

## ***Part III***

### **The Law of the Tendency of the Rate of Profit to Fall**

## **Chapter 13. The Law As Such**

Assuming a given wage and working-day, a variable capital, for instance of 100, represents a certain number of employed labourers. It is the index of this number. Suppose £100 are the wages of 100 labourers for, say, one week. If these labourers perform equal amounts of necessary and surplus-labour, if they work daily as many hours for themselves, *i.e.*, for the reproduction of their wage, as they do for the capitalist, *i.e.*, for the production of surplus-value, then the value of their total product = £200, and the surplus-value they produce would amount to £100. The rate of surplus-value,  $s/v$ , would = 100%. But, as we have seen, this rate of surplus-value would nonetheless express itself in very different rates of profit, depending on the different volumes of constant capital  $c$  and consequently of the total capital  $C$ , because the rate of profit =  $s/C$ . The rate of surplus-value is 100%:

If  $c = 50$ , and  $v = 100$ , then  $p' = 100/150 = 66\frac{2}{3}\%$ ;

$c = 100$ , and  $v = 100$ , then  $p' = 100/200 = 50\%$ ;

$c = 200$ , and  $v = 100$ , then  $p' = 100/300 = 33\frac{1}{3}\%$ ;

$c = 300$ , and  $v = 100$ , then  $p' = 100/400 = 25\%$ ;

$c = 400$ , and  $v = 100$ , then  $p' = 100/500 = 20\%$ .<sup>1</sup>

This is how the same rate of surplus-value would express itself under the same degree of labour exploitation in a falling rate of profit, because the material growth of the constant capital implies also a growth — albeit not in the same proportion — in its value, and consequently in that of the total capital.

If it is further assumed that this gradual change in the composition of capital is not confined only to individual spheres of production, but that it occurs more or less in all, or at least in the key spheres of production, so that it involves changes in the average organic composition of the total capital of a certain society, then the gradual growth of constant capital in relation to variable capital must necessarily

lead to a *gradual fall of the general rate of profit*, so long as the rate of surplus-value, or the intensity of exploitation of labour by capital, remain the same. Now we have seen that it is a law of capitalist production that its development is attended by a relative decrease of variable in relation to constant capital, and consequently to the total capital set in motion. This is just another way of saying that owing to the distinctive methods of production developing in the capitalist system the same number of labourers, *i.e.*, the same quantity of labour-power set in motion by a variable capital of a given value, operate, work up and productively consume in the same time span an ever-increasing quantity of means of labour, machinery and fixed capital of all sorts, raw and auxiliary materials-and consequently a constant capital of an ever-increasing value. 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. To this growing quantity of value of the constant capital — although indicating the growth of the real mass of use-values of which the constant capital materially consists only approximately — corresponds a progressive cheapening of products. Every individual product, considered by itself, contains a smaller quantity of labour than it did on a lower level of production, where the capital invested in wages occupies a far greater place compared to the capital invested in means of production. The hypothetical series drawn up at the beginning of this chapter expresses, therefore, the actual tendency of capitalist production. 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. (We shall see later [Present edition: Ch. XIV. — *Ed.*] why this fall does not manifest itself in an absolute form, but rather as a tendency toward a progressive fall.) The progressive tendency of the general rate of profit to fall is, therefore, just *an expression peculiar to the capitalist mode of production* of the progressive development of the social productivity of labour. This does not mean to say that the rate of profit may not fall temporarily for other reasons. But proceeding from the nature of the capitalist mode of production, it is thereby proved logical necessity that in its development the general average rate of surplus-value must express itself in a falling general rate of profit. Since the mass of the employed living labour is continually on the decline as compared to the mass of materialised labour set in motion by it, *i.e.*, to the productively consumed means of production, it follows that the portion of living labour, unpaid and congealed in surplus-value,

must also be continually on the decrease compared to the amount of value represented by the invested total capital. Since the ratio of the mass of surplus-value to the value of the invested total capital forms the rate of profit, this rate must constantly fall.

Simple as this law appears from the foregoing statements, all of political economy has so far had little success in discovering it, as we shall see in a later part. [K. Marx, *Theorien über den Mehrwert*. K. Marx/F. Engels, *Werke*, Band 26, Teil 2, S. 435-66, 541-43. — *Ed.*] The economists perceived the phenomenon and cudgelled their brains in tortuous attempts to interpret it. Since this law is of great importance to capitalist production, it may be said to be a mystery whose solution has been the goal of all political economy since Adam Smith, the difference between the various schools since Adam Smith having been in the divergent approaches to a solution. When we consider, on the other hand, that up to the present political economy has been running in circles round the distinction between constant and variable capital, but has never known how to define it accurately; that it has never separated surplus-value from profit, and never even considered profit in its pure form as distinct from its different, independent components, such as industrial profit, commercial profit, interest, and ground-rent; that it has never thoroughly analysed the differences in the organic composition of capital, and, for this reason, has never thought of analysing the formation of the general rate of profit — if we consider all this, the failure to solve this riddle is no longer surprising.

We intentionally present this law before going on to the division of profit into different independent categories. The fact that this analysis is made independently of the division of profit into different parts, which fall to the share of different categories of people, shows from the outset that this law is, in its entirety, independent of this division, and just as independent of the mutual relations of the resultant categories of profit. The profit to which we are here referring is but another name for surplus-value itself, which is presented only in its relation to total capital rather than to variable capital, from which it arises. The drop in the rate of profit, therefore, expresses the falling relation of surplus-value to advanced total capital, and is for this reason independent of any division whatsoever of this surplus-value among the various categories.

We have seen that at a certain stage of capitalist development, where the organic composition of capital  $c:v$  was 50:100, a rate of surplus-value of 100% was expressed in a rate of profit of  $66\frac{2}{3}\%$ , and that at a higher stage, where  $c:v$  was 400:100, the same rate of surplus-value was expressed in a rate of profit of only 20%. What is true of different successive stages of development in one country, is also true of different coexisting stages of development in different countries. In an undeveloped country, in which the former composition of capital is the average, the

general rate of profit would =  $662/3$  %, while in a country with the latter composition and a much higher stage of development it would = 20%.

The difference between the two national rates of profit might disappear, or even be reversed, if labour were less productive in the less developed country, so that a larger quantity of labour were to be represented in a smaller quantity of the same commodities, and a larger exchange-value were represented in less use-value. The labourer would then spend more of his time in reproducing his own means of subsistence, or their value, and less time in producing surplus-value; consequently, he would perform less surplus-labour, with the result that the rate of surplus-value would be lower. Suppose, the labourer of the less developed country were to work  $2/3$  of the working-day for himself and  $1/3$  for the capitalist; in accordance with the above illustration, the same labour-power would then be paid with  $1331/3$  and would furnish a surplus of only  $602/3$ . A constant capital of 50 would correspond to a variable capital of  $4331/3$ . The rate of surplus-value would amount to  $662/3 : 1331/3 = 50\%$ , and the rate of profit to  $662/3 : 1331/3$ , or approximately 36%.

Since we have not so far analysed the different component parts of profit, *i.e.*, they do not for the present exist for us, we make the following remarks beforehand merely to avoid misunderstanding: In comparing countries in different stages of development it would be a big mistake to measure the level of the national rate of profit by, say, the level of the national rate of interest, namely when comparing countries with a developed capitalist production with countries in which labour has not yet been formally subjected to capital, although in reality the labourer is exploited by the capitalist (as, for instance, in India, where the ryot manages his farm as an independent producer whose production as such is not, therefore, as yet subordinated to capital, although the usurer may not only rob him of his entire surplus-labour by means of interest, but may also, to use a capitalist term, hack off a part of his wage). This interest comprises all the profit, and more than the profit, instead of merely expressing an aliquot part of the produced surplus-value, or profit, as it does in countries with a developed capitalist production. On the other hand, the rate of interest is, in this case, mostly determined by relations (loans granted by usurers to owners of larger estates who draw ground-rent) which have nothing to do with profit, and rather indicate to what extent usury appropriates ground-rent.

As regards countries possessing different stages of development of capitalist production, and consequently capitals of different organic composition, a country where the normal working-day is shorter than another's may have a higher rate of surplus-value (one of the factors which determines the rate of profit). *First*, if the English ten-hour working-day is, on account of its higher intensity, equal to an Austrian working-day of 14 hours, then, dividing the working-day equally in both

instances, 5 hours of English surplus-labour may represent a greater value on the world-market than 7 hours of Austrian surplus-labour. *Second*, a larger portion of the English working-day than of the Austrian may represent surplus-labour.

The law of the falling rate of profit, which expresses the same, or even a higher, rate of surplus-value, states, in other words, that any quantity of the average social capital, say, a capital of 100, comprises an ever larger portion or means of labour, and an ever smaller portion of living labour. Therefore, since the aggregate mass of living labour operating the means of production decreases in relation to the value of these means of production, it follows that the unpaid labour and the portion of value in which it is expressed must decline as compared to the value of the advanced total capital. Or: An ever smaller aliquot part of invested total capital is converted into living labour, and this total capital, therefore, absorbs in proportion to its magnitude less and less surplus-labour, although the unpaid part of the labour applied may at the same time grow in relation to the paid part. The relative decrease of the variable and increase of the constant capital, however much both parts may grow in absolute magnitude, is, as we have said, but another expression for greater productivity of labour.

Let a capital of 100 consist of  $80c+20v$ , and the latter = 20 labourers. Let the rate of surplus-value be 100%, *i.e.*, the labourers work half the day for themselves and the other half for the capitalist. Now let the capital of 100 in a less developed country =  $20c+80v$ , and let the latter = 80 labourers. But these labourers require 2/3 of the day for themselves, and work only for the capitalist. Everything else being equal, the labourers in the first case produce a value of 40, and in the second of 120. The first capital produces  $80c+20v+20s = 120$ ; rate of profit = 20%. The second capital,  $20c+80v+40s = 140$ ; rate of profit 40%. In the second case the rate of profit is, therefore, double the first, although the rate of surplus-value in the first = 100%, which is double that of the second, where it is only 50%. But then, a capital of the same magnitude appropriates the surplus-labour of only 20 labourers in the first case, and of 80 labourers in the second case.

The law of the progressive falling of the rate of profit, or the relative decline of appropriated surplus-labour compared to the mass of materialised labour set in motion by living labour, does not rule out in any way that the absolute mass of exploited labour set in motion by the social capital, and consequently the absolute mass of the surplus-labour it appropriates, may grow; nor, that the capitals controlled by individual capitalists may dispose of a growing mass of labour and, hence, of surplus-labour, the latter even though the number of labourers they employ does not increase.

Take a certain working population of, say, two million. Assume, furthermore, that the length and intensity of the average working-day, and the level of wages, and thereby the proportion between necessary and surplus-labour, are given. In that case the aggregate labour of these two million, and their surplus-labour expressed in surplus-value, always produces the same magnitude of value. But with the growth of the mass of the constant (fixed and circulating) capital set in motion by this labour, this produced quantity of value declines in relation to the value of this capital, which value grows with its mass, even if not in quite the same proportion. This ratio, and consequently the rate of profit, shrinks in spite of the fact that the mass of commanded living labour is the same as before, and the same amount of surplus-labour is sucked out of it by the capital. It changes because the mass of materialised labour set in motion by living labour increases, and not because the mass of living labour has shrunk. It is a relative decrease, not an absolute one, and has, in fact, nothing to do with the absolute magnitude of the labour and surplus-labour set in motion. The drop in the rate of profit is not due to an absolute, but only to a relative decrease of the variable part of the total capital, *i.e.*, to its decrease in relation to the constant part.

What applies to any given mass of labour and surplus-labour, also applies to a growing number of labourers, and, thus, under the above assumption, to any growing mass of commanded labour in general, and to its unpaid part, the surplus-labour, in particular. If the working population increases from two million to three, and if the variable capital invested in wages also rises to three million from its former two million, while the constant capital rises from four million to fifteen million, then, under the above assumption of a constant working-day and a constant rate of surplus-value, the mass of surplus-labour, and of surplus-value, rises by one-half, *i.e.*, 50%, from two million to three. Nevertheless, in spite of this growth of the absolute mass of surplus-labour, and hence of surplus-value, by 50%, the ratio of variable to constant capital would fall from 2 : 4 to 3 :15, and the ratio of surplus-value to total capital would be (in millions)

I.  $4c+2v+2s$ ;  $C = 6$ ,  $p' = 33\frac{1}{3} \%$ .

II.  $15c+3v+3s$ ;  $C = 18$ ,  $p' = 16\frac{2}{3} \%$ .

While the mass of surplus-value has increased by one-half, the rate of profit has fallen by one-half. However, the profit is only the surplus-value calculated in relation to the total social capital, and the mass of profit, its absolute magnitude, is socially equal to the absolute magnitude of the surplus-value. The absolute magnitude of the profit, its total amount, would, therefore, have grown by 50%, in spite of its enormous relative decrease compared to the advanced total capital, or in spite of the enormous decrease in the general rate of profit. The number of labourers employed by capital, hence the absolute mass of the labour set in motion

by it, and therefore the absolute mass of surplus-labour absorbed by it, the mass of the surplus-value produced by it, and therefore the absolute mass of the profit produced by it, *can*, consequently, increase, and increase progressively, in spite of the progressive drop in the rate of profit. And this not only *can* be so. Aside from temporary fluctuations it *must* be so, on the basis of capitalist production.

Essentially, the capitalist process of production is simultaneously a process of accumulation. We have shown that with the development of capitalist production the mass of values to be simply reproduced, or maintained, increases as the productivity of labour grows, even if the labour-power employed should remain constant. But with the development of social productivity of labour the mass of produced use-values, of which the means of production form a part, grows still more. And the additional labour, through whose appropriation this additional wealth can be reconverted into capital, does not depend on the value, but on the mass of these means of production (including means of subsistence), because in the production process the labourers have nothing to do with the value, but with the use-value, of the means of production. Accumulation itself, however, and the concentration of capital that goes with it, is a material means of increasing productiveness. Now, this growth of the means of production includes the growth of the working population, the creation of a working population, which corresponds to the surplus-capital, or even exceeds its general requirements, thus leading to an over-population of workers. A momentary excess of surplus-capital over the working population it has commandeered, would have a two-fold effect. It could, on the one hand, by raising wages, mitigate the adverse conditions which decimate the offspring of the labourers and would make marriages easier among them, so as gradually to increase the population. On the other hand, by applying methods which yield relative surplus-value (introduction and improvement of machinery) it would produce a far more rapid, artificial, relative over-population, which in its turn, would be a breeding-ground for a really swift propagation of the population, since under capitalist production misery produces population. It therefore follows of itself from the nature of the capitalist process of accumulation, which is but one facet of the capitalist production process, that the increased mass of means of production that is to be converted into capital always finds a correspondingly increased, even excessive, exploitable worker population. As the process of production and accumulation advances therefore, the mass of available and appropriated surplus-labour, and hence the absolute mass of profit appropriated by the social capital, *must* grow. Along with the volume, however, the same laws of production and accumulation increase also the value of the constant capital in a mounting progression more rapidly than that of the variable part of capital, invested as it is in living labour. Hence, the same laws produce for the social capital a growing absolute mass of profit, and a falling rate of profit.

We shall entirely ignore here that with the advance of capitalist production and the attendant development of the productiveness of social labour and multiplication of production branches, hence products, the same amount of value represents a progressively increasing mass of use-values and enjoyments.

The development of capitalist production and accumulation lifts labour-processes to an increasingly enlarged scale and thus imparts to them ever greater dimensions, and involves accordingly larger investments of capital for each individual establishment. A mounting concentration of capitals (accompanied, though on a smaller scale, by an increase in the number of capitalists) is, therefore, one of its material requirements as well as one of its results. Hand in hand with it, mutually interacting, there occurs a progressive expropriation of the more or less direct producers. It is, then, natural for the individual capitalists to command increasingly large armies of labourers (no matter how much the variable capital may decrease in relation to the constant), and natural, too, that the mass of surplus-value, and hence profit, appropriated by them, should grow simultaneously with, and in spite of, the fall in the rate of profit. The causes which concentrate masses of labourers under the command of individual capitalists, are the very same that swell the mass of the invested fixed capital, and auxiliary and raw materials, in mounting proportion as compared to the mass of employed living labour.

It requires no more than a passing remark at this point to indicate that, given a certain labouring population, the mass of surplus-value, hence the absolute mass of profit, must grow if the rate of surplus-value increases, be it through a lengthening or intensification of the working-day, or through a drop in the value of wages due to an increase in the productiveness of labour, and that it must do so in spite of the relative decrease of variable capital in respect to constant.

The same development of the productiveness of social labour, the same laws which express themselves in a relative decrease of variable as compared to total capital, and in the thereby facilitated accumulation, while this accumulation in its turn becomes a starting-point for the further development of the productiveness and for a further relative decrease of variable capital — this same development manifests itself, aside from temporary fluctuations, in a progressive increase of the total employed labour-power and a progressive increase of the absolute mass of surplus-value, and hence of profit.

Now, what must be the form of this double-edged law of a decrease in the *rate* of profit and a simultaneous increase in the absolute *mass* of profit arising from the same causes? As a law based on the fact that under given conditions the appropriated mass of surplus-labour, hence of surplus-value, increases, and that, so

far as the total capital is concerned, or the individual capital as an aliquot part of the total capital, profit and surplus-value are identical magnitudes?

Let us take an aliquot part of capital upon which we calculate the rate of profit, *e.g.*, 100. These 100 represent the average composition of the total capital, say,  $80c + 20v$ . We have seen in the second part of this book that the average rate of profit in the various branches of production is determined not by the particular composition of each individual capital, but by the average social composition. As the variable capital decreases relative to the constant, hence the total capital of 100, the rate of profit, or the relative magnitude of surplus-value, *i.e.*, its ratio to the advanced total capital of 100, falls even though the intensity of exploitation were to remain the same, or even to increase. But it is not this relative magnitude alone which falls. The magnitude of the surplus-value or profit absorbed by the total capital of 100 also falls absolutely. At a rate of surplus-value of 100%, a capital of  $60c + 40v$  produces a mass of surplus-value, and hence of profit, amounting to 40; a capital of  $80c + 20v$  a mass of profit of 30; and for a capital of  $80c + 20v$  the profit falls to 20. This falling applies to the mass of surplus-value, and hence of profit, and is due to the fact that the total capital of 100 employs less living labour, and, the intensity of labour exploitation remaining the same, sets in motion less surplus-labour, and therefore produces less surplus-value. Taking any aliquot part of the social capital, *i.e.*, a capital of average composition, as a standard by which to measure surplus-value — and this is done in all profit calculations — a relative fall of surplus-value is generally identical with its absolute fall. In the cases given above, the rate of profit sinks from 40% to 30% and to 20%, because, in fact, the mass of surplus-value, and hence of profit, produced by the same capital falls absolutely from 40 to 30 and to 20. Since the magnitude of the value of the capital, by which the surplus-value is measured, is given as 100, a fall in the proportion of surplus-value to this given magnitude can be only another expression for the decrease of the absolute magnitude of surplus-value and profit. This is, indeed, a tautology. But, as shown, the fact that this decrease occurs at all, arises from the nature of the development of the capitalist process of production.

On the other hand, however, the same causes which bring about an absolute decrease of surplus-value, and hence profit, on a given capital, and consequently of the rate of profit calculated in per cent, produce an increase in the absolute mass of surplus-value, and hence of profit, appropriated by the social capital (*i.e.*, by all capitalists taken as a whole). How does this occur, what is the only way in which this can occur, or what are the conditions obtaining in this seeming contradiction?

If any aliquot part = 100 of the social capital, and hence any 100 of average social composition, is a given magnitude, for which therefore a fall in the rate of profit coincides with a fall in the absolute magnitude of the profit because the capital

which here serves as a standard of measurement is a constant magnitude, then the magnitude of the social capital like that of the capital in the hands of individual capitalists, is variable, and in keeping with our assumptions it must vary inversely with the decrease of its variable portion.

In our former illustration, when the percentage of composition was  $60c+40v$ , the corresponding surplus-value, or profit, was 40, and hence the rate of profit 40%. Suppose, the total capital in this stage of composition was one million. Then the total surplus-value, and hence the total profit, amounted to 400,000. Now, if the composition later =  $80c+20v$ , while the degree of labour exploitation remained the same, then the surplus-value or profit for each 100 = 20. But since the absolute mass of surplus-value or profit increases, as demonstrated, in spite of the decreasing rate of profit or the decreasing production of surplus-value by every 100 of capital — increases, say, from 400,000 to 440,000, then this occurs solely because the total capital which formed at the time of this new composition has risen to 2,200,000. The mass of the total capital set in motion has risen to 220%, while the rate of profit has fallen by 50%. Had the total capital no more than doubled, it would have to produce as much surplus-value and profit to obtain a rate of profit of 20% as the old capital of 1,000,000 produced at 40%. Had it grown to less than double, it would have produced less surplus-value, or profit, than the old capital of 1,000,000, which, in its former composition, would have had to grow from 1,000,000 to no more than 1,100,000 to raise its surplus-value from 400,000 to 440,000.

We again meet here the previously defined law that the relative decrease of the variable capital, hence the development of the social productiveness of labour, involves an increasingly large mass of total capital to set in motion the same quantity of labour-power and squeeze out the same quantity of surplus-labour. Consequently, the possibility of a relative surplus of labouring people develops proportionately to the advances made by capitalist production not because the productiveness of social labour *decreases*, but because it *increases*. It does not therefore arise out of an absolute disproportion between labour and the means of subsistence, or the means for the production of these means of subsistence, but out of a disproportion occasioned by capitalist exploitation of labour, a disproportion between the progressive growth of capital and its relatively shrinking need for an increasing population.

Should the rate of profit fall by 50%, it would shrink one-half. If the mass of profit is to remain the same, the capital must be doubled. For the mass of profit made at a declining rate of profit to remain the same, the multiplier indicating the growth of the total capital must be equal to the divisor indicating the fall of the rate of profit. If the rate of profit falls from 40 to 20, the total capital must rise inversely at the

rate of 20:40 to obtain the same result. If the rate of profit falls from 40 to 8, the capital would have to increase at the rate of 8:40, or five-fold. A capital of 1,000,000 at 40% produces 400,000, and a capital of 5,000,000 at 8% likewise produces 400,000. This applies if we want the result to remain the same. But if the result is to be higher, then the capital must grow at a greater rate than the rate of profit falls. In other words, for the variable portion of the total capital not to remain the same in absolute terms, but to increase absolutely in spite of its falling in percentage of the total capital, the total capital must grow at a faster rate than the percentage of the variable capital falls. It must grow so considerably that in its new composition it should require more than the old portion of variable capital to purchase labour-power. If the variable portion of a capital = 100 should fall from 40 to 20, the total capital must rise higher than 200 to be able to employ a larger variable capital than 40.

Even if the exploited mass of the working population were to remain constant, and only the length and intensity of the working-day were to increase, the mass of the invested capital would have to increase, since it would have to be greater in order to employ the same mass of labour under the old conditions of exploitation after the composition of capital changes.

Thus, the same development of the social productiveness of labour expresses itself with the progress of capitalist production on the one hand in a tendency of the rate of profit to fall progressively and, on the other, in a progressive growth of the absolute mass of the appropriated surplus-value, or profit; so that on the whole a relative decrease of variable capital and profit is accompanied by an absolute increase of both. This two-fold effect, as we have seen, can express itself only in a growth of the total capital at a pace more rapid than that at which the rate of profit falls. For an absolutely increased variable capital to be employed in a capital of higher composition, or one in which the constant capital has increased relatively more, the total capital must not only grow proportionately to its higher composition, but still more rapidly. It follows, then, that as the capitalist mode of production develops, an ever larger quantity of capital is required to employ the same, let alone an increased, amount of labour-power. Thus, on a capitalist foundation, the increasing productiveness of labour necessarily and permanently creates a seeming over-population of labouring people. If the variable capital forms just 1/6 of the total capital instead of the former, the total capital must be trebled to employ the same amount of labour-power. And if twice as much labour-power is to be employed, the total capital must increase six-fold.

Political economy, which has until now been unable to explain the law of the tendency of the rate of profit to fall, pointed self-consolingly to the increasing mass of profit, *i.e.*, to the growth of the absolute magnitude of profit, be it for the

individual capitalist or for the social capital, but this was also based on mere platitude and speculation.

To say that the mass of profit is determined by two factors — first, the rate of profit, and, secondly, the mass of capital invested at this rate, is mere tautology. It is therefore but a corollary of this tautology to say that there is a possibility for the mass of profit to grow even though the rate of profit may fall at the same time. It does not help us one step farther, since it is just as possible for the capital to increase without the mass of profit growing, and for it to increase even while the mass of profit falls. For 100 at 25% yields 25, and 400 at 5% yields only 20.<sup>[1]</sup> But if the same causes which make the rate of profit fall, entail the accumulation, *i.e.*, the formation, of additional capital, and if each additional capital employs additional labour and produces additional surplus-value; if, on the other hand, the mere fall in the rate of profit implies that the constant capital, and with it the total old capital, have increased, then this process ceases to be mysterious. We shall see later [K. Marx, *Theorien ber den Mehrwert*. K. Marx/F. Engels, *Werk*,, Band 26, Teil 2., S. 435-66, 541- 43. — *Ed*] to what deliberate falsifications some people resort in their calculations to spirit away the possibility of an increase in the mass of profit simultaneous with a decrease in the rate of profit.

We have shown how the same causes that bring about a tendency for the general rate of profit to fall necessitate an accelerated accumulation of capital and, consequently, an increase in the absolute magnitude, or total mass, of the surplus-labour (surplus-value, profit) appropriated by it. Just as everything appears reversed in competition, and thus in the consciousness of the agents of competition, so also this law, this inner and necessary connection between two seeming contradictions. It is evident that within the proportions indicated above a capitalist disposing of a large capital will receive a larger mass of profit than a small capitalist making seemingly high profits. Even a cursory examination of competition shows, furthermore, that under certain circumstances, when the greater capitalist wishes to make room for himself on the market, and to crowd out the smaller ones, as happens in times of crises, he makes practical use of this, *i.e.*, he deliberately lowers his rate of profit in order to drive the smaller ones to the wall. Merchants capital, which we shall describe in detail later, also notably exhibits phenomena which appear to attribute a fall in profit to an expansion of business, and thus of capital. The scientific expression for this false conception will be given later. Similar superficial observations result from a comparison of rates of profit in individual lines of business, distinguished either as subject to free competition, or to monopoly. The utterly shallow conception existing in the minds of the agents of competition is found in Roscher, namely, that a reduction in the rate of profit is "more prudent and humane". [Roscher, *Die Grundlage der Nationalökonomie*, 3 Auflage, 1858, 108, S. 192. — *Ed.*] The fall in the rate of profit appears in this case as

an *effect* of an increase in capital and of the concomitant calculation of the capitalist that the mass of profits pocketed by him will be greater at a smaller rate of profit. This entire conception (with the exception of Adam Smith's, which we shall mention later) [K. Marx, *Theorien ber den Mehrwert*. K. Marx/F. Engels, *Werke*, Band 26, Teil 2, S. 214-28. — *Ed.*] rests on an utter misapprehension of what the general rate of profit is, and on the crude notion that prices are actually determined by adding a more or less arbitrary quota of profit to the true value of commodities. Crude as these ideas are, they arise necessarily out of the inverted aspect which the immanent laws of capitalist production represent in competition.

The law that a fall in the rate of profit due to the development of productiveness is accompanied by an increase in the mass of profit, also expresses itself in the fact that a fall in the price of commodities produced by a capital is accompanied by a relative increase of the masses of profit contained in them and realised by their sale.

Since the development of the productiveness and the correspondingly higher composition of capital sets in motion an ever-increasing quantity of means of production through a constantly decreasing quantity of labour, every aliquot part of the total product, *i.e.*, every single commodity, or each particular lot of commodities in the total mass of products, absorbs less living labour, and also contains less materialised labour, both in the depreciation of the fixed capital applied and in the raw and auxiliary materials consumed. Hence every single commodity contains a smaller sum of labour materialised in means of production and of labour newly added during production. This causes the price of the individual commodity to fall. But the mass of profits contained in the individual commodities may nevertheless increase if the rate of the absolute or relative surplus-value grows. The commodity contains less newly added labour, but its unpaid portion grows in relation to its paid portion. However, this is the case only within certain limits. With the absolute amount of living labour newly incorporated in individual commodities decreasing enormously as production develops, the absolute mass of unpaid labour contained in them will likewise decrease, however much it may have grown as compared to the paid portion. The mass of profit on each individual commodity will shrink considerably with the development of the productiveness of labour, in spite of a growth in the rate of surplus-value. And this reduction, just as the fall in the rate of profit, is only delayed by the cheapening of the elements of constant capital and by the other circumstances set forth in the first part of this book, which increase the rate of profit at a given, or even falling, rate of surplus-value.

That the price of individual commodities whose sum makes up the total product of capital falls, means simply that a certain quantity of labour is realised in a larger

quantity of commodities, so that each individual commodity contains less labour than before. This is the case even if the price of one part of constant capital, such as raw material, etc., should rise. Outside of a few cases (for instance, if the productiveness of labour uniformly cheapens all elements of the constant, and the variable, capital), the rate of profit will fall, in spite of the higher rate of surplus-value, 1) because even a larger unpaid portion of the smaller total amount of newly added labour is smaller than a smaller aliquot unpaid portion of the former larger amount and 2) because the higher composition of capital is expressed in the individual commodity by the fact that the portion of its value in which newly added labour is materialised decreases in relation to the portion of its value which represents raw and auxiliary material, and the wear and tear of fixed capital. This change in the proportion of the various component parts in the price of individual commodities, *i.e.*, the decrease of that portion of the price in which newly added living labour is materialised, and the increase of that portion of it in which formerly materialised labour is represented, is the form which expresses the decrease of the variable in relation to the constant capital through the price of the individual commodities. Just as this decrease is absolute for a certain amount of capital, say of 100, it is also absolute for every individual commodity as an aliquot part of the reproduced capital. However, the rate of profit, if calculated merely on the elements of the price of an individual commodity, would be different from what it actually is. And for the following reason:

[The rate of profit is calculated on the total capital invested, but for a definite time, actually a year. The rate of profit is the ratio of the surplus-value, or profit, produced and realised in a year, to the total capital calculated in per cent. It is, therefore, not necessarily equal to a rate of profit calculated for the period of turnover of the invested capital rather than for a year. It is only if the capital is turned over exactly in one year that the two coincide.

On the other hand, the profit made in the course of a year is merely the sum of profits on commodities produced and sold during that same year. Now, if we calculate the profit on the cost-price of commodities, we obtain a rate of profit =  $p/k$  in which  $p$  stands for the profit realised during one year, and  $k$  for the sum of the cost-prices of commodities produced and sold within the same period. It is evident that this rate of profit  $p/k$  will not coincide with the actual rate of profit  $p/C$ , mass of profit divided by total capital, unless  $k = C$ , that is, unless the capital is turned over in exactly one year.

Let us take three different conditions of an industrial capital.

- I. A capital of £8,000 produces and sells annually 5,000 pieces of a commodity at 30s. per piece, thus making an annual turnover of £7,500. It makes a profit

of 10s. on each piece, or £2,500 per year. Every piece, then, contains 20s. advanced capital and 10s. profit, so that the rate of profit per piece is  $10/20 = 50\%$ . The turned-over sum of £7,500 contains £5,000 advanced capital and £2,500 profit. Rate of profit per turnover,  $p/k$ , likewise 50%. But calculated on the total capital the rate of profit  $p/C = 2,500/8,000 = 31\%$

- II. The capital rises to £10,000. Owing to increased productivity of labour it is able to produce annually 10,000 pieces of the commodity at a cost-price of 20s. per piece. Suppose the commodity is sold at a profit of 4s., hence at 24s. per piece. In that case the price of the annual product = £12,000, of which £10,000 is advanced capital and £2,000 is profit. The rate of profit  $p/k = 4/20$  per piece, and  $2,000/10,000$  for the annual turnover, or in both cases = 20%. And since the total capital is equal to the sum of the cost-prices, namely £10,000, it follows that  $p/C$ , the actual rate of profit, is in this case also 20%.
- III. Let the capital rise to £15,000 owing to a constant growth of the productiveness of labour, and let it annually produce 30,000 pieces of the commodity at a cost-price of 13s. per piece, each piece being sold at a profit of 2s., or at 15s. The annual turnover therefore =  $30,000 \times 15s. = £22,500$ , of which £19,500 is advanced capital and £3,000 profit. The rate of profit  $p/k$  then =  $2/13 = 3,000/15,000 = 20\%$ .

We see, therefore, that only in case II, where the turned-over capital-value is equal to the total capital, the rate of profit per piece, or per total amount of turnover, is the same as the rate of profit calculated on the total capital. In case I, in which the amount of the turnover is smaller than the total capital, the rate of profit calculated on the cost-price of the commodity is higher; and in case III, in which the total capital is smaller than the amount of the turnover, it is lower than the actual rate calculated on the total capital. This is a general rule.

In commercial practice, the turnover is generally calculated inaccurately. It is assumed that the capital has been turned over once as soon as the sum of the realised commodity-prices equals the sum of the invested total capital. But the *capital* can complete one whole turnover only when the sum of the *cost-prices* of the realised commodities equals the sum of the total capital. — *F.E.*]

This again shows how important it is in capitalist production to regard individual commodities, or the commodity-product of a certain period, as products of advanced capital and in relation to the total capital which produces them, rather than in isolation, by themselves, as mere commodities.

The *rate* of profit must be calculated by measuring the mass of produced and realised surplus-value not only in relation to the consumed portion of capital reappearing in the commodities, but also to this part plus that portion of

unconsumed but applied capital which continues to operate in production. However, the *mass* of profit cannot be equal to anything but the mass of profit or surplus-value, contained in the commodities themselves, and to be realised by their sale.

If the productivity of industry increases, the price of individual commodities falls. There is less labour in them, less paid and unpaid labour. Suppose, the same labour produces, say, triple its former product. Then  $\frac{2}{3}$  less labour yields individual product. And since profit can make up but a portion of the amount of labour contained in an individual commodity, the mass of profit in the individual commodity must decrease, and this takes place within certain limits, even if the rate of surplus-value should rise. In any case, the mass of profit on the total product does not fall below the original mass of profit so long as the capital employs the same number of labourers at the same degree of exploitation. (This may also occur if fewer labourers are employed at a higher rate of exploitation.) For the mass of profit on the individual product decreases proportionately to the increase in the number of products. The mass of profit remains the same, but it is distributed differently over the total amount of commodities. Nor does this alter the distribution between the labourers and capitalists of the amount of value created by newly added labour. The mass of profit cannot increase so long as the same amount of labour is employed, unless the unpaid surplus-labour increases, or, should intensity of exploitation remain the same, unless the number of labourers grows. Or, both these causes may combine to produce this result. In all these cases—which, however, in accordance with our assumption, presuppose an increase of constant capital as compared to variable, and an increase in the magnitude of total capital — the individual commodity contains a smaller mass of profit and the rate of profit falls even if calculated on the individual commodity. A given quantity of newly added labour materialises in a larger quantity of commodities. The price of the individual commodity falls. Considered abstractly the rate of profit may remain the same, even though the price of the individual commodity may fall as a result of greater productiveness of labour and a simultaneous increase in the number of this cheaper commodity if, for instance, the increase in productiveness of labour acts uniformly and simultaneously on all the elements of the commodity, so that its total price falls in the same proportion in which the productivity of labour increases, while, on the other hand, the mutual relation of the different elements of the price of the commodity remains the same. The rate of profit could even rise if a rise in the rate of surplus-value were accompanied by a substantial reduction in the value of the elements of constant, and particularly of fixed, capital. But in reality, as we have seen, the rate of profit will fall in the long run. In no case does a fall in the price of any individual commodity by itself give a clue to the rate of profit. Everything depends on the magnitude of the total capital invested in its production. For instance, if the price of one yard of fabric falls from 3s. to  $\frac{12}{3}$  s., if we know

that before this price reduction it contained  $12/3$  s. constant capital, yarn, etc.,  $2/3$  s. wages, and  $2/3$  s. profit, while after the reduction it contains 1s. constant capital,  $1/3$  s. wages, and  $1/3$  s. profit, we cannot tell if the rate of profit has remained the same or not. This depends on whether, and by how much, the advanced total capital has increased, and how many yards more it produces in a given time.

The phenomenon, springing from the nature of the capitalist mode of production, that increasing productivity of labour implies a drop in the price of the individual commodity, or of a certain mass of commodities, an increase in the number of commodities, a reduction in the mass of profit on the individual commodity and in the rate of profit on the aggregate of commodities, and an increase in the mass of profit on the total quantity of commodities — this phenomenon appears on the surface only in a reduction of the mass of profit on the individual commodity, a fall in its price, an increase in the mass of profit on the augmented total number of commodities produced by the total social capital or an individual capitalist. It then appears as if the capitalist adds less profit to the price of the individual commodity of his own free will, and makes up for it through the greater number of commodities he produces. This conception rests upon the notion of profit upon alienation, which, in its turn, is deduced from the conception of merchant capital.

We have previously seen in Book I (4 and 7 Abschnitt) [English edition: Parts IV and VII. — *Ed.*] that the mass of commodities growing along with the productivity of labour and the cheapening of the individual commodity as such (as long as these commodities do not enter the price of labour-power as determinants) — that this does not affect the proportion between paid and unpaid labour in the individual commodity. in spite of the falling price.

Since all things appear distorted, namely, reversed in competition, the individual capitalist may imagine: 1) that he is reducing his profit on the individual commodity by cutting its price, but still making a greater profit by selling a larger quantity of commodities; 2) that he fixes the price of the individual commodities and that he determines the price of the total product by multiplication, while the original process is really one of division (see Book I, Kap. X, S. 281 [English edition: Ch. XII. — *Ed.*]), and multiplication is only correct secondarily, since it is based on that division. The vulgar economist does practically no more than translate the singular concepts of the capitalists, who are in the thrall of competition, into a seemingly more theoretical and generalised language, and attempt to substantiate the justice of those conceptions.

The fall in commodity-prices and the rise in the mass of profit on the augmented mass of these cheapened commodities is, in fact, but another expression for the

law of the falling rate of profit attended by a simultaneously increasing mass of profit.

The analysis of how far a falling rate of profit may coincide with rising prices no more belongs here than that of the point previously discussed in Book I (S. 280-81 [English edition: Ch. XII. — *Ed.*]), concerning relative surplus-value. A capitalist working with improved but not as yet generally adopted methods of production sells below the market-price, but above his individual price of production; his rate of profit rises until competition levels it out. During this equalisation period the second requisite, expansion of the invested capital, makes its appearance. According to the degree of this expansion the capitalist will be able to employ a part of his former labourers, actually perhaps all of them, or even more, under the new conditions, and hence to produce the same, or a greater, mass of profit.

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## Notes

1. "We should also expect that, however the rate of the profits of stock might diminish in consequence of the accumulation of capital on the land and the rise of wages, yet the aggregate amount of profits would increase. Thus, supposing that, with repeated accumulations of £100,000, the rate of profit should fall from 20 to 19, to 18, to 17%, a constantly diminishing rate, we should expect that the whole amount of profits received by those successive owners of capital would be always progressive; that it would be greater when the capital was £200,000, than when £100,000; still greater when £300,000; and so on, increasing, though at a diminishing rate, with every increase of capital. This progression, however, is only true for a certain time; thus 19% on £200,000 is more than 20% on £100,000; again 18% on £300,000 is more than 19% on £200,000; but after capital has accumulated to a large amount, and profits have fallen, the further accumulation diminishes the aggregate of profits. Thus, suppose the accumulation should be £1,000,000, and the profits 7%, the whole amount of profits will be £70,000; now if an addition of £100,000 capital be made to the million, and profits should fall to 6%, £66,000 or a diminution of £4,000 will be received by the owners of the stock, although the whole amount of stock will be increased from £1,000,000 to £1,100,000." — Ricardo, *Political Economy*, Chap. VI (*Works*, ed. by MacCulloch, 1852, pp. 68-69). — The fact is, that the assumption has here been made that the capital increases from 1,000,000 to 1,100,000, that is, by 10%, while the rate of profit falls from 7 to 6, hence by 142/7%. *Hinc illae lacrimae!* [Publius, Terence, *Andria*, Act I, Scene 1. — *Ed.*]

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