

## Zombie Capitalism and the origin of crises

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*This is the second in a series of responses to Chris Harman's last book, *Zombie Capitalism: Global Crisis and the Relevance of Marx*. It was written shortly before Chris's death.*

The great merit of *Zombie Capitalism* is that it outlines the causes and consequences of the recurrence of crises while at the same time describing the challenges they pose for workers. Scholarly books on this subject are not generally known for their readability or their wider appeal. But this book stands out as one of the few fortunate exceptions. It is clearly written in as accessible a style as possible, given the inevitable complexity of much of its subject matter.

There are several features that recommend it, besides its accessibility. To begin with, Harman comes down squarely in favour of a temporalist approach (a term explained below). The choice of a temporalist versus a simultaneist approach would seem to be a quibble, a byzantine discussion diverting the attention from more fundamental issues. And yet it is a matter of the utmost importance. Marx computes the prices at which commodities (produced with the average technique within each sector) are tendentially sold—their prices of production—by adding the average rate of profit to the value contained in the inputs into their production (the constant and variable capital advanced). As far as this period is concerned, the values of the inputs are not transformed, while the values of the outputs are transformed into production prices. This in essence is Marx's transformation procedure, his price theory.

A critique of this was put forward by Eugen von Böhm-Bawerk shortly after the appearance of the third volume of *Capital*.<sup>1</sup> But by far the most influential attack on Marx's transformation procedure was mounted by Ladislaus von Bortkiewicz<sup>2</sup> and was brought to the attention of a modern readership by Paul Sweezy.<sup>3</sup> Essentially, the main criticism of Marx's approach is that, since any particular commodity is bought for the same price that it is sold for, some capitalists sell their output at its transformed value (their production price) but other capitalists buy the same products as inputs at their individual, untransformed value. If true, this would be a logical inconsistency undermining Marx's theoretical project. This inconsistency would mean that the purchasing power advanced to buy some inputs would be insufficient to start a new process of production, while the purchasing power advanced to buy some other inputs would exceed what was needed. Simple reproduction, repeated cycles of production on the same scale, would fail.<sup>4</sup> If the theory cannot show how the system reproduces itself, then the theory is called into question.

However, after the articles by Perez, Ernst and Carchedi in the early 1980s<sup>5</sup> it became clear that the critique is based on the incorrect assumption that the same commodities are both the inputs and the outputs for a particular period. For Marx, and in reality, inputs enter production at a certain point in time and outputs emerge at a different, later point in time. This is Marx's temporalist approach. From a temporalist perspective, the output of a period becomes the input of the following period. For example, a machine is bought at the same price for which it is sold. But while this is the production price for the seller it is the individual value for the buyer because that machine will realise more or less than the value paid for it when the output (created by the process for which the machine is an input) is eventually sold at its production price. As Marx writes, "Although [the inputs] entered the labour process with a definite value, they may come out of it with a value that is larger or smaller, because the labour time society needs for their production has undergone a general change".<sup>6</sup> From a temporalist perspective, which sees the economy as a succession of periods of production and realisation, the logical inconsistency melts like snow in the sun. Many Marxists who have ignored this simple point resort to simultaneous equations to determine the prices of the inputs and of the outputs of the *same* process.<sup>7</sup> Consequently, these authors theorise capitalism as a system in which time does not exist. It is not warranted to theorise capitalism timelessly even as a first approximation because conclusions reached on the basis of the opposite assumption are opposite and irreconcilable. Either I assume that time exists or I assume that time does not exist. All the conclusions reached on the basis of one assumption are invalid on the basis of the opposite assumption.

Without time there is no movement, without movement there is no change and without change there is equilibrium. Just as in orthodox economics, capitalism is seen as a system in or tending towards equilibrium, rather than a system in or tending towards crises, as in Marx. If capitalism is a system in equilibrium, it is also a rational system. But then the working class is deprived of the objective grounds upon which to base its struggle against capital. If the system is rational, the workers' struggle for the supersession of capital is irrational and voluntaristic because it is contrary to an objective, equilibrating movement. But if, as Marx argues, the system is irrational because it tends objectively towards crises and thus towards its self-destruction, the workers' struggle is grounded upon and becomes the expression of this objective movement;

it is thus rational and not voluntaristic. Seen from a Marxist, temporalist perspective the system, then, is in a permanent state of non-equilibrium.<sup>8</sup> The issue of internal consistency, the battleground upon which both upholders and critics of Marx have been fighting over the decades, is certainly important. But the crucial point is not only that the so-called transformation problem is a non-existent problem once one reintroduces time in the analysis.<sup>9</sup> It is even more important to realise that the simultaneist alternative deals a deadly blow to workers' struggle by undermining the objective grounds upon which it is based. This point has escaped the commentators on both sides of the debate.<sup>10</sup>

There are other positive features in Harman's book such his development of the implications in Marx and Engels' theory of imperialism, and his emphasis on famine and environmental destruction as integral parts of capitalist development. This is the object of the final three chapters. Also of great interest is the detailed analysis of capitalism's course during the second half of the 20th century and of the crises that are the signposts of this course, the subjects of chapters 6 to 11. These are clearly written and informative. But aside from these positive features some critical comments are in order.

Harman rightly stresses that "the only source of value...is labour", so if constant capital invested grows proportionally more than variable capital, in other words if the organic composition of capital grows, the average rate of profit falls. This process takes place because technological competition gives a cutting edge to the innovators at the expense of the laggards (p70). However, there are four ambiguities in Harman's text that should be clarified. They concern more the exposition than the theoretical content of the book.

The first ambiguity is that Harman, after having pointed out that the rate of profit falls because technological competition expels labour and thus diminishes the source of value, seems to stress that this fall is due to lower prices following a rapid rate of accumulation "and this hits profits" (p60). Within a temporalist perspective lower output prices at the end of this period are also lower input prices at the beginning of the next period and all we have is a redistribution of value and a temporary fluctuation in the average profit rate. However, in terms of value analysis, a lower production of value during this period is also a lower realisation of value at the end of this same period so that less value can be invested in the subsequent period. On this account, lower prices reveal a fall in the production of value: the loss of profitability is permanent. But, as we shall see, lower unit prices (values) cannot be the cause of crises.

The second ambiguity, which is related to the first one, is that whereas the increase in the organic composition is identified by Harman as the ultimate cause of the fall in the average rate of profit, in the actual exposition of the argument the increase in the organic composition of capital seems to be one of the many factors affecting the course of the average profit rate. It might be worth recalling that the increase in the organic composition of capital is the tendency, while the fall in that composition due to the cheaper means of production as a consequence of the same technological innovations is one of the counter-tendencies. The cheaper means of production reduce the value of the output produced. The producers still using the older and more expensive means of production can charge for their output only what it would have cost them to produce that output with the new and cheaper means of production. They therefore suffer a loss. For them it is as if some capital has been destroyed. But there is no destruction of capital for the economy as a whole because the value they fail to realise is, through the price mechanism, redistributed to the producers using the newer and cheaper means of production. The depreciation of the old means of production is thus no destruction of value and thus cannot be the factor (or one of the factors) that accounts either for the crisis or for the revival of the economy. To hold the contrary view would mean to hold onto an individualistic methodology, the opposite of Marx's method. Rather, if capital is a social relation, the destruction of capital is basically the termination of those relations that becomes manifest as unemployment.

The third ambiguity concerns the relation between Harman's analysis and the so-called "value form theory".<sup>11</sup> According to the author, "The concrete labour of the individuals is transformed through exchange...into a proportionate part of 'homogeneous', 'social' labour—or abstract labour" (p26; see also p117). This formulation could suggest that Harman adheres to value form theory, although in fact he does not.

Value form theory should be rejected not because it deviates from Marx but because, by deviating from Marx, it becomes logically inconsistent. First, use values are different by definition. Exchange cannot equalise them because equalisation or quantitative comparability presupposes that there is something that makes exchange possible. Two apples cannot be exchanged for one pear unless something establishes that exchange ratio prior to exchange, at the level of production. If this is not done, the exchange ratios become indeterminate. Money cannot fulfil the role of the homogenising factor. To express something common to the different use values, money must be the necessary form of existence of something common to those different use values. This something cannot be any concrete labour but must be the abstract labour contained in those commodities.<sup>12</sup>

Second, as Marx points out, at the moment of exchange the commodity sold has no use value for the seller for the simple reason that the seller cannot any longer use it, and it has no use value for the buyer because the buyer cannot yet use it. Exchange would conjure up value out of nothing, out of non-existent use values.<sup>13</sup> Third, if concrete labour is created in production and thus embodied in the product before exchange (an uncontroversial point) and if abstract labour is socially validated concrete labour in exchange (the value form thesis), then the substance of abstract labour would be use values. The substance of value, then, would be embodied in the commodity before exchange, it would exist before social validation, contrary to the value form position. Finally, if abstract labour comes to life only at the moment of and through exchange,<sup>14</sup> if it does not exist before exchange, the difference between the production of value and its realisation is erased. Identity of production and realisation implies the cancelling out of time—simultaneism.<sup>15</sup>

The fourth ambiguity in Harman's analysis involves the relation between the law of the falling average rate of profit and underconsumption. Harman quotes Marx to the effect that "the antagonistic conditions of distribution...reduce the consumption of the bulk of society to a minimum" (p58). While this passage has been interpreted as if lower wages make it impossible for labour to consume all the produced wage goods, thus decreasing profits and contributing to the emergence or worsening of the crisis, Harman correctly rejects this interpretation. In a private correspondence, Harman points out that "cutting workers' wages or consumption can provide the conditions for preventing a fall in the rate of profit (or even increase the rate of profit), but do not guarantee that an increase in investment follows, and if there is no increase in investment there will be a crisis of realisation". But in his book Harman submits that if firms can force down real wages, some consumer goods will go unsold and profit rates will fall, thus "producing recession" (p76). This passage could be interpreted as if lower wages would decrease the average rate of profit rather than increasing it. However, for Marx lower wages always increase profit rates. It is for John Maynard Keynes that lower wages can decrease profits through the workers' underconsumption. What follows shows the fallacy of this underconsumption thesis.

Let us consider the most favourable case for underconsumption. Suppose workers' wages are cut. This provides extra surplus value for the capitalist class. At the same time, workers' purchasing power falls by the amount of the wage cut. Commodities (consumption goods) with a value equal to the whole decrease in the workers' purchasing power go unsold. Suppose that the excess commodities cannot be purchased by the capitalists either. This is a loss for the capitalists producing consumer goods. Under these assumptions, the wage cut represents at the same time the maximum possible loss for the capitalist class. What is the effect on the average rate of profit? The extra surplus value accruing to capital due to lower wages is cancelled because of the unsold commodities: "the labourer has been indeed exploited, but his exploitation is not realised as such for the capitalist".<sup>16</sup> The extra profit and the loss due to lower wages cancel each other out and the numerator of the profit rate (the surplus value) returns to the level prior to the wage cut. But the average rate of profit does not return to this level because the denominator (the constant and variable capital) is now lower by the amount of the wage cut. Thus the average rate of profit is higher than its previous level even in the case of maximum loss (all the wage goods corresponding to the wage cuts are unsold). At the same time there is underconsumption. This is sufficient to reject the underconsumptionist thesis that crises (lower profit rates) are caused or aggravated by lower wages and thus by underconsumption.<sup>17</sup>

If underconsumption cannot cause the crisis, it must be a consequence of the crisis. For Marx the ultimate cause of crises should be sought in the introduction of new technologies. On the one hand, they increase labour's productivity (units of output per unit of capital invested); on the other hand, they reduce the labour power relative to the means of production employed per unit of capital. If less variable capital and more constant capital are employed percentage wise, the average rate of profit falls. It falls, not "because labour becomes less productive, but because it becomes more productive".<sup>18</sup> This is the tendency that explains the origin of crises. There are counter-tendencies that hold back the tendential fall, even if only temporarily. But let us consider only the tendency in order to better evaluate the alternative theories.

Suppose an initial situation in the consumption goods sector such that  $80c+20v+20s = 120$  is incorporated in 120 units of means of consumption. Abstracting from the sector producing means of production, the average rate of profit (ARP) is 20 percent. Suppose now that new technologies are introduced and that in the new situation  $90c+10v+10s = 110$  is incorporated in 220 units of means of consumption. The ARP falls to 10 percent. The unit price falls from  $120/120 = 1$  to  $220/110 = 0.5$ . Before the new technology was introduced the 120 units of consumption goods were distributed in equal parts between capital and labour (given that the rate of exploitation was  $20s/20v = 100$  percent). After the introduction of the new technologies, each class receives 110 consumption goods and yet the ARP falls. Under the assumption that each unit of variable capital represents a worker, ten workers have lost their job. However, all consumption goods have been sold and the rate of exploitation has remained the same. Unemployment does not necessarily create underconsumption if the goods not bought by the unemployed worker are bought by those who are still employed. There is no

underconsumption either if the rate of exploitation rises and the capitalists buy the goods that cannot be bought by the workers. There is underconsumption only if, as mentioned above, neither the capitalists nor the workers can purchase all the consumption goods. This is the crisis of underconsumption.

The question then is: what causes the lack of purchasing power? This, as mentioned above, can only be wages lower than  $10v$  due to the capitalists' attempt to regain the lost profitability and to the capitalist's profits not higher or lower than  $10s$ . But the stagnant or lower profits (and profit rates) indicate that the economy has already entered crisis (otherwise the capitalists could buy the commodities not purchased by labour with those extra profits). It also follows that crises are not due to a fall in prices either. In the example above, unit prices fall from 1 to 0.5 because productivity has increased. But this is an indication of crisis not so much because productivity has increased but because less value and surplus value have been produced. A fall in prices is a consequence and a manifestation of the crisis, not the cause.

The argument concerning the relation between underconsumption and crises can be summarised as follows. First, in and of themselves, lower wages do cause underconsumption but they increase the average rate of profit even in the case of maximum failed realisation (maximum underconsumption or overproduction). Second, they seem to cause a fall in the average profit rate (crisis) because they occur in parallel with lower profits, which are the manifestation of the crisis. Thus underconsumption is a consequence of the crisis (lower profits) rather than being its cause. Crises are caused not by the decreased consumption of use values but by the decreased production of surplus value. This is a consequence of technological competition and of the fall in the average profit rate and unemployment. In the final analysis the extent and depth of the crisis is measured by the rate of unemployment and of exploitation. This is the perspective of the collective labourer.

The fall in the average rate of profit obscures fundamental features of capitalism. Crises do not result in a general impoverishment but the impoverishment of the majority together with a concentration of wealth in the hands of a minority. Consider two capitalists within the same sector (a similar argument can be made in case of more than one sector). Originally, they both use the same basic technology, eg  $70c+30v+30s = 130$ . The output is, say, 100 units of output. Subsequently, one of them introduces a new, more advanced technology, eg  $80c+20v+20s = 120$ . This capital's output rises to 400 units. The ARP falls from 30 percent to 25 percent. But this average implies a redistribution of surplus value. The unit price (value) is now  $250/500 = 0.5$ . The capital with the advanced technology realises  $400 \times 0.5 = 200$  and thus a profit of 100 and a rate of profit of 100 percent. The capital still operating with basic technology realises  $100 \times 0.5 = 50$  and thus loses 50 units of value. In this example, the capital using advanced technology appropriates not only the surplus value (30) but also a part of the value invested by the other capital (20). The movement expressing itself as the fall in the ARP causes an impoverishment of the capitalist class as a whole, but within this movement it causes a concentration of value in the hands of the most efficient capitalists at the cost of the less efficient capitalists (many of whom fold in times of crises).

Marx's approach has been challenged by Marxists and non-Marxists. Let us evaluate the most influential alternative explanations:

(1) Physicalist theories—basically the neo-classical, neo-Ricardian and Keynesian approaches—reach conclusions opposite to those of Marx. According to these theories, the profit rate rises instead of falling both because more use values are produced due to the new technologies and because labour is seen simply as a cost (the perspective of the individual capitalist) rather than also being value-creating activity (Marx's perspective). If more use values can be produced with lower costs, the average rate of profit can only rise. But if only use values are seen, labour is seen only as concrete labour. Physicalism then rejects the reality of abstract labour. But there is a problem here. Physicalism shipwrecks against the incommensurability problem. Simply put, use values are by definition different. In the absence of the homogeneous substance that is abstract labour, no quantitative measurement and comparison is possible. Unfortunately for physicalism, no solution exists for this internal inconsistency.

Keynes was aware of the problem. After having noted that "two incommensurable collections of miscellaneous objects cannot in themselves provide the material for a quantitative analysis", he comes up with a truly astonishing consideration: this "fact...need not, of course, prevent us from making approximate statistical comparisons".<sup>19</sup> As if two incommensurable quantities could be "approximately" measured and compared! They cannot, either exactly or approximately. The reason for this "oversight" is that no physicalist author can admit to this inconsistency for two fundamental reasons. First, to admit that there is a problem of incommensurability would mean to admit that the whole theory is built on quicksand. Second, if the theory is indefensible it becomes impossible to hold onto the position that technological innovation, the factor that accounts for capitalism's dynamism, increase the average rate of profit rather than decreasing it, that capitalism tends towards growth and equilibrium rather than towards crises, ie that it is a rational system.

(2) I have argued above that the attempt to single out the low level of wages as the prime cause of crises leads to a theoretical inconsistency. The opposite approach is the “profit squeeze” theory, which was popular within some Marxist circles in the 1970s and which seems to be enjoying a revival. This theory claims that crises are due to too high a level of wages. Given that wages and profits are in inverse relation, this approach seems to fit eminently well into Marx’s paradigm. However, there are both empirical and theoretical explanations that invalidate the argument.

First of all, concerning the present crisis, one would expect that the world economy, and especially the US economy, would have embarked on a long period of economic growth, given that minimum wages in the US fell by no less than 25.7 percent from 1967 to 2005.<sup>20</sup> Second, the supporters of this view seem to ignore that Marx once remarked that “nothing is more absurd...than to explain the fall in the rate of profit by a rise in the rate of wages”. The reason is that “the tendency of the rate of profit to fall is bound up with a tendency of the rate of surplus value to rise”.<sup>21</sup>

Let us elucidate this important remark. In order to understand the origin of crises one has to start from a period of economic growth. According to the profit squeeze theory, in the upward phase of the cycle at a certain point wages start rising, thus eating into profits. Supposedly, this is where the crisis begins. However, in the upward phase profits increase, unless one wants to define this phase as one of falling profits. Thus, in terms of the theory, in this phase both profits and wages must increase. This is possible only if the mass of both value and surplus value increases. And this is exactly what happens. But this is the Achilles’ heel of the theory. Suppose that surplus value increases by, say, 5 percent due to expanded reproduction. Any redistribution of this extra surplus value is theoretically possible. For example, 1 percent can go to wages and 4 percent to profits. Hence, in the upward phase higher wages do not necessarily decrease profits and crises do not follow. The theory is indeterminate and thus fails. A different explanation of the role of higher wages within a crisis theory must be sought. This is that the fall in the ARP causes first a rise and then a fall in wages.

The barometer of the capitalist economy’s health is the average rate of profit, rather than the mass of surplus value. In a period of growth, technological innovations start pushing down the average rate of profit even though the mass of surplus value rises. This explains why the seeds of crises are already present in the upward phase of the cycle. For a while the increase in employment due to enlarged reproduction more than offsets the relative decrease in employment due to the increasing organic composition. In this phase increased competition by the capitalists for labour power leads to wage increases. The increased competition for labour power and thus the increase in wages can be reinforced by the attempt by the larger capitals to counter the fall in their rate of profit—inasmuch as the fall in the average rate of profit affects them too—by increasing the scale of production, and thus, potentially, the mass of profits they receive.<sup>22</sup> It follows that, inasmuch as the fall in the ARP stimulates enlarged reproduction and thus higher wages, wage rises are the result of the fall in the average rate of profit, not vice versa. As the fall in the ARP continues inexorably, wage rises further decrease it, contributing to the bankruptcy of the weaker capitals and increased unemployment. At this point the mass of surplus value is also affected negatively. A decrease in the mass as well as in the rate of profits results in a crisis. It follows that the rise in wages can only strengthen a movement, the decrease in the average rate of profit, rather than cause it. At this point, wages begin to fall due to capital’s attempt to recover its profitability.

There is a way one could try to rescue the profit squeeze theory—by assuming that the mass of surplus value falls instead of rising. In this case, higher wages would indeed necessarily dent profits. But this would mean stepping out of the frying pan into the fire. In fact, one would assume what has to be explained is a decreasing mass of profit, ie the downward phase, and thus the crisis.

One last point: this theory leads naturally to the conclusion that crises could be avoided if only the workers were to restrain their demands. The blame for the crises then falls squarely upon the workers’ shoulders—music to capital’s ears.

(3) While the theories discussed above focus on one element as the prime cause of crises, some Marxist authors reject what they see as “mono-causal” explanations, especially that of the tendential fall in the ARP. Instead, they argue, there is no single explanation valid for all crises, except that they are all a “property” of capitalism and that crises manifest in different forms in different periods and contexts. However, if this elusive and mysterious property becomes manifest as different causes of different crises, while itself remaining unknowable, if we do not know where all these different causes come from, then we have no crisis theory. Moreover, if it is agreed that crises manifest themselves as a falling ARP, if one resorts to the theories criticised above for an explanation of the peculiarities of each crisis, one is left empty-handed because—as argued—none of those theories can explain the origin of crises except the tendential fall in the ARP.

(4) All the theories discussed above have Marx as a reference point. But there are also theories of a different and opposite kind that submit that the cause of crises resides in the financial and speculative sphere, namely in extremely high levels of debt, rampant speculation, a permissive monetary policy, the loosening of rules governing borrowing and lending due to deregulation, and so on. From here the crisis overflows into the real economy. In short, the crisis is due to mistakes in the financial and monetary sphere. The obvious question is: given that crises are a constant and recurrent feature of capitalism, if they are due in the last instance to the mistakes of the financial and monetary authorities as well as of the politicians, of governments, etc, why do they recur? In other words, why don't policymakers learn from their mistakes? Obviously, there must be structural, economic reasons that not only prevent them from learning from their past mistakes but that actually force them to repeat those mistakes recurrently. In fact, the origin of the financial and speculative crises should be sought in the real economy, in the production of value and surplus value, rather than, as is fashionable nowadays, turning the relation of cause and effect upside-down.

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## Notes

1: Böhm-Bawerk argued that there is a contradiction between the first and the third volumes of Capital. See Böhm-Bawerk, 1973. For refutations of this critique see Ernst, 1982; Carchedi, 1984; Freeman and Carchedi, 1996; and Kliman, 2007.

2: Bortkiewicz, 1971, p30.

3: Sweezy, 1970 [1942].

4: The same applies to expanded reproduction.

5: Perez, 1980; Ernst, 1982; Carchedi, 1984.

6: Marx, 1988.

7: Harman points out that "the method of simultaneous equations assumes that the price of the inputs to production have to be equal to the prices of the outputs. But they do not" (p49). This is true. But the reason is that the inputs of a certain production process are not the outputs of the same process. This is the critical point from which Harman's argument is derived.

8: This is not the same as disequilibrium because disequilibrium, being a deviation from equilibrium, implies the latter. But equilibrium and thus disequilibrium are ideological concepts with no scientific value whatsoever.

9: As Harman stresses, "Marx's basic concepts survive all the criticisms once they are not interpreted through the static framework, ignoring the process of change through time that characterises the neoclassical system" (p53).

10: For a more detailed exposition of the above, see Carchedi, 2009a. See also Carchedi, forthcoming.

11: This approach holds that concrete labour is converted to social, abstract labour through the process of exchange.

12: "Money is labour time in the form of a general object, or the objectification of general labour time, labour time as a general commodity"-Marx, 1973, p168.

13: The commodity might have a subjective use value but this is irrelevant because at the moment of exchange the objective use value, the objective use to which that commodity can be put, is non-existent. The alternative is to step over to a subjectivist theory of prices, that is, to leave Marx definitively.

14: For Chris Arthur abstract labour has no material existence before exchange. See Arthur, 2004. For Patrick Murray general abstract labour is "nothing actual". See Murray, 2000. For Michael Heinrich "value can only exist if there is an independent and general form of value-money". See Heinrich, 2004.

15: For a much more detailed critique of value form theory and its many internal inconsistencies, see Carchedi, 2009b.

16: Marx, 1967, p244.

17: Suppose an initial situation:  $80c+20v+20s = 120$ , where  $c$ ,  $v$  and  $s$  represent constant capital, variable capital and surplus value respectively. The rate of profit  $p = 20/(80+20) = 20$  percent. Suppose now a wage cut reduces  $v$  by 5. In the new situation the output is given by  $80c+15v+25s = 120$  and  $p = 26.3$  percent. But if the wage cut is also a loss for the capitalists producing consumer goods,  $80c+15v+20s = 115$  and  $p = 20/95 > 20$  percent. In a two-sector economy an increase in the average rate of profit takes place at the cost of labour (due to lower wages and to lower purchasing power for wage goods) and at the cost of the capitalists

producing wage goods. The average rate of profit rises because the gains in sector one more than compensate the loss in sector two. For rigorous proof, see Carchedi, forthcoming.

18: Marx, 1967, p240.

19: Keynes, 1964, p39.

20: Bernstein, Lawrence and Heidi, 2007, table 3.40.

21: Marx, 1967, p240.

22: Marx, 1967, p256.

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