All Value-Form, No Value-Substance: Comments on Moseley's New Book, Part 6

Andrew Kliman, July 26, 2016 [corrected version; 1st version published on July 25, 2016]

Well, as I predicted when I began this series of comments on Fred Moseley's new book, responding to him "will prove to be a waste of time and effort" (Kliman 2016a). At first, instead of conceding that I have demonstrated that his interpretation of Marx is physicalism in "macro-monetary" clothing, he began to demand demonstrations with more and more distinct sectors and kinds of goods. Once he realized that that wasn't going to rescue his interpretation, he began to engage in the intellectual equivalent of throwing spaghetti against the wall in the hope that a strand or two will stick. And he's still at it.

Nothing has stuck, but after his latest reply to me (Moseley 2016b), the stain on the wall is even bigger, as is the mess of spaghetti on the floor. He has responded to me with ridiculous computations that he could have easily seen were wrong, if only he had plugged in his preferred physical outputs into the interactive spreadsheet file I provided along with Part 5 of this series of comments. Below, I'll show that his computations are ridiculous.

And he has responded by badgering me to reply to his argument regarding a fully-automated economy. He now claims that his argument "shows very clearly the difference between my interpretation of Marx's theory of the rate of profit and Sraffa's theory" (Moseley 2016b). However, it's just a bunch of unsubstantiated and poorly thought-out assertions that show nothing. Below, I respond to his argument by showing that his "macro-monetary" rate of profit is quantitatively identical to the rate of profit of the (other) physicalist economists, *even in the case of a fully-automated economy*. In this case, too, the fact that he expresses his rate of profit as the ratio of surplus-value to capital value advanced, instead of as a ratio of physical coefficients, makes no difference. It is all value-form and no value-substance.

Moseley's Ridiculous Computations

In Part 5 of this series of comments on Moseley's new book (Kliman 2016b), I showed once again that his "macro-monetary" rate of profit is quantitatively identical to the rate of profit of the (other) physicalist economists. On the basis of his numerical example (Moseley 2016a), I demonstrated that, while he was correct to contend that his rate of profit falls from 50% to 45%, the rate of profit of the Sraffians and other physicalist economists *likewise* falls from 50% to 45%. The interactive Excel spreadsheet file accompanying Part 5 makes clear that *both* rates of profit will always fall from 50% to 45%, given any positive per-unit prices or any positive physical output levels of your choice.

The import of this demonstration is unmistakable: Moseley's rate of profit is determined by the same technological and real wage coefficients that determine all other physicalist theorists' rate of profit, and in exactly the same manner. That he expresses his rate of profit as the ratio of

surplus-value to capital value advanced, instead of as a ratio of physical coefficients, makes no difference. It is all value-form and no value-substance.

And the demonstration is *obviously* correct. Everyone can easily confirm that it is correct in a few minutes, simply by plugging prices or physical outputs into the Excel spreadsheets and verifying that the physicalist rate of profit always falls from 50% to 45%, just like Moseley's "macro-monetary" rate of profit.

But Moseley's latest tactic is to deny the obvious! In his latest response, he writes,

> if output remains the same in both sectors (e.g. 18 instead of declining to 16 as in Kliman's calculations), then the input-output coefficients will be: $a_1 = .556$; $b_1 = .056$; $a_2 = .111$; and $b_2 = .500$. And we can calculate the physicalist rate of profit according to Kliman's physicalist equation, and the rate of profit increases to .638! In striking contrast to the decline in the rate of profit according to my "macro-monetary" interpretation of Marx's theory. [Moseley 2016b]

This is *obviously* false, as Moseley himself could seen in an instant—if he had bothered to plug the number 18 into the "Choose Your Outputs!" spreadsheet. But Moseley is too busy defending his interpretation to bother with discovering the truth. So let's discover it for him (see Figure 1). The input-output coefficients after the technical change are *not* $a_1 = 0.556$; $b_1 = 0.056$; $a_2 = 0.111$; and $b_2 = 0.500$. They are $a_1 = 0.625$; $b_1 = 0.063$; $a_2 = 0.125$; and $b_2 = 0.563$. And the physicalist rate of profit is *not* .638 (= 63.8%). It is ... drum roll please ... 45%!

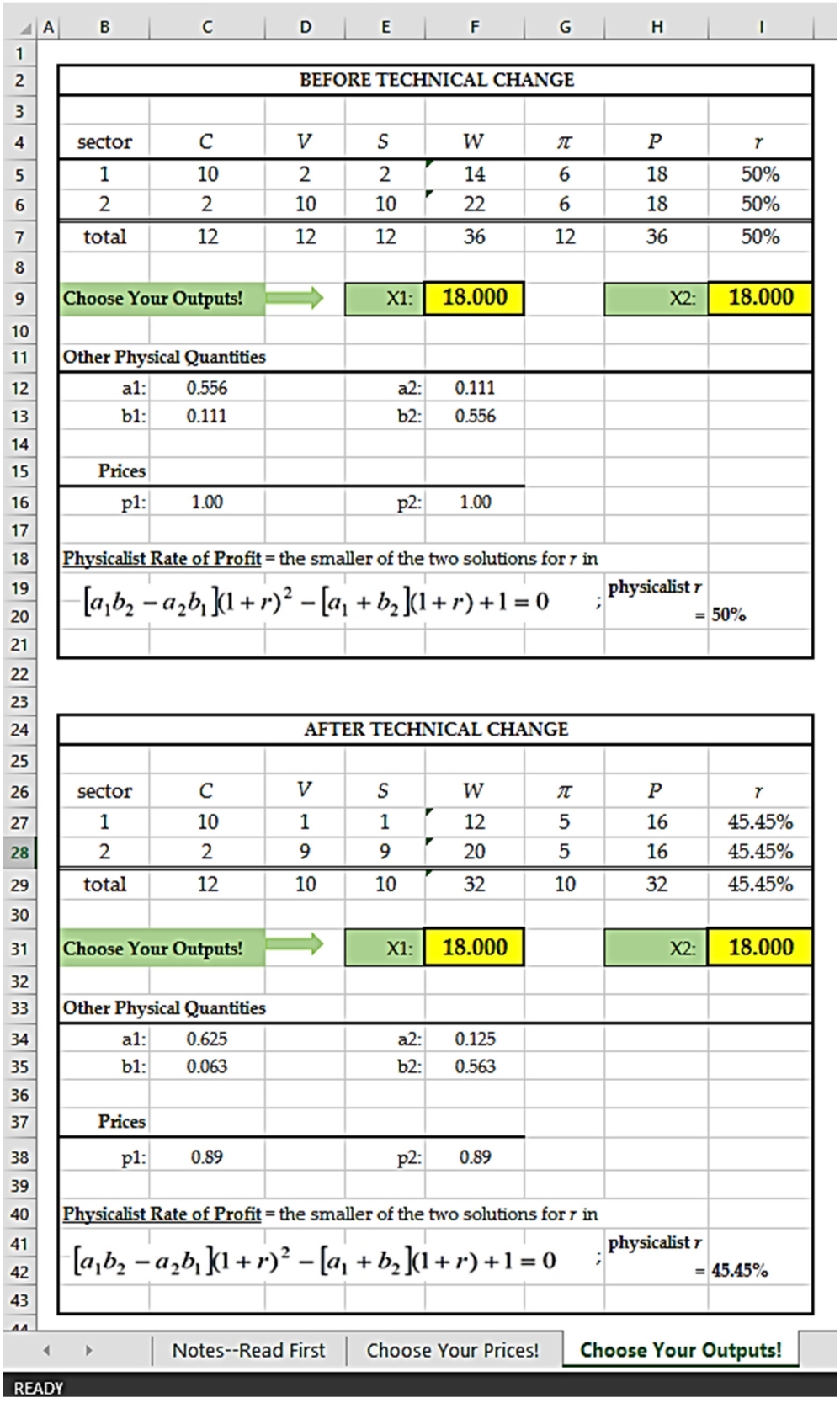
QED. It's easy as 1, 2, 3. Oh, simple as *do re mi*. QED; 1, 2, 3; baby, you and me girl.

The Correct Computations

For anyone who is still not convinced (i.e., Fred Moseley), let's do the calculations for him. We start with *his* "macro-monetary" figures. They are data, givens. The *C, V, S,* etc. data in the top table in Figure 1, originally part of an example of mine (Kliman 2016a), are taken over by Moseley (2016b) in his own example. "Kliman's first table ... accurately represents my 'macro-monetary' interpretation of Marx's theory. *C* and *V* are taken as given as quantities of money capital, *S* is determined by *V* (assuming $S/V = 1$) and the rate of profit = total *S* / (total $C + V$)." He then assumes that constant capital (*C*) remains unchanged, while "variable capital [*V*] is reduced by 1 in both sectors (from 2 to 1 in sector 1 [and] from 10 to 9 in sector 2)" and "the amount of surplus-value [*S*] will also be reduced by 1 in both sectors." This is precisely what's depicted in the bottom table of Figure 1.

As a result, the total value of output, $W = C + V + S,$ falls by two units in each sector, from 14 to 12 in Sector 1 and from 22 to 20 in Sector 2. Since the two sectors advance equal amounts of capital ($C + V$), the equalization of the rate of profit requires that they evenly split the 10 units of total surplus-value, each receiving an average profit (π) of *5*. And the total price of output, $P =$

Figure 1



BEFORE TECHNICAL CHANGE

sector	C	V	S	W	π	P	r
1	10	2	2	14	6	18	50%
2	2	10	10	22	6	18	50%
total	12	12	12	36	12	36	50%

Choose Your Outputs! → X1: 18.000 X2: 18.000

Other Physical Quantities

a1:	0.556	a2:	0.111
b1:	0.111	b2:	0.556

Prices

p1:	1.00	p2:	1.00

Physicalist Rate of Profit = the smaller of the two solutions for r in

$$[a_1b_2 - a_2b_1](1+r)^2 - [a_1 + b_2](1+r) + 1 = 0$$

; physicalist r = 50%

AFTER TECHNICAL CHANGE

sector	C	V	S	W	π	P	r
1	10	1	1	12	5	16	45.45%
2	2	9	9	20	5	16	45.45%
total	12	10	10	32	10	32	45.45%

Choose Your Outputs! → X1: 18.000 X2: 18.000

Other Physical Quantities

a1:	0.625	a2:	0.125
b1:	0.063	b2:	0.563

Prices

p1:	0.89	p2:	0.89

Physicalist Rate of Profit = the smaller of the two solutions for r in

$$[a_1b_2 - a_2b_1](1+r)^2 - [a_1 + b_2](1+r) + 1 = 0$$

; physicalist r = 45.45%

Notes--Read First | Choose Your Prices! | Choose Your Outputs!

READY

$C + V + \pi$, therefore falls, from 10 + 2 + 6 = 18 to 10 + 1 + 5 = 16 in Sector 1, and from 2 + 10 + 6 = 18 to 2 + 9 + 5 = 16 in Sector 2. The rate of profit, $\frac{\pi}{C+V}$, equals 45.45% in both sectors.

Note again that these are *Moseley's own* "macro-monetary" "givens," computed exactly in the manner he stipulates.

Now, because—and only because—the per-unit prices of Moseley's inputs and outputs are constrained to be equal, all of the capital advances per dollar of sales revenue can be expressed either as an input-output coefficient (physical amount of the input required to produce one physical unit of the output) or as the product of a per-unit price ratio ($\frac{p_1}{p_2}$ or $\frac{p_2}{p_1}$) and an input-output coefficient:

$$\frac{C_1}{P_1} = \frac{p_1 a_1 X_1}{p_1 X_1} = a_1$$
$$\frac{C_2}{P_2} = \frac{p_1 a_2 X_2}{p_2 X_2} = \left(\frac{p_1}{p_2}\right) a_2$$
$$\frac{V_1}{P_1} = \frac{p_2 b_1 X_1}{p_1 X_1} = \left(\frac{p_2}{p_1}\right) b_1$$
$$\frac{V_2}{P_2} = \frac{p_2 b_2 X_2}{p_2 X_2} = b_2$$

Hence, using the data—*Moseley's own* "macro-monetary" data—in the bottom table of Figure 1, we find that $a_1 = \frac{C_1}{P_1} = \frac{10}{16} = 0.625$, contrary to his allegation that it equals 0.556. And we find that $b_2 = \frac{V_2}{P_2} = \frac{9}{16} = 0.563$, contrary to his allegation that it equals 0.500. Since $P_1 = p_1 X_1 = 16$ and $P_2 = p_2 X_2 = 16$, and since, following *Moseley's own* suggestion, we have held both physical outputs (X_1 and X_2) constant at 18, it follows that $p_1 = p_2 = \frac{16}{18}$. Hence, we find that $\frac{V_1}{P_1} = \frac{1}{16} = 0.063 = \left(\frac{p_2}{p_1}\right) b_1 = b_1$. So $b_1 = 0.063$, contrary to Moseley's allegation that it equals 0.056. And we find that $\frac{C_2}{P_2} = \frac{2}{16} = 0.125 = \left(\frac{p_1}{p_2}\right) a_2 = a_2$. So $a_2 = 0.125$, contrary to his allegation that it equals 0.111.

Plugging these input-output coefficients into the standard physicalist formula for the rate of profit,

$$[a_1 b_2 - a_2 b_1](1+r)^2 - [a_1 + b_2](1+r) + 1 = 0$$

we obtain

$$[0.625 \cdot 0.563 - 0.125 \cdot 0.063](1+r)^2 - [0.625 + 0.563](1+r) + 1 = 0$$

or

$$0.34375(1+r)^2 - 1.1875(1+r) + 1 = 0\,,$$

so that **the physicalist rate of profit, the smaller of the two solutions for *r* in this last equation, equals 45.45%. This is, of course, exactly the same as Moseley's rate of profit, $\frac{\pi}{C+V}$, which we computed on the basis of *his own* data.**

Where Moseley Screwed Up

How can Moseley screw up so badly? Lest I be accused once again of insulting him, I shall have to refrain from providing the underlying reason here. (I shall provide it on request, to readers who request it in good faith and write to me at akliman@pace.edu.) I shall simply identify *where* the screw-up occurred.

Note, first of all, that when Moseley wrote "if output remains the same in both sectors (e.g. 18 instead of declining to 16 as in Kliman's calculations)," the meaning of "output" was *physical* output. His latest reply to me (Moseley 2016b) quotes my statement that "Whether intentionally or not, Moseley refrains from specifying any per-unit prices or *physical* quantities" (Kliman 2016*x*, emphasis added), and then responds,

> But this is not true. I intentionally stated in my last post:
>
> > Assume that the quantity of output and constant capital remain the same in both sectors. ...
>
> And if output remains the same in both sectors .... [1]

Yet what Moseley must actually be holding constant are not just the *physical* outputs, but also the *total prices* of output of the two sectors, i.e., P_1 and P_2. If we hold them constant at 18, instead of allowing them to fall from 18 to 16 when the variable capitals and surplus-values

[1] In order not to be accused once again of insulting Moseley, I shall not dwell on his allegation that I said something "not true" when I wrote that he had refrained from "specifying any ... physical quantities." I'll simply note that, the last time I checked, the statement that "the quantity of output ... remain[s] the same" *refrains from specifying what that quantity is.*

decline, we obtain the same incorrect input-output coefficients that Moseley reports. And, allowing for rounding error on his part, we also obtain the same incorrect physicalist rate of profit that he reports (see Figure 2).

Figure 2

AFTER TECHNICAL CHANGE

sector	C	V	S	W	π	P	r
1	10	1	1	12	7	18	63.64%
2	2	9	9	20	7	18	63.64%
total	12	10	10	32	14	36	63.64%

Choose Your Outputs! → X1: 18.000 X2: 18.000

Other Physical Quantities

a1:	0.556	a2:	0.111
b1:	0.056	b2:	0.500

Prices

p1:	1.00	p2:	1.00

Physicalist Rate of Profit = the smaller of the two solutions for r in

$$[a_1b_2 - a_2b_1](1+r)^2 - [a_1 + b_2](1+r) + 1 = 0$$

; **physicalist r = 63.64%**

There are just two itty-bitty problems with this procedure. First, because Moseley's "macro-monetary" variables P_1 and P_2 have changed, so has his rate of profit, $\frac{\pi}{C+V}$. It now equals $\frac{14}{12+10} = 63.64\%$. **So Moseley's rate of profit is once again quantitatively identical to the physicalist rate of profit!**

Second, because Moseley holds constant not just the physical outputs, but P_1 and P_2 as well, total price in the economy as a whole, 36, doesn't equal total value, 32. And total profit, 14, doesn't equal total surplus-value, 10. But hey, if you're going to advocate an interpretation of Marx that turns him into a physicalist, why not *go all in* and have an additional source of profit that allows it to exceed surplus-value?!

Moseley's Fully-Automated Economy

And this brings me to the case of a fully-automated economy. Moseley's latest response badgers me to respond to an allegation in his immediately preceding reply (Moseley 2016a). There, he alleged that

> According to Sraffian theory, if there is a physical surplus in this fully automated economy, then there will always be a positive rate of profit, even though there is no labor or surplus labor. ...
>
> According to Marx's theory, on the other hand, such an economy would have a zero rate of profit, even though there is a physical surplus. The only source of profit is surplus labor.

As a statement about Marx's actual theory, the second paragraph is passable. But in his latest reply, Moseley tells us that "Marx's theory" is a code word for *his own* theory: "it's just a little tedious to keep repeating 'my interpretation of ….'" I really don't care how tedious it is. Calling one's own theory "Marx's theory" is **the height of arrogance and, in effect, a dogmatic refusal to acknowledge the possibility that one's interpretation might be incorrect.** I'm sorry if this "insults" Moseley, but truth in labeling is a more important consideration by far.

Bearing in mind that "Marx's theory" is only a code word here, Moseley's allegation is that

> According to *Moseley's* theory, on the other hand, such an economy would have a zero rate of profit, even though there is a physical surplus. The only source of profit is surplus labor.

My response is that *this is simply false*.

Case 1: fully-automated economy; surplus labor is the only source of profit

First of all, in a fully-automated economy in which surplus labor is the only source of profit (and thus total profit equals total surplus-value), Moseley's rate of profit will equal zero—because there will *not* be a physical surplus in the relevant sense. I.e., there will be no physical surplus in the non-luxury industries that determine the magnitude of the physicalist rate of profit. And because there will be no physical surplus in the relevant sense, the physicalist rate of profit will also equal zero.

To see this, let's eliminate all living labor, and thus V and S, from the example we've been working with:

sector	C	V	S	W	π	P	r
1	10	0	0	10	0	10	0%
2	2	0	0	2	0	2	0%
total	12	0	0	12	0	12	0%

Now, because—and only because—the per-unit prices of Moseley's inputs and outputs are constrained to be equal,

$$\frac{C_1}{P_1} = \frac{p_1 a_1 X_1}{p_1 X_1} = a_1 = \frac{10}{10} = 1$$

$$\frac{C_2}{P_2} = \frac{p_1 a_2 X_2}{p_2 X_2} = \left(\frac{p_1}{p_2}\right) a_2 = \frac{2}{2} = 1 \quad \rightarrow \quad a_2 = \left(\frac{p_2}{p_1}\right)$$

$$\frac{V_1}{P_1} = \frac{p_2 b_1 X_1}{p_1 X_1} = \left(\frac{p_2}{p_1}\right) b_1 = \frac{0}{10} = 0 \quad \rightarrow \quad b_1 = 0$$

$$\frac{V_2}{P_2} = \frac{p_2 b_2 X_2}{p_2 X_2} = b_2 = \frac{0}{2} = 0$$

The fact that $a_1 = 1$ means that there is no physical surplus of Good 1. Sector 1 uses up one unit of Good 1 just to produce one unit of Good 1. And Sector 1 is the only non-luxury sector here. Sector 2 used to produce workers' articles of consumption, but since there are no longer any workers, it is now a luxury sector; Good 2 doesn't enter into either sector's production process, directly or indirectly. So there is no physical surplus in the relevant sense.

And for this reason, the physicalist rate of profit equals zero, just like Moseley's rate of profit. Given the physicalist equation for the determination of the rate of profit:

$$[a_1 b_2 - a_2 b_1](1+r)^2 - [a_1 + b_2](1+r) + 1 = 0$$

we obtain, after plugging in the above solutions for the input-output coefficients:

$$\left[1 \cdot 0 - \left(\frac{p_2}{p_1}\right) \cdot 0\right](1+r)^2 - [1+0](1+r) + 1 = 0$$

or

$$-(1+r) + 1 = 0$$

so that

$$r = 0$$

We thus arrive at a now-familiar conclusion: Moseley's rate of profit is quantitatively identical to the rate of profit of other physicalists, because it is determined by the same technological and real wage coefficients, and in exactly the same manner. That he expresses his rate of profit as the ratio of surplus-value to capital value advanced, instead of as a ratio of physical coefficients, makes no difference. It is all value-form and no value-substance.

Case 2: fully-automated economy; positive physical surplus

Secondly, in a fully-automated economy in which the physical surplus is positive, in the relevant sense, both the physicalist rate of profit and Moseley's rate of profit will be positive—surplus labor will *not* be the only source of profit in his theory. To see this, let's modify the last example in one respect only. Instead of $a_1 = 1$, let's assume that $a_1 = 0.8$. There is now a physical surplus, since Sector 1 uses up only 0.8 unit of Good 1 in order to produce each unit of Good 1. Accordingly, the physicalist rate of profit is determined by

$$[a_1 b_2 - a_2 b_1](1+r)^2 - [a_1 + b_2](1+r) + 1 = 0$$

or

$$\left[0.8 \cdot 0 - \left(\frac{p_2}{p_1}\right) \cdot 0\right](1+r)^2 - [0.8 + 0](1+r) + 1 = 0$$

or

$$-0.8(1+r) + 1 = 0$$

so that the physicalist rate of profit is

$$r = 0.25 = 25\%$$

But what about Moseley's "macro-monetary" rate of profit? Recall that, because (and only because) Moseley is a simultaneist, $\frac{C_1}{P_1} = \frac{p_1 a_1 X_1}{p_1 X_1} = a_1$. Since $a_1 = 0.8$, it follows that $C_1 = 0.8P_1$. And V_1 and S_1 both equal zero, since there are no workers. So $W_1 = C_1 + V_1 + S_1 = 0.8P_1 + 0 + 0 = 0.8P_1$. The (average) profit received by the firms in Sector 1 is $\pi_1 = P_1 - C_1 - V_1 = P_1 - 0.8P_1 - 0 = 0.2P_1$. And Moseley's Sector 1 rate of profit is $\frac{\pi_1}{C_1 + V_1} = \frac{0.2P_1}{0.8P_1 + 0} = \frac{0.2P_1}{0.8P_1} = 25\%$.

So we now have, in the top row of his "macro-monetary" table,

sector	C	V	S	W	π	P	r
1	$0.8P_1$	0	0	$0.8P_1$	$0.2P_1$	P_1	25%

Now, in Sector 2, we know that V_2 and S_2 both equal zero, since there are no workers. Thus, $W_2 = C_2 + V_2 + S_2 = C_2 + 0 + 0 = C_2$. And since we are computing Moseley's prices *of production*, the rate of profit must be equalized. So the rate of profit in Sector 2 must equal that of Sector 1 which, as we already know, is 25%. Thus $\frac{\pi_2}{C_2 + V_2} = \frac{\pi_2}{C_2} = 25\%$, which implies that $\pi_2 = 0.25C_2$. And thus $P_2 = C_2 + V_2 + \pi_2 = C_2 + 0 + 0.25C_2 = 1.25C_2$.

At this point, we can fill in the whole of Moseley's "macro-monetary" price-of-production table:[2]

sector	C	V	S	W	π	P	r
1	$0.8P_1$	0	0	$0.8P_1$	$0.2P_1$	P_1	25%
2	C_2	0	0	C_2	$0.25C_2$	$1.25C_2$	25%
total	$0.8P_1 + C_2$	0	0	$0.8P_1 + C_2$	$0.2P_1 + 0.25C_2$	$P_1 + 1.25C_2$	25%

And so we see that Moseley is incorrect when he alleges that, according to his theory, this fully-automated economy "would have a zero rate of profit, even though there is a physical surplus. The only source of profit is surplus labor." **His rate of profit is 25%, not zero, and it is exactly equal to the rate of profit of the (other) physicalist economists. And that's because his theory implies that surplus labor is *not* the only source of profit.** In each sector, and therefore in the economy as a whole, there is positive profit ($0.2P_1$ in Sector 1, $0.25C_2$ in Sector 2, and $0.2P_1 + 0.25C_2$ in the total economy)—even though there is no surplus-value!

But hey, as I said above, if you're going to advocate an interpretation of Marx that turns him into a physicalist, why not *go all in* and have an additional source of profit that allows it to exceed surplus-value?

---

[2] Let me note that I have not—*have not*—derived the magnitudes of Moseley's "macro-monetary" variables from physical quantities (except for the fact that the *V*s and *S*s are zero because no living labor is expended, which is Moseley's *own* stipulation here.) We still do not know the magnitudes of any of the *C*s, *W*s, πs, or *P*s. We know the magnitude of the rate of profit in each sector, to be sure, but not because I derived it from any physical quantities. I derived it from relations that have to obtain between π and *C:* even though we don't know the magnitudes of either variable, we do know that $0.2P_1$ is 25% of $0.8P_1$, and that $0.25C_2$ is 25% of C_2. The only use of physical quantities here was the assumption that $a_1 = 0.8$, and I *had to* assume this (or assume that a_1 is some other positive number less than 1) in order to meet *Moseley's own* stipulation that this economy has a positive physical surplus in the relevant sense.

References

Kliman, Andrew. 2016a. "All Value-Form, No Value-Substance: Comments on Moseley's New Book, Part 1." May 11. Available at http://www.marxisthumanistinitiative.org/uncategorized/all-value-form-no-value-substance-comments-on-moseleys-new-book-part-1.html.

_____. 2016b. "All Value-Form, No Value-Substance: Comments on Moseley's New Book, Part 5." July 23. Available at http://www.marxisthumanistinitiative.org/miscellaneous/all-value-form-no-value-substance-comments-on-moseleys-new-book-part-5.html.

Moseley, Fred. 2016a. [Comment on "All Value-Form, No Value-Substance: Comments on Moseley's New Book, Part 4"]. July 22. Posted in "Comments" section at http://www.marxisthumanistinitiative.org/miscellaneous/all-value-form-no-value-substance-comments-on-moseleys-new-book-part-4.html.

_____. 2016b. [Comment on "All Value-Form, No Value-Substance: Comments on Moseley's New Book, Part 5"]. July 25. Posted in "Comments" section at http://www.marxisthumanistinitiative.org/miscellaneous/all-value-form-no-value-substance-comments-on-moseleys-new-book-part-5.html.