9%	21,7%	**1990**	4,8%	6,3%
1874	4,8%	41,0%	**1913**	5,5%	31,7%	**1952**	8,6%	21,2%	**1991**	4,4%	5,3%
1875	4,7%	39,3%	**1914**	6,1%	30,0%	**1953**	9,1%	21,9%	**1992**	4,6%	4,9%
1876	4,5%	37,3%	**1915**	7,2%	27,6%	**1954**	9,2%	21,1%	**1993**	5,1%	6,2%
1877	4,4%	35,9%	**1916**	9,2%	27,3%	**1955**	8,6%	19,9%	**1994**	6,0%	7,0%
1878	4,4%	35,3%	**1917**	8,8%	29,6%	**1956**	8,5%	18,1%	**1995**	6,3%	7,2%
1879	4,4%	33,5%	**1918**	8,2%	32,8%	**1957**	8,4%	17,4%	**1996**	6,6%	8,0%
1880	4,7%	36,9%	**1919**	8,7%	26,7%	**1958**	8,4%	17,0%	**1997**	6,5%	7,5%
1881	4,9%	36,9%	**1920**	6,6%	22,9%	**1959**	8,5%	17,1%	**1998**	6,1%	7,7%
1882	4,9%	35,6%	**1921**	5,0%	18,3%	**1960**	8,9%	17,7%	**1999**	5,0%	7,8%
1883	4,6%	35,1%	**1922**	6,4%	18,0%	**1961**	8,3%	16,5%	**2000**	4,5%	6,5%
1884	4,6%	34,1%	**1923**	6,3%	16,9%	**1962**	8,0%	15,6%	**2001**	4,6%	6,4%
1885	4,7%	33,6%	**1924**	6,3%	17,0%	**1963**	7,3%	13,9%	**2002**	5,3%	6,1%
1886	5,0%	34,5%	**1925**	6,4%	20,2%	**1964**	7,4%	13,9%	**2003**	5,5%	5,8%
1887	5,1%	35,1%	**1926**	6,1%	18,0%	**1965**	7,6%	15,0%	**2004**	5,4%	5,5%
1888	5,3%	36,1%	**1927**	6,2%	18,7%	**1966**	7,0%	8,1%	**2005**	5,3%	5,3%
1889	5,2%	35,8%	**1928**	6,4%	19,6%	**1967**	7,0%	11,7%	**2006**	5,1%	5,1%
1890	5,0%	35,0%	**1929**	6,7%	20,5%	**1968**	7,2%	11,0%	**2007**	5,3%	5,1%
1891	4,5%	34,6%	**1930**	6,3%	21,6%	**1969**	7,3%	10,0%	**2008**	5,7%	5,7%
1892	4,2%	32,6%	**1931**	5,4%	17,9%	**1970**	6,7%	6,7%	**2009**	4,9%	4,6%
1893	4,1%	32,0%	**1932**	4,6%	17,1%	**1971**	6,3%	8,7%			

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