

Guest post: Paul's theory and Marx's theory of value: a response

 paulcockshott.wordpress.com/2020/05/17/guest-post-pauls-theory-and-marxs-theory-of-value-a-response

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By RV

This is a response to Paul Cockshott's [blogpost](#) in which he criticizes my position about Marx's theory of value.

Somehow I've gotten myself into another argument with Paul Cockshott on Marx's theory of value. Paul has contended that this disagreement is about (1) whether the (and/or Marx's) "labour theory of value" is empirically verifiable and (2) whether it actually holds empirically or not. I don't even agree with him on what the discussion is about. Rather, the debate is about (1) *what* "the" and/or Marx's "labour theory of value" is and (2) *how* it can be tested empirically. Since I disagree with him about what Marx's theory is, I disagree with him about what is needed to support or undermine it empirically. I hope I will be able to clarify this below.

1. "The", Paul's, or Marx's "labour theory of value"?

2. Paul's misunderstanding of Marx's assumption

3. (How) can Marx's "labour theory of value" be empirically verified?

4. Conclusion

1. "The", Paul's or Marx's "labour theory of value"?

According to Paul, *the* "labour theory of value" (which he equates with Marx's "labour theory of value") says that commodities, on average, exchange at their values. In other words, that *the average prices of commodities are directly proportionate to the labour time socially necessary to reproduce them*.¹ He consequently argues, correctly, that if it is empirically demonstrated that average prices aren't directly proportionate to socially necessary labour time, that would invalidate *this* (in Paul's words: "the" and/or Marx's) "labour theory of value". But since he claims to have evidence that average prices are in fact proportionate to values, he claims that this evidence "unequivocally" supports *that* theory.

Contrary to what Paul suggests, I do not argue that Marx did not hold a "labour theory of value", although, it is worth remembering, Marx himself never used those words.² What I do argue is that Marx's labour theory of value does *not* say that commodities, on average, exchange at their values. Consequently, if it is empirically demonstrated that average prices are not directly proportional to values, this does not undermine Marx's

labour theory of value. Conversely, if it is empirically demonstrated that average prices *are* proportionate to values, this is not evidence in support of Marx's theory (although it does undermine other important aspects of Marx's *Capital*, especially the theory of the equalization of the rate of profit and, to a certain degree, his theory of rent). To be sure, the question here is certainly not whether the empirical evidence that Paul and others present actually demonstrates that average prices are indeed directly proportionate to values or not. It might do so, or it might not, but I'm not going into that here.³ The question is whether that has any bearing at all on the empirical validity of *Marx's* theory.

What I call Marx's "labour theory of value" is simply the following: value is the abstract labour embodied in an article⁴ and "that which determines the magnitude of the value of any article is the amount of labour socially necessary, or the labour time socially necessary for its production".⁵ I don't think many Marxist economists would fundamentally disagree with that, including Paul, unless one considers the so called value-form theorists to be Marxists (which I don't). It's the theory that Marx sets out in chapter 1 of *Capital*, Vol. I, which he aptly refers to as "the chapter on the theory of value".⁶ The difference is that Paul argues that "the" and/or Marx's "labour theory of value" also includes: "... and commodities' average prices are proportionate to this value." But this is nowhere to be found in chapter 1, nor anywhere else in any of the volumes of *Capital*. Marx explicitly contradicts it at multiple instances, as I will demonstrate below.

First of all, it is commonplace knowledge that a good part of Vol. III of *Capital* (Chapter 10 in particular) is dedicated to demonstrating that prices tend to fluctuate around prices of production (simply put: the cost-price of the commodity + the average profit) rather than around "simple" values – e.g., among many other instances: "[commodities] are sold at their prices of production".⁷ Paul doesn't deny this. So for Paul to defend that *his* labour theory of value is Marx's, he first of all has to introduce a completely unwarranted rupture between a "Vol. I & II Marx" and a "Vol. III Marx", which he does. But since Marx was writing Vol. III simultaneously with Vol. I and II, it is rather unlikely that he didn't hold the same views throughout them – unless one proposes that Marx was constantly doubting and going back and forth between two completely contradictory theories. One could argue that Marx never finished Vol. III and would have corrected this had he done so, but that would be incompatible with Marx's own contention that "all the problems have been resolved in the first 3 books" and that "the advantage of my writings is that they are an artistic whole".⁸ Note that Marx wrote those last two lines in a letter to Engels 1865, *two years before Vol. I of Capital was published*. So it is a very long stretch to say that Marx, on one of the most fundamental aspects of his work, held different views between Vol. I and II of *Capital* on the one hand, and Vol. III on the other.

Second, in *Theories of Surplus Value*, which was intended as Volume IV of *Capital*, Marx repeats that "average prices and values are not identical".⁹ In this manuscript, which he wrote *before* any of the other volumes, he emphasized that "[t]he capitalist

does not by any means sell his commodities ... at the value contained in them”¹⁰: since “competition strives to level out values into cost-prices”,¹¹ “cost-prices must differ from their values”.¹² As a result, “average prices or cost-prices different from the values of the commodities come into being.”¹³ Consequently, “if the profit which a particular capital yields in a particular branch of production is to be explained on the basis of the surplus-value contained in the commodities it produces ... this is a more difficult problem to solve than that of squaring the circle, which can be solved algebraically. *It is simply an attempt to present that which does not exist as in fact existing.*”¹⁴ He therefore criticizes “Ricardo’s ... arbitrary attempt to make concrete relations directly fit the simple relation of value”.¹⁵ Marx again and again insists that there is a “contradiction between the general law [of value] and further developments in the concrete circumstances” that needs “connecting links” to be solved.¹⁶ So another unwarranted rupture, between *Theories of Surplus Value* and Vol. I, has to be introduced to make Marx compatible with Paul. The price to be paid is that Marx becomes incompatible with himself. Now, Paul might think that dropping prices of production and the equalization of the rate of profit doesn’t fundamentally disrupt Marx’s theory, but that’s certainly not what Marx thought: he thought that this was absolutely essential, because “differences in the average rate of profit in the various branches of industry ... could not exist without *abolishing the entire system of capitalist production.*”¹⁷

Third and most problematically for Paul, Marx explicitly contradicts that prices tend to be proportionate to values *no less than three times even in Vol. I*: “[A]verage prices do not directly coincide with the values of commodities”.¹⁸ In Chapter 9, he confirms that while “[w]e have in fact assumed that prices = values[, w]e shall ... see in Volume 3 that even in the case of average prices the assumption cannot be made in this very simple manner.”¹⁹ He therefore also denies, again explicitly, *even in Vol. I*, that the profit that the individual capitalist actually pockets is, on average, proportionate to the surplus-value his workers produce: “Everyone knows that a cotton spinner, who, ... employs much constant and little variable capital, does not ... pocket less profit or surplus-value than a baker, who relatively sets in motion much variable and little constant capital. For the solution of this apparent contradiction, many intermediate terms are as yet wanted”.²⁰ So in fact, even if there were a “Vol. I Marx” and a “Vol. III Marx”, *both* would hold that average prices are not proportionate to values. Paul’s “Vol. I world” where commodities exchange at their values is nowhere to be found in Marx’s writings.²¹

Paul, however, seems to be determined to *force* Marx, at all costs, to hold the same “labour theory of value” as him. These costs are that he has to resort to a whole lot of highly problematic “explaining away”. He has to:

- (1) make Marx blatantly contradict himself on one of the pillars of his theory: between Vol. I and III of *Capital*, between *Theories of Surplus Value* and Vol. I, within Vol. I, and between a whole range of other works;
- (2) claim some unscientific attitude (like “dishonesty” – a charge which Paul did indeed level against Marx when I pointed this out) on the part of Marx where he explicitly

contradicts Paul's theory of value in Vol. I;

(3) ignore or put away as irrelevant the fact that Marx wrote to Engels that the first 3 volumes of *Capital* were finished in a theoretical sense.

I find that quite an unscientific procedure. At the very least, it flies in the face of the standard scientific practice of the principle of scientific exegesis and the criterion of coherence.²²

Rather than resorting to a catalog of intricate suppositions and paradoxical constructions, I would conclude from all of the above that it is far more plausible, I would even say evident, that Marx, who can hardly be accused of being a dimwit, didn't just blatantly contradict himself on such a fundamental piece of his theory. I think that he actually just meant it when he said: [A]verage prices do not directly coincide with the values of commodities"²³. I therefore argue that, like anyone else, Marx has a right to his own theory. I propose that we let Marx have his, and let Paul have his, and let both contend so we can see which one better stands the test of reality.

2. Paul's misunderstanding of Marx's assumption

Paul claims that "[t]his assumption [of money values being proportional to labour content] is absolutely necessary for the marxist analysis of absolute and relative surplus value." This is true, but not in the way he suggests (at least not according to Marx). Marx explains why it is, though, so let's just read what he says about his assumption.

Marx indeed says that "[t]he transformation of money into capital *has to be* developed on the basis of... the exchange of equivalents"²⁴, which is just a rewording of Paul's quote above. But after this claim, Marx immediately and explicitly explains *why* he has to assume this. After stating that "[t]he reader will see from the foregoing discussion that the meaning of this statement is only as follows", he continues that "the formation of capital must be possible *even though* the price and the value of the commodity be the same, for it cannot be explained by referring to any divergence between price and value."²⁵ Or, in the original German: "Die Kapitalbildung muß möglich sein, *auch wenn* der Warenpreis gleich dem Warenwert." The English "even though", would have an even better translation as "also when".

Both versions seem to me as clear as they possibly can be. In the preceding pages Marx had demonstrated that surplus-value cannot arise from unequal exchange. If unequal exchange cannot explain surplus-value, it must be possible to explain surplus-value *even if* commodities exchange at their values. He has to demonstrate that there is surplus-value *even under the very restrictive assumption that average prices are proportionate to values*. Marx singles out the most restricted, most difficult case, because he thinks it is only in this case that he can decisively make his point without there being any possible other explanation. This is Marx's justification of why, from the very end of Chapter 5 onwards through the rest of Vol. I, he *assumes* that prices are proportionate to values. It is no coincidence that, as I have already noted above, Marx reminds us again a few chapters later that this assumption doesn't apply to reality: "We

have in fact assumed that prices = values. We shall, however, see in Volume 3 that even in the case of average prices the assumption cannot be made in this very simple manner.”²⁶

The arguments Paul puts forward in the following paragraphs of his blogpost are irrelevant to this debate. This is demonstrated by the fact that (from “Recall...” to “... falls apart”) he no longer refers to prices or exchange, but to *value* added in production, which is something different. No one in this debate is denying that Marx said that value is added by labour in production (see above). In the subsequent 3 paragraphs (from “Now look...” to “... of commodities”), Paul then subtly switches from talking about average prices being proportionate to labour values to talking about *changes* in labour values leading to *changes* in prices. Of course, according to Marx, changes in values do indeed tend to lead to changes in prices. But the question is not whether changes in A lead to changes in B. The question is whether A is, on average, directly proportional to B, which is not what Marx thinks.²⁷ Hence the perfectly consistent remark from Marx that “it is clear that *whatever* the relation between the value and the cost-price of a commodity, the latter will always change, rise or fall, in accordance with changes of value”.²⁸

Paul continues to say that “the absolute surplus value analysis rests on a proportionality between labour time and the value added to the product. Relative surplus value rests on a proportionality between labour time and the money wage, via the mediation of the price of wage goods.”

He seems to be missing the meaning of the words “analysis” and “assumption”. It is indeed absolutely necessary for the *analysis* (“the process of breaking a *concept* down into more simple parts, so that its *logical* structure is displayed”²⁹) of how surplus-value arises in production to *assume* (= suppose) that commodities are exchanged at their values. *Even if they actually don’t*. In other words, when you *abstract* from value-price deviations, that doesn’t mean that you think they aren’t there. It just means that you think they’re not relevant to what you’re trying to demonstrate (of course maybe they are relevant, and in that case your demonstration will not stand the test of practice). It means that it renders the analysis unnecessarily complex and doesn’t allow you to conclusively demonstrate anything. At least, that’s how Marx sees it.

Marx puts it this way: “How can we account for the origin of capital on the assumption that prices are regulated by the average price ... [although in reality] average prices do not directly coincide with the value of commodities”.³⁰ It is crystal clear that Marx means this as a *mental abstraction*, not as an actual assumption of what’s happening in reality. Crystal clear because, at precisely the moment he makes the assumption, he immediately and explicitly adds that it does not hold in reality!

Now Paul might say that if prices are not proportionate to value in actual empirical fact, Marx’s analysis of the source of profit (surplus-value) is empirically invalidated. Whether that be the case or not, Marx is explicit that he doesn’t agree with Paul on that, since “[t]he law of the *equalisation of capital gains* does not invalidate the law that the

“*value*” of the products is governed by “labour costs”. But it does invalidate [the] assumption that the *average price* of the products equals their “*value*”.”³¹ All of that might be true, or it might not. What matters here, is that it is most definitely what Marx put forward in *Capital*.

3. (How) can Marx’s labour theory of value be empirically verified?

From the above it is beyond any doubt that, contrary to what Paul says, Marx didn’t hold that in reality, average prices are directly proportionate to labour values. Marx did hold, though, that the *total* price of all commodities equals³² *total* value produced in society, *total* profit equals *total* surplus-value produced, and the *economy-wide* “price” rate of profit equals the *economy-wide* “value” rate of profit. These are his so-called “three aggregate equalities” developed in Vol. III of *Capital*. Marx seems to have held to this theory until the end of his life.³³ I will not go into detail here if and how these “three aggregate equalities” actually confirm Marx’s analysis of exploitation, regardless of permanent value-price deviations. What matters here (and what is generally acknowledged) is that he was convinced that they confirmed his analysis, whether it is true or not and whether Paul agrees or not. It is Marx’s theory.

So can Marx’s theory still be tested then? Clearly, testing if average prices are proportionate to labour values has nothing to do with testing Marx’s theory of value (though it is useful for testing Paul’s theory). But the totality of commodities does not exchange with itself. Whatever the relation between price and socially necessary labour time may be, doesn’t this relation of “totals” always hold, *by definition*? And aren’t such definitions untestable? Doesn’t that mean that his theory is some Hegelian dialectical trick that uses phraseology to explain reality but can’t be verified in any way? This is more or less the charge that Paul leveled against my propositions: if Marx didn’t hold that prices are on average proportionate to values, Marx’s theory is untestable and thus not a real scientific (falsifiable) theory. Now, even if that would be the case (I will explain below why it’s not), that doesn’t change the fact that it is most certainly is what Marx thought. All of this would simply mean that Marx was defending an unscientific theory.

That is also one of the main arguments that Eugen von Böhm-Bawerk, a leader of the Austrian school of economics and later Austrian Minister of Finance, put forward in his well-known critique of Marx.³⁴ Among other criticisms (that Marx was in fact contradicting himself between Vol. I and III of *Capital*, as Paul holds), Böhm-Bawerk proposed that Marx’s “three aggregate equalities” are simply tautological and that his whole theory is therefore meaningless. The totality of exchangeable commodities does not itself exchange with anything, so you cannot demonstrate (neither logically nor empirically) that it is equal or proportionate to anything at all. Since price is the monetary expression of value, total price is by definition equal³⁵ to total value, because that is the same as saying: total price is equal to total price. Hence the accusation of tautology and meaninglessness. Hence the supposed impossibility of testing Marx’s theory empirically. Hence its supposed scientific worthlessness.

Despite all his references to science, Paul, along with and Böhm-Bawerk, seems to forget that in general, scientific theories are not tested by empirically verifying their *assumptions*, but by empirically verifying their *conclusions*, their *predictions* about reality. The proof of the pudding is in the eating: whether the cook's ingredients and technique are sound is tested by the eating, not the other way around. Marx starts out from the idea that value is determined by socially necessary labour time. From there he derives a whole set of conclusions.³⁶ And these conclusions *can* be put to the test of reality. Some can only be tested "in principle" because we lack the means, others can actually be supported or undermined with the currently available means. If we have empirical data that supports Marx's conclusions and cannot be satisfactorily explained by other theories, this evidence would strongly suggest that Marx's theory is right.³⁷

An example might be in order. At the risk of bringing up even more controversy: one of the most fundamental conclusions from Marx's theory of value is the law of the tendency of the rate of profit to fall.³⁸ *If* labour is indeed the sole source of value and *if* Marx's "three aggregate equalities" hold, the rate of profit *should* fall *if* capital accumulates more quickly than employment (" C/V " increases) and *if* the division of value added between workers and capitalists (" S/V ") doesn't offset this.³⁹ I put the "ifs" and "shoulds" in italics to emphasize that the law does not say that the rate of profit must in the long run fall under all circumstances. It sets certain conditions to this fall, and should be tested within these condition (just like the law of gravity always holds on earth but doesn't say that all objects must necessarily fall down to earth eventually). This conclusion, made explicitly by Marx in Part III of Volume III of *Capital*, necessarily follows from his theory of value,⁴⁰ *pace* "explaining away" by some Marx scholars like Heinrich.⁴¹ If the tendency of the rate of profit to fall does not hold in reality,⁴² Marx's theory of value cannot possibly be maintained.

I will not here go into the question whether empirical evidence actually supports the tendency of the rate of profit to fall. Much less am I going into the question of whether the rate of profit actually *fell* because of it during the past half century.⁴³ That's not the point. The point is that Marx's theory is testable through its conclusions, even though one of his basic assumptions cannot be tested directly as such. So I can now return to the main point of this section, which is that denying that Marx's theory of value says that commodities are exchanged at their values, and consequently denying that Marx's theory of value can be tested empirically by comparing average prices to the labour time socially necessary to produce commodities, does not at all imply that Marx's theory is some fantastic Hegelian mind-construct. It remains a theory about reality that can be empirically supported or undermined in various ways.

One more thing. Invalidating the tendency of the rate of profit to fall effectively undermines Marx's theory of value. But that does not necessarily mean that empirically supporting the law confirms Marx's theory if there are other theories that can explain the same results. Paul, in the blogpost which I am replying to, referred to neo-classical analysis, that can (supposedly) also explain the tendency of the rate of profit to fall. If

both Marx's theory and neo-classical theory can explain the tendency, we still have no evidence that Marx's theory provides the better explanation. It might as well be the neo-classicists who are right.⁴⁴

It might be true that Solow (who Paul refers to) can also explain the tendency of the rate of profit to fall. I'm not an expert in neo-classical economics. If it is the case, then, as with all competing scientific theories in any domain, supplementary situations where both theories produce different conclusions should be tested to distinguish which of the two holds.⁴⁵ One could test other conclusions by Marx that are at odds with those of neo-classical economics and see which theory holds. One could also look more closely at under which circumstances the rate of profit shows a tendency to fall according to Marx's theory on the one hand, and according to neo-classical theory on the other, and then see if those circumstances corresponds to the empirically verified tendency. And so on and so forth. And if both theories yield the same predictions in all possible circumstances, well, then both theories are just as good as one another (which I strongly doubt, but as I said, I'm not an expert in neo-classical economics).

Conclusion

As Paul said, "[t]his came up in a discussion consequent upon my [Paul's] posting of a series of articles criticising the Hegelian interpretation of Marx. One of my [Paul's] reservations about the Hegelian school is that I [Paul] think a Hegelian approach does not encourage empirical investigation. Instead it leads people to focus on interpreting existing texts and operating at the level of abstract ideas. The scientific process whereby theories are tested against evidence and then developed to get a better understanding of what can be observed tends to be cast by the wayside."

I hope I sufficiently clarified that I do not hold a "Hegelian" interpretation of Marx. I do believe that (materialist) dialectics are indispensable if one wishes to understand reality (or at the very least Marx), and that studying Hegelian mystified dialectics might help to understand Marx's materialist dialectics. It might be said that I am focused on interpreting existing texts here, but I'm not actually "interpreting" anything, I'm just citing the text and proposing to read what it says. Which I think is warranted when someone pretends that a text says something it actually doesn't. If I write A and a person says I'm writing B, and that person claims to prove me wrong (or right) by invalidating (or confirming) B, I would like someone to correct that person, if I couldn't do it myself. On the practical side, we should not uncritically let someone claim that he has empirically demonstrated something (i.e. *Marx's* theory) without at least checking what he wanted to demonstrate in the first place (i.e. reading what *Marx* wrote). I am also not operating on the level of abstract ideas: the point of all this is that it has a very concrete impact on how we analyze capitalism and, more importantly, on how we will build socialism when the working class has conquered power (although I don't go into that question in this article).

Paul rightly says that what we should focus on “[t]he scientific process whereby theories are tested against evidence and then developed to get a better understanding of what can be observed”. Exactly: *theories*, plural. Paul has his theory, and Marx has “*his* conception of what is called the ‘labour’ theory of value.”⁴⁶ Let us test them both instead of pretending they are both the same. I hope I made it clear that they are, indeed, *very* different.

As a closing remark, it should be clear that I am greatly indebted to Andrew Kliman for a number of the insights of this reply to Paul, although this does of course not necessarily mean that Andrew and I agree on everything.

I would like to thank Paul to propose to publish this reply as a guest post on his blog, even though, as someone on Facebook noted, I am not an “approved and recognized academician”. I’m glad that Paul doesn’t share the opinion that scientific debate should be restricted to academicians and that he is prepared to give opponents a platform.

1One could also say “average prices equal values”, but Paul would disagree with the word “equal”. He contends that prices and values have different units: prices in money (dollars, pounds, euros etc.), values in labour time. If that were the case, the only correct way of putting it would indeed be to say the relation is proportionate. Paul of course has the right to hold this opinion, and maybe he is correct, but again his opinion differs from Marx’s. For Marx, “values can be ... measured in ...money” *and* “the measure of value ... immanent in commodities [is] labour-time” (*Capital*, Vol. I, Chapter 3, Section 1). Marx frequently used monetary terms as well as labour-time to denote an amount of value. While the latter is more “fundamental” (“immanent”) than the former, both are, to Marx, valid “measures of value” and thus valid units. Paul actually acknowledges this, saying that Marx “repeatedly switches between presentation in terms of money and equivalent proportional representations in terms of time” and himself repeatedly using the word “money value”, but at other instances he contradicts this, for reasons yet unknown to me.

2Marx instead referred just a handful of times to “the” or “my theory of value” (e.g. *Capital*, Vol I, Afterword to the Second German Edition; also *Notes on Wagner*) or, and I think more precisely, “my theory of value and cost-prices” (*Theories of Surplus Value*, Chapter XII, Section 3), both without the word “labour”. Note that in the second instance, Marx does not just say “my theory of value” but rather speaks of “my theory of value *and cost-prices*” (italics added). Also note that he doesn’t speak of *theories*, plural, but seems to consider his theory of value and cost-prices as one theory, as a whole, as will be confirmed below.

3I think it doesn’t, because Paul’s statistical methods are seriously flawed, but I advise anyone interested in this subject to read the ongoing debate between Paul and Andrew Kliman in which I am firmly on the side of the latter.

⁴“A use value, or useful article, therefore, has value only because human labour in the abstract has been embodied or materialised in it” and “As values, all commodities are only definite masses of congealed labour time”. *Capital*, Vol. I, Chapter 1, Section 1. The only type of articles that can have value are commodities, but this is part of another controversy with Paul, so I will leave this aside in this article.

⁵*Capital*, Vol. I, Chapter 1, Section 1.

⁶*Ibid.*, Afterword to the Second German Edition.

⁷*Capital*, Vol. III, chapter 37.

⁸*Marx to Engels*, July 31, 1865.

⁹*Theories of Surplus Value*, Chapter IX, Section 5. I will not cite every instance of *Theories of Surplus Value* where Marx disagrees with Paul, because they are too numerous. Apart from a few illustrations, it suffices to note that Chapter X is dedicated specifically to this issue. Chapter XX contains variations on the same theme.

¹⁰*Ibid.*, Chapter XX, Section 1, Sub-section c.

¹¹*Ibid.*, Chapter X, Section 4, Sub-section a. Marx used the word “cost-price” in his earlier work for that to which he referred to as “price of production” in *Capital*.

¹²*Ibid.*, Chapter XX, Section 1, Sub-section c.

¹³*Ibid.*, italics omitted.

¹⁴*Ibid.*, Section 2, Sub-section b, italics added.

¹⁵*Ibid.*, Sub-section c.

¹⁶*Ibid.*

¹⁷*Capital*, Vol. III, Chapter 8, italics added. Paul has recently published a [blogpost](#) in which he supposedly demonstrates that this equalization does not hold in reality, but that is not the point here. The point is that Marx thought it did and it was an integral part of his theory.

¹⁸*Capital*, Vol. I, last footnote of Chapter 5.

¹⁹*Ibid.*, Chapter 9, Section 2.

²⁰*Ibid.*, Chapter 11.

²¹At the very end of Chapter 5 of *Capital*, Vol. I, Marx does introduce, for the sake of the argument, the mere *assumption* of prices being proportionate to values. But that doesn't mean that he actually thought this was true in reality, nor did he think it was essential for his theory to be valid, as I will demonstrate in section 3.

22In short: if you can interpret an author's work in a way that he "makes sense" (that it all comes together, that the author is internally consistent and doesn't contradict himself), this is the preferred interpretation.

23*Capital*, Vol. I, last footnote of Chapter 5.

24*Ibid.*, Chapter 5, italics added.

25*Ibid.*, last footnote, italics added.

26*Ibid.*, Chapter 9, Section 2.

27In a comment on Facebook, Paul has said that if changes in values are the *only* determinants of changes in prices, this proportionality is necessarily the consequence. But for Marx, changes in values are *not* the *only* determinants of changes in prices, because "the law of value ... happens to be counterbalanced by the consequences of the varying relations of supply and demand" (*The Poverty of Philosophy*, Chapter 1, Section 2.) There is also, according to Marx, "[t]he law of the *equalisation of capital gains*" (*Theories of Surplus Value*, Chapter IX, Section 10, italics in the original) or more plainly "the law of equalisation of the rate of profit" (*Capital*, Vol. III, Chapter 17).. Marx on rare occasions also called it the "law of cost-price" (*Theories of Surplus Value*, Chapter XX, Section 1, Sub-section c) or the "law of prices of production" (*Capital*, Vol. III, Chapter 40). All of them influence price movements.

28*Theories of Surplus Value*, Chapter XX, Section 1, Sub-section c.

29*Oxford Dictionary of Philosophy*, italics added.

30*Capital*, Vol. I, Chapter 5, last footnote.

31*Theories of Surplus Value*, Chapter IX, Section 10, italics in the original.

32See footnote 1.

33See, for example, his *Notes on Wagner*: "The more the grain is sold over its value, the more other commodities, whether in their natural form or in money form, will be sold under their value by exactly the same amount ... The total value remains the same ... the total value of all commodities does not only remain the same, but even remains the same expressed in money, if money is included among the commodities."

34In *Karl Marx and the close of his system*. Paragraph dedicated to Facebook user Томислав Томе Томи, who suggested that Paul shouldn't bother debating with me if I'm not an "approved and recognized academician" but that he should instead counter-attack the arguments of Böhm-Bawerk and others.

35See footnote 1.

36 Actually it is the other way around: this is not his assumption, but the conclusion of Marx's analysis (even though he probably initially took it over as given from Ricardo and other political economists), while it does become the assumption of his synthesis. As Marx notes in his postface to the second edition of *Capital*, Vol. I, "[o]f course the method of presentation must differ in form from that of inquiry. The latter has to appropriate the material in detail, to analyse its different forms of development and to track down their inner connection. Only after this work has been done can the real movement be appropriately presented. If this is done successfully ... then it may appear as if we have before us an *a priori* construction." This is preluded in Marx's introduction of *Grundrisse*, Section 3: "It seems to be correct to begin with the real and the concrete ... I would then, by means of further determination, move analytically towards ever more simple concepts, from the imagined concrete towards ever thinner abstractions until I arrived at the simplest determinations. From there the journey would have to be retraced until I had finally arrived at [the concrete] again, but this time not as the chaotic conception of a whole, but as a rich totality of many determinations and relations ... [T]he conceptual world is ... a product ... of the working-up of observation and conception into concepts." So although Marx *presents* his theory by synthetically building up and deducing real phenomena from the assumption that value is determined by socially necessary labour time, the theory of value itself is actually derived analytically and induced from real phenomena. The real-world empirical facts are Marx's starting point, his observations his "assumptions", while his labour theory of value and his theory of exploitation are his "conclusions" in concepts. This theory then in turn becomes the assumption from which he arrives at new, more structured conclusions about reality through synthesis. On the basis of the concepts, in *Capital* Marx synthetically rebuilds a more complete, structured description of reality that contains certain predictions about reality. A materialist (a scientist) can only test concepts by testing these predictions. I could write something about the unity of analysis and synthesis, of induction and deduction and of the abstract and the concrete, but Paul doesn't like dialectics.

37 I consciously say "evidence" and not "proof", and "suggest" and not "prove", for the same reason I use quotation marks for "C/V" and "S/V" in the next paragraph. The empirical data that we have (from national accounts) can only be used as *proxies* for Marx's categories. Value added, stocks of assets, profit etc. in the national accounts are not exactly similar to Marx's use of new value, capital and surplus-value. Moreover Marx, as already noted, considered his conclusions applicable to capitalist economy as a whole, but there are no world-wide "national" accounts (worse, the only national accounts that seem to have a sufficient level of consistency through the years might be those of post-war US). Hence, empirical observations based on these data can only provide *evidence* that *supports* or *undermines* Marx, but it cannot conclusively *prove* (nor conclusively *invalidate*) his theory. The evidence could be overwhelming and counter-evidence could be non-existent, but it still would not be definite proof.

38I have stated elsewhere that this tendency works through the tendency of the average price level to fall with rising labour productivity, but I will leave this intermediary step out here to simplify the argument and stick more to what Paul wrote.

39And a rising rate of exploitation cannot offset the falling rate of profit indefinitely. See *The Unmaking of Marx's Capital: Heinrich's Attempt to Eliminate Marx's Crisis Theory* by A. Kliman et al.

40Unsurprisingly, even on an abstract rather than empirical level, the contention that it is impossible to derive the law of the tendency of the rate of profit to fall from Marx's theory (which is for example what the famous Okishio supposedly demonstrated) leads necessarily to the conclusion that labour is not the sole source of value, as is definitively demonstrated by Ian Steedman in *Marx After Sraffa*. For those interested in this issue, see *Reclaiming Marx's Capital* by A. Kliman.

41See *The Unmaking of Marx's Capital: Heinrich's Attempt to Eliminate Marx's Crisis Theory* by A. Kliman et al. for a critique of Heinrich.

42This is not the same as saying that the rate of profit actually fell in reality. For example, if the rate of exploitation (s/v) rises, this might offset the falling tendency. The influence of the rate of exploitation rises can be seen in the data by comparing, as a proxy for s/v , the relation between total capitalist profit and total worker compensation. This way, we can statistically correct the rate of profit for a rising rate of exploitation. Another counteracting tendency might be the cheapening of fixed capital. But since Marx's law of the tendency of the rate of profit to fall will only make the rate of profit fall if capital actually accumulates, one merely has to look if the data show accumulation or dis-accumulation to know if the conditions are fulfilled. Inflation should also be taken into account.

43Again, whether the rate of profit indeed has a tendency to fall or not, or whether it actually fell or not (those are two different propositions) are unimportant for the argument above, which is about empirical *testability*, not the actual empirical *results*. For those aspects, I highly recommend A. Kliman's *The Failure of Capitalist Production* to anyone interested in this question. But you do not have to agree with Kliman to agree with my arguments in the text body.

44Both theories would be equally *supported* by the evidence.

45Although this is actually unnecessary in this specific case, because it is well-known that neo-classical economic theory is based on the tautological explanation price by price. Tautological theories are irrelevant, because even if they seem to correspond to empirical observation, they don't actually explain anything, which is what a theory is supposed to do.

46 V.I. Lenin, *Preface to the Russian Translation of Karl Marx's Letters to Dr. Kugelmann*, italics in the original.

