



## Rejecting The Marxian Conjecture Of A Falling Rate Of Profit

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### Abstract

*In this article, the vexata quaestio concerning a supposed, spontaneous propensity of the rate of profit to fall along with the technological progress is dealt with. In the end it is found out that no such a general trend might easily be supposed: plausibly, no propensity may be expected at all, either towards a fall or an increase.*

### Introduction: a hoped-for <<law>>.

Ever since the release of *Das Kapital*, Karl Marx and his followers have been trying to assert the thesis that, in the long run, as technology progresses an inevitable tendency would affect the rate of profit making it to decrease unless capitalists increase the exploitation of labor force [1].

The cases made to justify such a trend are various. At the beginning, Marx himself argued that the rate of profit should diminish as a consequence of the increasing mechanization characterizing the production of commodities in the capitalistic system. According to him, such trend would heighten the denominator of the ratio between profits and total capital. As a consequence, the capitalists would be forced to enhance the exploitation of the labor force and eventually capitalism should collapse for an inherent, unstoppable process.

But as time went by and no collapse happened or was in view many economists were led to assume capitalism's resilience was due to productivity increases in the making of capital goods. Therefore, some scholars put forth new, more sophisticated reasons why in the long run the rate of profit may lower. These novel explanations usually rest on the possibility of differential courses in

the labor productivity between the two macro-sectors, that of fixed capital goods, on the one hand, and that of necessities (i.e. goods required for the subsistence of workers) on the other. If in the first productivity falls behind that of the subsistence goods then the ratio between the two labor- values, namely the "organic composition of capital", will tend to increase and this circumstance, according

to the Marxian surplus equation (1) :

$$p = s / ((c/v) + 1) \quad (1)$$

makes the rate of profit "p" decrease, since the organic composition of the capital "c/v" - i.e. the ratio in terms of incorporated labor between fixed capital (equipment) and variable capital (necessaries) - rises as well.

### Assessing the problem correctly

We know that, as such, Marx's equation is wrong.

Since p is determined simultaneously with the prices of commodities, it has to result as a ratio of the price of the surplus over that of social capital. And, generally, the labor-value of each commodity's is determined by the its idiosyncratic production method and those of its (direct and indirect) production means, whereby the quantities of any two commodities do not exchange proportionally to their labor-values, nor do two of any aggregates of commodities, because they normally will be heterogeneous to each other.

An exception to this rule, though, clearly holds for the relative prices of reciprocally homogeneous aggregates, namely aggregates made up by the same commodities taken in the same relative proportions. This consideration paves the way for successful the attempt, based on the theoretical concepts of the Standard Commodity & Standard System devised by Piero Sraffa [2], at overcoming the difficulties encountered by Marx. Indeed, in Sraffa's Standard System, the rate of profit might as well be determined as ratio between homogeneous quantities, provided that all the aggregates at play in the Marxian surplus equation are reciprocally homogeneous, each of them consisting of Standard Commodity.

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### Sorting out a theoretical mess

Moving on to the Sraffian context, the rate of profit becomes “r”, and, within the Standard System, where the composite Standard Commodity is produced by employing itself as means of production along with labor: the total net product amounts to 1 and its labor-value is 1; whereby the labor-value of the labor force, which is paid for (in advance, following Marx) by the wage  $w$ , is equal to  $w$ , while the labor-value of the surplus is  $1 - w$ .

By replacing these symbols and expressions within the Equation (2) we have:

$$r = (1-w) / (c + w) = ((1-w) / w)w / ((c/w) + 1) \quad (2)$$

Given the wage, Equation (2) is still indeterminate since whatever  $w$ ,  $r$  varies along with the fixed capital “C”. We can finally get rid of such residual Marxian symbol by posing “ $w = 0$ ”, whereby the value of  $r$  results to be fixed at its maximum level “R” – which corresponds to null wage and so is equal to the net reproduction rate of the Standard Commodity. Therefore we have:

$$c = 1/R \quad (3)$$

and, furthermore:

$$r = ((1-w)) / (1/R + w) = ((1-w) / w) / (((1/R) / w) + 1) \quad (4)$$

In the end, the movements of the rate of profit for the whole economy are ruled by the trends of two rates within the Standard System: the rate of labor exploitation and the organic composition of capital. The only requirement for this assertion is

that also the wage is expressed in Standard Commodity, so that all of the three aggregates in Equation (4) exchange according to their own labor-values, being reciprocally homogeneous.

### Conclusion: one good, one pure number: any room for the Marxian conjecture?

Eventually, the subject becomes less obscure: clearly, no space appears to be left for those arguments based on different labor productivities in various sectors, because an equation where the rate of profit is determined through ratios among quantities of labor incorporated can only be written by assuming that in such formula just appear quantities of a single (composite) commodity. Nonetheless, the organic composition of capital does vary along with the technical change.

Which tendency might we expect from these movements over time? At first sight, no general trend may simply be argued for in advance. The organic composition of capital for a given wage only changes with the R net reproduction ratio of the Standard Commodity, and such “R” is a pure number, not a magnitude about which empirical and testable conjectures might be easily devised - if any, while we continue our reasoning within the Classical approach and follow the lesson by Adam Smith, we could even suppose that R would tend to increase as the division of labor constantly deepens in the capitalistic economic system.

### References

1. Marx K. Capital. Mineola, N Y Dover Publications. 2011.
2. Sraffa P. Production of Commodities by Means of Commodities. Cambridge: Cambridge University Press. 1960.