The Recent Controversy on Marx's Value Theory*

A Critical Assessment

Changkeun Kim**

This paper critically assesses the recent debates on Marx's value theory. Simultaneous Dual System Interpretation(SDSI) and New Interpretation(NI) on Marx's value theory have flaws that Fundamental Marian Theorem may not hold, when there are negative physical surplus or net products. And NI and TSSI(Temporal Single System Interpretation)'s monetary expression of labour-time are challenged by the problem of circular reasoning because they are defined or determined in the transformation procedure. Therefore, Marx's MELT should be determined based on his theory of commodity money.

Keywords: Marx, Fundamental Marxian Theorem, monetary expression of labour-time, commodity money, mine rent, Simultaneous Dual System Interpretation, New Interpretation, Temporal Single System Interpretation.

1. Introduction

In recent years, two new controversies on Marx's value theory have arisen since the Temporal Single System Interpretation(TSSI) emerged in order to 'resuscitate' the Marx's value theory. The first debate began with Kliman(1996, 1997)'s critique of Okishio theorem and was followed by the refutations of his critique by others like Laibman and Foley[1] and the later debate was published in *The New Value Controversy and the Foundations of Economics*.[2]

The second debate was caused by Kliman(2001)'s critique of simultaneous Fundamental Marxian Theorem(FMT). He criticized other interpretations of Marx's value theory such as Simultaneous Dual System Interpretation(SDSI), New Interpretation(NI), and Simultaneous Single System Interpretation(SSSI). As Mohun, Veneziani et. al. responded to his critique, the debate became hot. And recently, this journal published several papers on the topic.[3]

This paper will focus on the FMT debates and critically assess them. In the first section, Kliman's critique of simultaneous(SDSI and NI) FMT will be discussed and the second section will deal with Mohun and Veneziani's counter-critique of TSSI FMT with focus on monetary expression of la-

---

1) See Freeman, 1999, 2004; Freeman and Kliman, 2000; Foley, 1999, 2000; Kliman, 1996, 1997, 1999, 2004, Kliman and Freeman 2000, 2009b; Laibman, 1999a, b, 2000a, b, c, 2004; Moseley, 2004a; Ramos-Martinez, 2004, Rieu, 2009a.

2) Freeman, Kliman, and Wells, eds, 2004.

3) See Kliman, 2001; Freeman and Kliman, 2008, 2009; Kliman and Freeman, 2006, 2009a; Mohun, 2003; Mohun and Venezinia, 2007, 2009; Moseley and Rieu, 2009; Rieu, 2009b; Venezinia, 2004. 2005.

bour-time(MELT). In the last section, a suggestion on how Marx's MELT should be rooted in his theory of commodity money will be discussed.

2. An Critical Assessment on the Simultaneous Interpretation

2.1 Debate on Simultaneous FMT

SDSI has argued that Marx's value theory is logically inconsistent and redundant during the 'transformation controversy'. However, FMT, first suggested by Okishio(1963) and later systematically proven by Roemer(1981), is often said to have shown that "surplus labour is necessary and sufficient for positive profit when no joint products are produced" in SDSI(Kliman, 2001: 99). And, it has been claimed that SDSI retains the validity of Marx's exploitation theory, in despite of its assertion of the defects of Marx's value theory.

Duménil and Levy(2004: 142), criticizing TSSI and supporting NI asserted that "the labour theory of value does not provide the framework to account for disequilibrium and dynamics in capitalism," and rather that "the core of the explanatory power of the labour theory of value lies in the analysis of exploitation." That is, although NI cannot properly explain the capitalist dynamics such as Marx's falling rate of profit, it can indeed be a proper interpretation of Marx's exploitation theory.

In response to these claims, Kliman(2001: 109) tried to demonstrate that simultaneism such as SDSI and NI cannot properly explain even capitalist exploitation by showing that "simultaneism and the exploitation theory of

profit are incompatible".

Under SDSI, surplus value(S_i) and profit(π_i) in *ith* sector are 'physical surplus', $\varphi_i = [I - A_i - bl_i]X_i$ evaluated respectively at values(λ) and prices(p), as follows.

$$S_i = \lambda[I - A_i - bl_i]x_i = \lambda\varphi_i \tag{1}$$
$$\pi_i = p[I - A_i - bl_i]x_i = p\varphi_i \tag{2}$$

Here, if all the physical surpluses φ_i are positive for all *i*s, when there is positive surplus labour and positive surplus value, profit πi is also positive. Therefore, supporters of SDSI argued the following; it is true that Marx's two aggregate equalities, sx = πx and λx = px do not simultaneously hold, consequently making Marx's value theory logically inconsistent. Nevertheless, the supporters of it argue that SDSI does retain Marx's theory of exploitation.

However, Kliman(2001: 100) pointed out that "once there is a negative physical surplus of some good," "the total 'worth' of the physical surplus vector can then be negative when valued at market prices and positive when valued at values, or vice-versa" and he concluded that "under the standard interpretation, surplus labour is neither sufficient nor necessary for profit to exist".[4]

According to Kliman, under SDSI, if there exists some negative physical surplus, φ_i, positive surplus labour and positive surplus value can coexist with negative profit. In this case, SDSI cannot be a proper interpretation of

4) Kliman presented two numerical examples, one with positive surplus value and negative profit, the other with negative surplus value and positive profit.

Marx's theory of exploitation that sees that the sole source of profit is exploitation of labor.

Also in the case of NI, Kliman attempted to demonstrate that surplus value is not sufficient for the existence of positive profit. Under NI, the monetary expression of labour-time(MELT) is 'defined' as 'the ratio of aggregate price of net product ([I−A]x) to aggregate living labour(lx) and the value of labour-power is 'assumed' as money wage rate, which is determined without reference to workers' means of subsistence. Then the aggregate surplus value(s) and the aggregate profit(π) can be written as follows.

$$\sigma = \frac{p(I-A)x}{lx} \tag{3}$$

$$\pi = p(I-A)x - wlx \tag{4}$$

$$s = lx - \frac{wlx}{\sigma} = \frac{p[I-A]x}{\sigma} - \frac{wlx}{\sigma} = \frac{\pi}{\sigma} \tag{5}$$

Under NI, the aggregate surplus value(σs) equals to the aggregate profit (π) which naturally results from definition of MELT and assumption of value of labour-power. So if MELT(σ) is positive, the positive aggregate surplus value can coexist with the positive aggregate profit.

However, Kliman(2001: 101) insisted that under NI surplus value is 'not sufficient' for the positive profit, because "if the net product valued at end-of-period market prices is negative, then so is σ. Profit is therefore negative although surplus labour is positive."

According to him, if net product, (I−A)x is negative, so can the price of net products (PNP) and the MELT, σ be. And, if σ is negative, then negative

profit can exist under NI, despite of existence of positive surplus value. In this case, NI cannot be a proper interpretation of Marx's theory of exploitation and value, nor be sufficiently persuasive in the analysis of exploitation as well as of the dynamics in capitalism.

Certainly the possibility that positive surplus value can coexist with negative profit is lower under NI than under SDSI. Under SDSI, if the physical surplus, φ_i is negative for some i, the possibility of the coexistence arises. On the other hand, under NI, even when the physical surpluses φ_i is negative for some i, MELT σ and the aggregate profit π can be positive for the positive living labor, lx, only if the PNP, $(p[I-A]x)$ is positive. But Kliman contended that:

> Imagine that net products of almost all goods are positive, and only a few are slightly negative. If the prices of the latter group are sufficiently high, the aggregate prices of the net product will be negative. Thus an economy that would have a positive σ under certain prices could have a negative σ under different prices. Even a slight change in prices could lead to such a reversal(Kliman, 2001: 102).

It seems that in so far as there is the possibility of the existence of negative profit under SDSI and NI, the possibility itself is indeed a key 'theoretical' weak point of the interpretations. With respect to this point, Kliman and Freeman argued that some net products are always negative, but they admitted that a negative aggregate price of the net product and negative profit is unlikely in reality under NI, when surplus labor is positive. But they argue that it is *logically* possible:

> But whenever some net products are negative, there exist logically possible

sets of prices that result in a negative PNP, and thus negative profit despite positive surplus labour. ··· *surplus labour would be insufficient for profit even if the PNP were always positive, because positive profit requires something more than surplus labour.* ··· A crucial matter of logic is at stake here: a sufficiency theorem is true only if it holds universally, i.e. only if no *logically possible* exceptions exist(Kliman and Freeman, 2006: 118－119, 120, emphasis added).

　　If there were negative net products of only a few goods, but their prices were very high relative to other goods, then the PNP would be negative. Although this is unlikely, it is certainly possible in principle(Kliman, 2007: 183).

And Kliman gave as examples where there exist the possibility of the existence of negative net product, inputs being not reproduced as outputs.

　　In any case, it is simply not true that long-run reproduction requires positive physical surpluses or net products. *All actual economies* produce some negative net products, and therefore negative physical surpluses, because some goods (386 computer, for instance) are used as inputs without being reproduced. The economies sustain themselves and even grow by producing, instead, similar but not identical goods(586 computers). Yet as was noted above, simultaneist theorems that surplus labour is sufficient for positive profit do require the postulate that all net products are positive. Since the postulate is violated in every actual economy, it follows that the theorems do not apply to the real world(Kliman, 2001: 103, emphasis added).

Further Kliman(2004: 103) claimed that "it is impossible for simultaneists to construct comparable theorems to cover real-world situations, because simultaneous valuation is impossible when some inputs are not reproduced as outputs," without accepting temporal or historic valuation of inputs or arbitrarily "establishing an equivalence between them and goods that replaced

them as output."

It seems reasonable to think that, in addition to 386 computers, various inputs like outdated machines are ordinarily and immensely being used without being reproduced in everyday economy. So, aggregate price of net product can be negative in principle. Therefore it is necessary for the followers of SDSI and NI to show how they can simultaneously evaluate inputs without being reproduced and construct simultaneous FMT, and to prove how their FMT hold, when those inputs exist immensely.

Mohun(2003:98) admitted that "there are some negative net products" but asserted that "whether there are prices such that aggregate net output in money terms is negative is more doubtful." And he rejected the Kliman's numerical examples with positive surplus value and negative profit, and vice versa, arguing that "Kliman does not explain how his numerical examples could emerge in any economically meaningful way".

Veneziani(2004: 105) also responded to Kliman, saying that "it is not true that [FMT] examines the relation between profit and surplus labour under all possible market prices." According to him, "even if one questions the requirement that $[\varphi_i] \geq 0$, all j and t, the FMT should be conceived of as applying in a general expectations framework at a stationary state," and "Kliman(2001)'s examples are arbitrary and his economies in which $[\varphi_i] \leq 0$, some j and t are not clearly in a reproducible solution."

Responding to Mohun and Veneziani's arguements, Kliman and Freeman(2006: 120) demanded that Mohun must either show that "Kliman's counterexample is logically impossible, or concede that the sufficiency theorem has been disproved," because "a single counterexample refutes a theo-

rem that is said to hold universally" and that "if Mohun wants to restrict the FMT to non-arbitrary and economically possible cases," he must "formulate a revised theorem, beginning with a clear definition of non-arbitrary and economically possible circumstances, and ending with a proof that the PNP must be positive under those circumstances".

What Mohun and Veneziani mainly focused on was the reality of Kliman's numerical examples. But since the possibility that the simultaneous FMT may not hold was raised, it seems only fair that Mohun and Veneziani have to prove that the simultaneous FMT can hold theoretically and practically, if they want to maintain their theoretical positions.[5] In particular, they should theoretically show how such inputs without being reproduced can be evaluated in simultaneous interpretation and how FMT can hold notwithstanding the existence of such inputs. Only when they can do so, SDSI and NI can be deemed to be a proper interpretation of Marx's value theory.

Mohun and Veneziani(2007) also circumvented the real issues. They quoted Kliman's claims as follows:

1) Negative net products of some goods exist in the real world;
2) Hence theorems that assume that they do not do not apply to the real world-this includes Roemer's FMT and all other variants of Marxism in which inputs and outputs are valued simultaneously;
3) only the TSSI escapes this structure, because in the TSSI, the FMT holds 'under completely general conditions' with 'absolutely no restrictive pos-

5) Freman and Kliman(1998: 108) said that "Simon Mohun and Roberto Veneziani (2007) simply evade this issue. They do not refute or even attempt to refute our demonstration, and hence they effectively concede that Marx's theory and simultaneous valuation are indeed incompatible".

tulates'(Mohun and Veneziani, 2007: 140, emphasis in original).

But Mohun and Veneziani(2007: 140, 141) do not make any more com-
ment on the point 1. Instead, they asserted, in relation to the point 2, that "no
theory is entirely realistic" because "all theory make assumptions. All theo-
ries abstract from empirical reality." Yet their argument is not right because
Kliman's claim is that FMT under SDSI and NI "does not apply to the real
world" with negative net products, so that TSSI is a superior interpretation
than SDI and NI. Therefore, Mohun and Veneziani's argument rather appears
as an acknowledgement of Kliman's critique.

Instead of coping with the critique of FMT under SDSI and NI, Mohun
and Veneziani(2007: 141) focused on the point 3 and the counter-critique of
FMT under TSSI, assuring that "Mohun(2003) showed that the TSSI FMT
required a particular theoretical concept of temporality, a particular under-
standing of the measurements of value and some particular sign restrictions."[6]

Even in later paper, Mohun and Veneziani(2009: 284) did not deal with
FMT under SDSI and NI any more, only alleging that "to reject the TSSI
does not entail abandoning the only approach that make sense of Marx" and
that "for example, the New Interpretation(IN) proposed by Duménil(1982)
and Foley(1982) represent a fully coherent account of Marx's theory." Also
Veneziani(2004: 103) supported NI, saying that "it is the specific definition
of MELT as $[\sigma] = p[I-A]x/lx$, of the value of labour power as the money
wage, that make it possible to retain the central ideas of the labour theory of
value⋯"

---

6) TSSI FMT will be discussed in next section in detail.

So, Mohun and Veneziani seem to think that, though FMT under SDSI and NI may not "apply to the real world" with the negative net products, they are not an inferior interpretation to TSSI. But in order for SDSI and NI to be argued as a proper interpretation of Marx's theory value, the advocators thereof should show that particularly inputs without being reproduced can be evaluated in simultaneous equations in a logical way and prove in theory that simultaneous FMT can hold, despite of the existence of such inputs.

In next section, NI, which Mohun and Veneziani defended in the course of the debate on FMT will be examined closely.

2.2 An Critique of New Interpretation [7]

Foley's 'definition' of value of money and its reciprocal, MELT have been criticized as a circular reasoning. In equation (3), $\sigma = [p(I-A)]x/lx$, when lx is given, MELT, σ can be determined, only when $p(I-A)x$ has already been determined. But, $p(I-A)x$ can be determined only after σ has been determined beforehand. So, as Moseley(2004b: 3) pointed out, "because $[p(I-A)x]$ is determined by MELT, MELT cannot be determined by $[p(I-A)x]$."

In fact, when commodities enter the circulation process, p cannot be determined unless σ is already determined logically prior to the determination of p. This point can be clearly seen from Marx's theory of commodity money, where σ is determined as $\sigma*$ logically prior to the determination of p by social necessary labor which is required to produce a unit of gold. And because $\sigma*$ is already determined, the immediate living labour, lx in the in-

---

7) For other critiques of NI, see Moseley(2000) and Fine, Lapavitsas and Saad-Filho(2004).

dustries other than the gold mining industry can be expressed as the money amount of $\sigma*lx$ and surplus value can be determined as $\sigma*lx - wlx$, being redistributed as profit π in the transformation.

On the contrary, in the case of Foley, σ and p can only be simultaneously determined because there is no theory under which σ can be determined logically prior to the determination of p. Yet unless σ is not logically determined prior to the determination of p, p can never be determined. As a result Foley's case cannot evade the logical circular reasoning of the quantity theory of money that "commodities enter into the process of circulation without a price, and that money enters without a value," unless Foley can suggest any theory under which σ can be determined outside and independently from the equation (3) (Marx, 1976: 220).

Further, Foley was not correct when relating his definition of value of money to Marx's aggregate equalities. He defined the value of money as ratio of aggregate price of net product to aggregate immediate labour, as can be seen in equation (3). Thereby he modified Marx's equality of 'aggregate value=aggregate production price' into his equality of 'aggregate value of net product=aggregate production price of net production' which respectively exclude value and production price of elements of constant capital. And he defined value of labour-power as money wage, w in equation (4), so obtaining the equality of 'aggregate surplus value=aggregate profit', $\sigma s = \pi$ in equation (5).

So Foley's equality of 'aggregate value of net product=aggregate production price of net production' holds only because he defined the value of money as ratio of aggregate price of net product to aggregate immediate labour. But if one define the value of money in other way, for example as the

'aggregate value=aggregate production price', then the other equality, in this case the equality of 'aggregate value=aggregate production price' holds.

But Marx's two aggregate equalities hold, solely because transformation means that surplus values are redistributed as average profit among given capitals, owing to competition among them. So aggregate profit is merely redistributed aggregate surplus value, therefore it cannot but be the same as the aggregate surplus value. And because the aggregate value is merely aggregate surplus plus given value of aggregate capitals and the aggregate production price is only aggregate profit plus the same given value of aggregate capitals, the aggregate value cannot be but the same as the aggregate production price. Therefore Marx's two aggregate equalities hold because of the logic of transformation, but not because of the way how Foley and others defined the value of money.

In fact in the transformation procedure, MELT is sufficient to have been given as already determined value, σ^* prior to the procedure. Then immediate living labour, lx can be expressed as the money amount of σ^*lx, and surplus value is determined as [σ^*lx-wlx], and redistributed as π. And constant values pAx are already purchased money prices of means of production, so they are unchanged and transferred to the values and production prices of outputs as in the case of TSSI. As a result, the aggregate values equal the aggregate prices. Foley is not correct, when he excluded value and price of elements of constant capital from aggregate value and production price.

In the debate on FMT, Mohun(2004) tried to justify the money wage under NI as follows;

    Labour-power is an attribute of human beings, and human beings are not (in

capitalism) produced as commodities. So the value of labour-power cannot be measured by the socially necessary labour embodied in human beings, because there is none. The reason labour-power is a peculiar commodity is that it has no relative form of value. But it does have an equivalent form(Mohun, 2004: 90－91).

However, the foregoing argument is hard to acceptable. Firstly, his argument that "the value of labour-power cannot be measured by the socially necessary labour embodied in human beings" is correct. But Mohun's point is not irrelevant because i) labour-power must be reproduced repeatedly, ii) the workers' means of subsistence are necessary for the reproduction of labour-power, iii) the production of the workers' means of subsistence needs 'the socially necessary labour', and iv) as a result the value of labor-power is determined by the value of workers' means of subsistence, not by the amount of labour "embodied" in the workers. Therefore unless the socially necessary labour is unnecessary for the production of workers' means of subsistence, Mohun's above argument cannot be supported.

Secondly, Mohun's argument that labour-power has no relative form of value but have only an equivalent form is absurd. In the exchange between the labour-power(Lp) and the variable capital(v), on the side of workers the labour power functions as a relative form of value and the variable capital or wage as an equivalent form. So as far as the exchange of Lp-v occurs, the labour-power has both the relative form of value and the equivalent form.

His argument seems to indicates merely that labour-power does not sell as a commodity having value or that the valueless labor-power exchange with the worthy wage. Then do the capitalists pay the wage having value for something without value? And does the surplus value originate from some-

thing without value? A good answer should be given by Mohun to a question of what the capitalists pay in exchange for wage and how surplus value is produced by exploitation of labour. But it seems hard for him to answer the questions because he abandoned Marx's theory of wage which is determined by the value of the workers means of subsistence. Mohun further argued as follows;

> There are only two possible choices for that equivalent form: either the wage (divided by the monetary expression of labour-time) for which labour-power is sold, or the value of the bundle of commodities which the workers use the wage to buy. If the assumption is made that *value equivalents are exchanged*, then either of these possibilities can indifferently be used (as long as the entire wage is spent). But as soon as explicit account is taken of the different composition of capital involved in the production of the various wage-goods, *no wage-good will in general sell at its value*, and hence the money wage (divided by the monetary expression of labour-time) will not be equal to the labour value of the wage-bundle of commodities. However the unequal exchange forced by differing compositions of capital combined with the competitive equalization of the rate of profit does not apply to the exchange of labour-power for a wage, because neither composition of capital nor rate of profit is involved in the 'production' of people. Hence in general the value of labour-power is the money-wage (divided by the monetary expression of labour-time). And in the special (Volume I) world of equivalent exchange will this also be the value of the wage-bundle of commodities per hour(Mohun, 2004: 91, emphasis added).

Mohun argued that when commodities sell at their values, the value of labour-power is determined by 'the value of the wage-bundle of commodities'. But this argument contradicts the previous one that labour-power does not embody any socially necessary labour and that labour-power is not even a commodity. And according to him, if commodities sell at their values, some-

thing which did not have value or was not considered as a commodity comes to have its value and is considered as a commodity. Therefore, for Mohun it is not the existence of capitalist mode of production but the prices at which commodities sell that determines whether labour-power is a commodity or not.

In addition, he asserted that on the contrary if commodities do not sell at their value, but at their production prices, the value of labour-power is not determined by the prices of production of the workers means of subsistence. Now, according to him the value of labour-power is merely 'money wage'. Yet this argument is so absurd in that it implies that something should be considered as a commodity when it is sold at its value, but not when it is not sold at prices other than its value.

And though it is true that labor-power is not capitalistically produced, the transformation of value into price of production does not change the nature of labour-power, that is whether labour-power is a commodity or not. The only difference caused by the transformation is that commodities other than labor-power sell at their prices of production, not at their values. So capitalist pay workers wage based on the production prices, not on the value of workers' mean of subsistence and workers pay their wages for their mean of subsistence at their value, but at their prices of production.

But Mohun argues that the competition among capitals that stops commodities from being sold at their value makes a commodity of labour-power a non-commodity. But it is not understandable how the competition among capitals can make labour-power a non-commodity without value, even though the capitalist mode of production still remains unchanged. It is only the distribution of surplus value among capitals that the competition can

cause, not the change of commodity nature of labour-power.

3. FTM under TSSI and MELT

3.1 Debates on FMT under TSSI

Kliman(2001: 106) tried to show that in TSSI "surplus labour is both necessary and sufficient for real profit to exist, *under completely normal conditions*"(emphasis in original). For his purpose, it would have been sufficient to assume that MELT is constant as a given value, τ^*, because the change in MELT does not directly concern the current issue.[8] Then the aggregate surplus value(τ^*s) and the aggregate profit(π) can be obtained as follows.

$$P = C + \tau^*L \qquad\qquad (6)$$
$$s = L - V/\tau^* \qquad\qquad (7)$$
$$\pi = P - C - V = \tau^*L - V = \tau^*[L - \frac{V}{\tau^*}] = \tau^*s \qquad (8)[9]$$

---

8) Recall that Marx discussed transformation procedure in Capital III, assuming that the value of money determined in Volume I, is constant. The reason is that the determination of the value of money logically precedes the transformation and thus the FMT. Kliman may argue that the issue here is not the transformation of values of prices of production, but whether surplus labour is both necessary and sufficient for real profit to exist, *under completely general condition*, so that to assume that MELT is constant as a given value is not necessary. But unless MELT is determined beforehand and given, the aggregate surplus labour s cannot be expressed as aggregate surplus value (τ^*s), nor can be compared to aggregate profit π.

9) C, V, L, and s are respectively constant capital, variable capital, immediate living labour, and surplus labour in aggregate.

In equation (8), aggregate profit is necessarily positive given positivity of aggregate surplus labour, if and only if τ^* is positive. The only condition for FMT to hold under TSSI is the positivity of τ^*. And FMT under TSSI holds under less constraint than under SDSI and NI because it does so even when there is negative physical surplus or net product, as far as τ^* is positive. To confirm this point, we can express the general rate of profit(r) and the individual sector's profit(π_i) as follows;

$$r = \frac{\tau^* s}{C + V} \tag{9}$$

$$\pi_i = (C_i + V_i)r \tag{10}$$

In TSSI, the general rate of profit is determined as the ratio of aggregate surplus value to the aggregate constant and variable capital, C+V, so it does not depends on physical surpluses or net products unlike the simultaneous one. And this rate of profit multiplied by cost prices in *ith* sector, C_i+V_i forms the profit in that sector. Here however immense are there inputs without being reproduced, the general rate of profit and the sector profit cannot be negative, because C, V, C_i, and V_i are all positive, in so far as the aggregate surplus labour s and MELT τ^* is positive.

So negative physical surplus or net product cannot disprove FMT under TSSI, and what can still do it is only negativity of MELT. As can be seen below, Mohun and Veneziani stubbornly stuck to this problem.

3.2 Underdetermination in TSSI?

Veneziani(2004) gave us the surprising assertion that TSSI assumes that prices are equal to values. To prove his argument, he gave us the following

two equations, in addition to another equation gx = 0.

$$\frac{p}{\tau} = \frac{pA}{\tau} + 1 + g \qquad (11)$$

$$\lambda = \frac{pA}{\tau} + 1 \qquad (12)[10]$$

And Veneziani(2004: 101) insisted that "the TSS system has n degrees of freedom, unless it is assumed that in a stead stage g = 0," or that "in a stead state $\lambda = p / \tau$ and goods exchange at embodied labour values." His calculation of degree of freedom is as follows; there exist respectively n unknowns in p, g, λ, and τ is an unknown, so there exist total 3n+1 unknowns; yet there are only 2n+1 equations in equations (11), (12) and gx = 0; therefore there are n degrees of freedom and underdetermination in TSSI.

According to Veneziani(2004: 102), in TSSI, when "assuming τ=1, the equilibrium conditions $\lambda = p$ should be imposed, as a matter of logical and methodological consistency, adding an another 'results' ⋯ [that] *in a steady-state equilibrium, values are equal to observed market prices, and goods exchange at embodied labour values*"(emphasis in original).

But this assertion is not reasonable in that he did not understand that g cannot be independent variables because g = p − λ, that is, once p and λ are known, g are automatically known without any further equations. To clearly understand what his misunderstanding was, general rate of profit(r) is used instead of g. Then TSSI system is as follows.

---

10) g is p-λ, i.e. the difference between price and value per unit commodity. For letter consistency, I change the original ε into τ.

$$r = \frac{\tau lx - blx}{(pA + pbl)x} \tag{13}$$

$$p = (pA + pdl)(1 + r) \tag{14}$$

$$\lambda = \frac{pA}{\tau} + 1 \tag{15)[11]}$$

In equation (13), the general rate of profit is determined as the ratio of 'aggregate surplus value to aggregate capital'. So if τ is given there exist 2n+1 unknowns (r and respectively n unknowns in p and λ) and there are 2n+1 equations. Therefore, all variables can be solved.

And because Veneziani assumed the steady-state equilibrium, his assertion can apply only to SSSI(Simultaneous Single System Interpretation). But even in SSSI, there can be underdetermination, only unless one ignores the determination of rate of profit by surplus value, as in the case with Veneziani. Under SSSI, assumption of $\lambda = p$ is not necessary and λ and p is clearly distinguished as can be seen from equation (14) and (15).

Further, in the case of TSSI, where the stead state condition cannot be imposed, there can be no underdetermination, either. In this case, the above equations are changed into the followings.

$$r(t+1) = \frac{\tau lx - blx}{[p(t)A + p(t)bl]x} \tag{16}$$

$$p(t+1) = (p(t)A + p(t)dl)[1 + r(t+1)] \tag{17}$$

$$\lambda(t+1) = \frac{p(t+1)A}{\tau} + 1 \tag{18}$$

---

11) d is vector of wage goods per labour time.

The only difference of these equations from previous ones is that prices of inputs, p(t) A and wages, p(t)dl were determined at t, before the general rate of profit r, prices and values of outputs, p(t+1) and λ(t+1) were determined at t+1 in latter equations. So at t+1, p(t) A and p(t) dl are given data, and the unknowns are 2n+1[r(t+1), respectively n unknowns in p(t+1) and λ(t+1)] and there are 2n+1 equations. Therefore all variables can be solved. And p(t+1) and λ(t+1)are clearly distinguished as well. So in this case also, only by introducing unnecessary variable, g and obscuring the point, one can insist on the underdetermination of TSSI.

Yet Kliman and Freeman(2009a: 343) may have given a misunderstanding when they said that " $P_0^\$ = \cdots = P_t^\$ = P_{t+1}^\$$," and "these prices are already determined" and "since p is known, the only *unknown* variables are the n elements of g as well as [τ](emphasis in original).[12] For p(t+1) cannot be regarded as being already determined, in temporal situation.

So Mohun and Veneziani(2009: 286) can insist that "the TSSI would be theoretically vacuous. For the interpretation that we can observe p(t+1), p(t) and l and then determining g(t) is just a tautology." But as can be seen from the above explanation, once we substitute the meaningless variables, g(t) with r, TSSI is not tautology. That is because p(t+l) is not already determined, but newly determined by the already determined p(t) and the newly given l.

---

12) This does not mean that Kliman and Freman was incorrect, for Veneziani premised that the economy is in steady-state and $P_0^\$$ is given.

3.3 Circular Reasoning in MELT under TSSI

Unfortunately, Kliman(2001) seems to have followed Foley while he tried to 'define' or 'determine' MELT, though in different forms. But it was enough for him to assume it is given beforehand and constant in the discussion of the transformation and FMT. He defined it as follows;

$$\tau(t+1) = \frac{P}{[C(t)/\tau(t)]+L} \tag{19}$$

$$(t+1) = \frac{\tau(t+1)}{\tau(t)}C(t)+\tau(t+1)L \tag{20}$$

In equation (19), Kliman(2001: 108) defined MELT in terms of total products, not in terms of net products and temporally, not simultaneously, which was different from Foley's case. And equation (20) means that capitalists deflate the constant values, C(t) by as much as $\tau(t+1)/\tau(t)$, when τ changes from $\tau(t)$ to $\tau(t+1)$

However, Kliman seems to fail to escape from Foley's circular reasoning despite of his temporalism. For in equation (19) and (20), $\tau(t+1)$ can be determined, given C(t) and $\tau(t)$, only when P is determined beforehand. But P can be determined only after $\tau(t+1)$ is determined. Therefore, unless $\tau(t+1)$ is determined outside and independently of transformation procedure (equation (19) and (20)), and logically prior to it, P cannot be determined and Kliman cannot escape from the circular reasoning.[13]

---

13) Kliman may have hoped to prove the TSSI FMT under 'completely general conditions' including the possibility of the change in MELT. But his error is not that he failed to keep MELT constant, but that he tried to 'define' or 'determine' MELT in the discussion of the transformation and FMT. τ can change from $\tau(t)$ to $\tau(t+1)$ at the

In this respect, Veneziani(2004: 11) is partially correct when claiming that "[τ(t)] enters the definition of P$_t$, so that any *definition* of [τ(t)] based on P$_t$ is circular"(emphasis in original). However, he failed to note that Foley who he supported had committed no less circular reasoning as Kliman, perhaps more because of Foley's simultaneous determination of value of money. In respect to the circular reasoning, NI or TSSI cannot be free from circular reasoning, and both NI and TSSI should find the way out of circular reasoning.

3.4 Positivity of MELT under TSSI

As seen above, the only condition for FMT under TSSI not to hold is negative MELT. To disprove FMT under TSSI, Mohun(2004) suggested the following equation;

$$(t+1) - \frac{\tau(t+1)}{\tau(t)} C(t) = \tau(t+1)L(t) \qquad (21)$$

Mohun(2004: 99) admitted that "the non-TSSI FMT requires the positivity of aggregate net output in money terms in order that its monetary expression of labour-time σ be positive." But he argued that "Kliman asserts that the non-TSSI approach has to assume the positivity of aggregate net product in money terms for the FMT to go through," but that "his account of the TSSI FMT is subject to exactly the same strictures".

It seems that Mohun wanted to regard the left-hand-side of the above equation as the prices of net products. If that is the case, when the left-hand-side is negative, τ(t+1) can be negative for the positive L(t). But

---

period t+1. But for a given τ(t), there are two unknowns, τ(t+1) and P(t+1) in the equation (20). So, in so far as τ(t+1) is not determined externally to the equation, P(t+1) cannot be determined.

that is not the case because "the left-hand-side and the PNP(prices of net products) are not the same" as noted by Kliman and Freeman(2006: 121). In fact, equation (21) is the same as equation (20). In equation (20), L is positive as a premise and aggregate prices, P(t+1) and aggregate capital, C(t) is positive, even when the prices of net products under NI is negative. So $\tau(t)$ and $\tau(t+1)$ cannot be negative.

And Mohun(2004: 99) suggested the TSSI sign restrictions that "$\tau(0)$ is positive and finite." And Veneziani(2004: 100) insisted that Kliman and McGlone(1999)'s "all arguments crucially depend on the arbitrary assumptions that the undefined MELT, $[\tau(t)]$ is positive, for all t" (emphasis in original). According to Mohun and Veneziani, the superiority of TSSI to other interpretations depends on the positivity of the positivity of MELT.

Veneziani(2004: 101) further argued that Kliman and McGlone(1999: 36) assume that "\$1 is equivalent to 1 labour-time," but that "the TSSI assumption of $[\tau(t)]=1$, all t is completely arbitrary outside a steady-state" and that "the TSS MELT is undefined." And he asked "why should $\tau(0)$ be positive in the first place?" and asserted that "[the motion of MELT] say nothing about the sign of $\tau(0)$."

In response to this critique, Kliman and Freeman(2006: 122−123) returned to the initial commodity production and tried to prove that "initial temporalist MELT is positive and finite" because P > 0 and c ≥ 0. But Veneziani(2005: 523) refuted them, arguing "no definition of $[\tau(0)]$ at the initial period is provided. What Freeman's argument can do is to merely account for the changes in $[\tau(t)]$ relative to an arbitrary initial $[\tau(0)]$."

But Kliman and Freeman(2008: 108) complained that Mohun and

Veneziani "lambast our demonstration that the TSSI conforms to Marx's theory of profit because we supposedly failed to exclude the possibility that all commodities are free, and the possibility that living labour initially creates a negative amount of value in monetary terms," but that "they provide no argument, much less proof, that either of these extreme, hypothetical cases is logically possible."

There is no doubt that all commodities, produced by living labor have positive values in commodity production. So the possibility of the negative $\tau(0)$ can be excluded with an easy mind. However it seems to be still necessary for Kliman and Freeman to explain 'theoretically' what is the money and how its value is determined, whether it is the same as or different from Marx's commodity money, and finally how it is related to the contemporary inconvertible paper money.

3.5 MELT under TSSI and Marx's Theory of Commodity Money

Above we saw that NI and TSSI MELT have a problem of circular reasoning and thus that Marx's MELT must be defined and determined outside and independently of the transformation procedure and logically prior to it. And the critics of TSSI demanded that the supporters of TSSI should prove that initial MELT, $\tau(0)$ can be 'theoretically' explained to be positive and finite, without arbitrary assumption.

It is not clear why Kliman and Freeman did not explicitly accept Marx's theory of commodity money, when they tried to show the positivity of $\tau(0)$.[14]

---

14) Kliman and Freeman didn't use the notion that money is a commodity, but it is not unclear whether that does necessarily mean that they don't accept Marx's theory of commodity money or not.

If we rely on Marx's theory of commodity money, then TSSI MELT can escape from the circular reasoning because MELT is determined in the gold-producing sector, independently of and logically prior to transformation procedure. And in transformation, it is sufficient for one to assume that the value of money is given as the value of gold and that it keeps constant, without 'defining' MELT in transformation procedure in vein.

And if we accept Marx's theory of commodity money, the positivity of $\tau(0)$ is easily ascertained theoretically because the value of commodity money cannot be theoretically and historically negative. Therefore, it is more reasonable for supporters of TSSI to adopt Marx's theory of commodity money. In next section, Marx's theory of commodity money will be discussed.

4. Marx's Theory of Commodity Money and MELT

4.1 Transformation and Foley's MELT

Marxists after Marx have faced dual issues in holding Marx's theory of commodity money. The first issue is that it seems that the value of commodity money should be transformed into its production price, because the commodity money (for example, gold) itself is a commodity. But if it is transformed, the problem arises that the direct relation between labour time and money cannot be maintained. So the gold, produced by a certain amount of labour in gold production sector, can be exchanged with the various amounts of labour expended in other sectors, according to the organic composition of capital in gold production relative to the average composition of capitals in other sectors and the average rate of profit. And in this case MELT cannot be

determined by the reciprocal of the amount of labour necessary to produce a unit of gold.

The second issue lies in the fact that contemporary money is not any more a commodity, but an inconvertible paper money like dollars, at least since the suspension of gold conversion in U.S. in 1971. So in the face of the change, Marxist must determine the value of paper money and MELT without immediate reference to value of gold.

While the first issue is owing to the fact that money itself is a commodity, the second issue is caused by the fact that money is no longer a commodity. Therefore, Marxists who want to base itself on Marx's theory commodity money faced the challenge to develop Marxist theory of money, which is based on the theory of the commodity money and is not inconsistent to the theory of commodity in general. It also should be able to explain the value of inconvertible paper money based on the theory of commodity money.

It seems that these dual issues make Foley to abandon Marx's theory of commodity money, and led him to the circular reasoning. First he thinks that the value of commodity money is determined in the gold production sector if there is no transformation.

> If there is a money commodity, and prices are proportional to labour values, then the value of money will tend to be equal to the labour value of money commodity multiplied by the amounts of the money commodity in the monetary unit. (Foley, 1982: 382, emphasis is original)

However, Foley seems to have difficulty in following Marx's theory of commodity money as follows;

Marx argues as if the value of the money commodity actually determine the value of money, once a society has settled on a "standard of price," the amount of the money commodity which it will call a unit of money··· If the gold exchanges for other commodities in proportion to its labour value (i.e., there is equal exchange between gold and other commodities), then the value of money will be the value of the amount of gold contained in the standard of price··· Gold, however, may not exchange against other commodities in proportion to their embodied labour times. The production of gold may involve a higher or lower than average organic composition of capital, so that *the equalization of the profit rate* in gold production to the profit rate in other sectors requires that gold exchange for more or less than its labour value(Foley, 1983: 9, emphasis added).

According to Foley, the value of gold must be transformed into its production price, which would cause the problem that "gold exchange for more or less than its labour value." Foley seems to have felt difficult when the value of gold is transformed, because then the immediate relation between the value of money and labour-time is broken.[15)]

_____

15) On the contrary to Foley, although Lapavitsas(2000: 632, 634), correctly thought that "with commodity money as the starting point, analysis of noncommodity money can be undertaken without contradicting the labor theory of value," he argued that "the value of the output of the gold industry is also subject to the transformation of value of into price···." And Kristjanson-Gural(2008: 158−159) also rightly pointed out that "the New Interpretation severs the link between Marx's analysis of the value of the money commodity(gold) and the monetary expression of value" and that "it is necessary theoretically to develop the monetary expression of value with reference to commodity money at the level of analysis in which commodities are assumed to exchange at prices of production," but he thought that "when gold is exchanged according to its price of production, the price of production of gold(denominated in units of abstract labor) is the amount of socially abstract labor that one unit of gold represent in equivalent exchange". However if the value of gold is transformed into its production price, then the lower the organic composition of capital in gold production

So Foley(1983: 383) abandoned Marx's commodity theory of money and proposed "to generalize the concept of the value of money by defining it as the ratio of aggregate direct labour time to aggregate value added." But his definition of the value of money cannot but falling in circular reasoning, which have been discussed previously.

However, Marx did not seem to agree with Foley as to be examined below.

4.2 Transformation and Marx's Theory of Commodity Money

Marx never discussed whether the value of commodity money changes or not after the transformation in the third volume of Capital, which led to the confusion that value of money commodity is transformed into its price of production later. However, it was fortunate that Marx discussed the value of gold after transformation, dealing with the absolute rent in *Theories of Surplus-Value, Part III*, as follows.

> (As regards absolute rent) Let us take a *gold mine*. We assume that the capital employed is £100, the average profit £10, rent £10, and that half the capital consists of constant capital··· and half of variable capital. The £50 of constant capital means nothing more than it contains the same amount of labour-time as is embodied in £50 worth of gold. That part of the product which is worth £50 therefore replaces this constant capital. ··· If the rest of the product is worth £70, and if 50 workers are set to work with the £50 of variable

---

sector is relative to the ones in the other sectors, the greater is the amount of MELT, systematically overestimating the aggregate price of other commodities. And in that case, the aggregate price is influenced by the division of added value into wage and profit as in the case of Adam Smith, unlike in the case of Marx.

capital (assuming a working-day of 12 hours), then the labour of these 50 workers must be expressed in £70 worth of gold, of which £50 goes to pay wages and £20 represents unpaid labour. The value of the products of all capitals of the same composition will then be 120; the product will then consist of 50c and 70, [the 70] corresponding to 50 working-days, that is, 50v plus 20s ··· [A]ll *ordinary industrial capitals*, although the value of their products would, in these circumstances, amount to 120, would only sell them at their *production price* of 110. But in the case of the *gold mine*, this is impossible quite apart from the ownership of land, because in this case the *value* is expressed in the product in kind. A *rent* of £10 would therefore of necessity arise. (Marx, 1971: 403−404, italics emphases are added)

In the above quoted sentence, it can be clearly confirmed that Marx did not consider that the value of gold is transformed into its production price.[16] According to Mar, the value of gold cannot be translated into its production price, because the value of gold is expressed in the product in kind,[17] and it is not so in reality, because of the existence of mine rent.

When the composition of capital is 50c+50v, the rate of surplus value, 40%(20s), and the average rate of profit, 10%, the products of 'ordinary in-

---

16) For the view that the value of gold does not participate in the equalization of the rate of profit owing to the existence of mine rent, see Kim(2005, 2007) and Moseley(2005a, b). Here we consider the mine rent as the rent in general including both the differential and absolute rent, because only in that case the gold can exchange at its value with other commodities.

17) Moseley(2005: 194, 192) correctly emphasized that the circuit of capital in the gold industry is represented by M─C···P···M', instead of M─C···P···C'─M', so that "the product of gold production is money itself, not a commodity with a price that to be converted into money". Therefore according to him, "the money commodity has neither a value-price nor a price of production, so that a transformation of the former into the latter is not possible".

dustrial capitals' sell at their production prices, 110. But in the case of gold, its product is exchanged at the value of 120(50v+50c+10[average profit]+10[mine rent]), not at 110 with other products, in the same circumstances. [18]

Therefore, Foley's argument that the value of commodity money is transformed into its production price is quite different from Marx's. According to Marx, in so far as commodity money still functions as money, MELT is determined by the value of gold[or silver], which is not transformed into its production price even after transformation. In Marx's above example, 50 working-days are expressed as the gold of 70. And if MELT is determined by the value of gold in this way, the circular reasoning which can be seen in the case of Foley's definition of money can be avoided.

4.3 Commodity Money and Paper Money

Until now we discuss the dual issues that Marxists faced in the study of

---

18) Though Moseley(2005: 197, 199) correctly pointed out that "according to Marx's theory, there is *no sharing of surplus-value between the gold industry and other industries*, because the profit received in the gold industry is always identically equal to the surplus-value produced in the gold industry," he incorrectly argued that "[w]hether or not rent must be paid in the gold industry, there is still a tendency over multiple periods towards the equalization of the profit rate in the gold industry ⋯ either to the average rate of profit or to the average rate of profit plus the average rent."(emphasis is original) Moseley seems to have not understand that the equalizations of the profit rate in the gold industry on the one hand to the average rate of profit and on the other hand to the average rate of profit plus the average rent are quite different things. In the former case, equalizations lead to the sharing of surplus-value between the gold industry and other industries, while in the latter case there in no such sharing. If Moseley's view was logically consistent, he should have clearly chosen the latter equalization.

money. The first issue can be resolved by the fact that the value of commodity money is not transformed due to the mining rent. But, the second issue on how the value of the inconvertible paper money can be explained based on the value of commodity money remains unresolved.

Here, the problem will not be dealt with in detail due to the restriction of space. Instead, we will briefly discuss how the Marx's theory of commodity money, as seen above, is related with FMT under TSSI and the determination of the value the inconvertible paper money.

Firstly, if based on the theory of commodity money, it would not be necessary to abandon Marx's theory of commodity money or to hold on to the unrealistic argument that gold still functions as money.[19] Marx's theory of money commodity had been valid until the gold conversion was suspended. And an advanced theory of money of inconvertible money is necessary to develop, which reflect the suspension and which start from Marx's theory of money commodity. Therefore Marx's theory of commodity money can remain as a theory that has been historically valid.

Secondly, as seen above, the theoretical problem was arisen on how the

19) Moseley(2005: 4－5) argued that "the case of *inconvertible paper money* is somewhat different. In this case, according to Marx, the MELT depends not only on L_g[the labour-time contained in a unit of gold], but also the ratio of the quantity of paper money forced into circulation M_g and the quantity of gold money that would be required if paper money were convertible(M^*)."(emphasis is original) However, though Marx had discussed the case when the gold standard was *temporarily* suspended in the same manner as Moseley pointed out, it is very doubtable how the value of money can influence MELT in the *completely and permanently inconvertible contemporary money system*, where the prices are determined without reference to the value of gold. I don't think that the change in the value of gold can change the prices of commodities in the latter system.

initial MELT $\tau(0)$ is determined under TSSI. If based on the theory of commodity money, we do not need to go back to 'the initial exchange' to find out the positive $\tau(0)$. Instead, we can consider its value as the value of gold immediately before the suspension of gold conversion in the 1930s Great Depression or in 1971 in U.S.

Thirdly, when we combine the theory of commodity money and TSSI, we can recover the theoretical continuity between theory of commodity money and of inconvertible paper money, reflecting the continuous history of money development. Then we can have a merit to make use of the research results obtained in the study of commodity money and the transitional form of money in the course of money transition from commodity money to the inconvertible paper money system, in the study of the inconvertible paper money.[20] And if we succeed in this study, we can expect to restore 'the material basis', which the theory of pure symbol money lack, and which Marx alludes in Part I of the first volume of *Capital*. [21]

---

20) Saad-Filho(2000) classified the Maxian analyses of inflation into three broad categories, the theory of the distributive conflicts, monopoly power, and state intervention. These inflation theories can be used to explain the value of the inconvertible paper.

21) "We have seen that the money-form is merely the reflection thrown upon a single commodity by the relations between all other commodities ⋯ The process of exchange gives to the commodity which it has converted into money not its value but its specific value-form. Confusion between these two attributes has misled some writers into maintaining that the value of gold and silver is imaginary. The fact that money can, in certain functions, be replaced by mere symbols of itself, gave rise to another mistaken notion, that it is itself *a mere symbol*. Nevertheless, this error did contain the suspicion that the money-form of the thing is external to the thing itself, being simply the form of appearance of human relations hidden behind it. In this sense every commodity is a symbol, since, as value, it is only *the material shell* of the human labour expended on it. But if it is declared that the social characteristics assumed by material objects, or the material characteristics assumed by the social determinations

The last task may require enormous research concerning the commodity money and the transition periods to the inconvertible money. However, better results can be obtained only by using the theory of commodity money as a base to obtain 'the material basis'. Further research in this area needs to be done.

5. Conclusion

So far, the recent debates on Marx's value theory were critically assessed. As seen above, SDSI and NI's FMT have flaws that they may not hold, when there are negative physical surplus or net products. And NI and TSSI's MELT are challenged by the problem of circular reasoning because they are defined or determined in the transformation procedure. Therefore, Marx's MELT should be determined based on his theory of commodity money. Unfortunately, the relation between the value of commodity money and paper money has not been examined closely. Further study on this topic should be followed shortly.

---

of labour on the basis of a definite mode of production, are mere symbols, then it is also declared, at the same time, that these characteristics are the arbitrary product of human reflection"(Marx, 1976: 185−186, the emphases added). For the theory of the purely symbol money, see Lipietz(1982), Bellofiore (1989), Graziani(1997), and Williams(2000), for examples.

□ References

Bellofiore, Riccardo. 1989. "A Monetary Labor Theory of Value." *Review of Radical Political Economics*, Volume 21: 1.

Duménil, G. 1982. "Beyond the Transformation Riddle: A labour theory of value." *Science and Society*, 47: 4.

Duménil, G. and D. Levy. 2000. "The Conservation of Value, A Rejoinder to Alan Freeman." *Review of Radical Political Economics*, Volume 31, 1.

Fine, B., C. Lapavitsas and A. Saad-Filho. 2004. "Transforming the Transformation Problem: Why the 'New Interpretation' Is a Wrong Turning." *Review of Radical Political Economics*, 36: 1.

Foley, D. 1982. "The Value of Money, the Value of Labour Power, and the Marxian Transformation Problem." *Review of Radical Political Economics*, 14: 2.

_____.1983. "On Marx's Theory of Money." *Social Concept*, 1: 1.

_____. 1999. "Response to David Laibman." *Research in Political Economy*, 17.

_____. 2000. "Response to Freeman and Kliman." *Research in Political Economy*, 18.

Freeman, Alan. 1996. "Price, value and profit: A continuous, general treatment." in Freeman, A. and G. Carchedi. eds., 1996.

_____. 1999. "Between Two World Systems: A Response to David Laibman." *Research in Political Economy*, 17.

_____. 2004. "The Case for Simplicity: a Paradigm for the Political Economy of the 21st Century." in Freeman, Kliman, and Wells. eds., 2004.

Freeman, A. and G. Carchedi. eds., 1996. *Marx and Non-equilibrium Economics*. Edward Elgar, Cheltenham, U.K.

Freeman, A. and A. Kliman. 2000. "The Concepts of Value: Tow Rates of Profit, Tow Laws of Motion." *Research in Political Economy*, 18.

_____.2008. "Simultaneous valuation vs. the exploitation theory of profit: A summing up." *Capital and Class*, no.96.

_____. 2009. "No Longer a Question of Truth?: The Knell of Scientific Bourgeois Marxian Economics and a Positive Alternative." *Marxism 21*, 6: 3.

Freeman, Kliman, and Wells. eds., 2004. *The New Value Controversy and the Foundations of Economics*. Nothampton, MA: Edward Elgar.

Graziani, Augusto. 1997. "The Marxist Theory of Money." *International Journal of Political Economy*, 27: 2.

Kim, Chang-Keun. 2005. *Marx's Value Theory and Time: An Extension of*

Temporal-Single-System Interpretation. Ph. D. Seoul National University.

_____. 2007. "Marx's Transformation and Value of Money." *Korean Research in Economics*.

Kliman, A. 1996. "A Value-Theoretic Critique of the Okishio Theorem." Freeman, A. and G. Carchedi. eds., *Marx and Non-Equilibrium Economics*. Edward Elgar.

_____. 1997. "The Okishio Theorem: An Obituary." *Review of Radical Political Economics*, 29: 3.

_____. 1999. "Sell Dear, Buy Cheap?: A Reply to Laibman." *Research in Political Economy*, 17.

_____. 2001. "Simultaneous Valuation vs. the Exploitation Theory of Profit." *Capital and Class*, no.73.

_____. 2004. "Marx versus the '20th-Century Marxists': a Reply to Laibman." in Freeman, Kliman, and Wells. eds., 2004.

_____. 2007. *Reclaiming Marx's Capital: a refutation of the myth of inconsistency*. Lexington Books.

Kliman, A. and A. Freeman. 2000. "Rejoinder to Duncan Foley and David Laibman." *Research in Political Economy*, 18.

_____. 2006. "Replicating Marx: A Reply to Mohun." *Capital and Class*, no.88.

_____. 2009a. "Moseley and Rieu's Useless and Erroneous Activity." *Marxism 21*, 6: 3.

_____. 2009b. "The Truthiness of Veneziani's Critique of Marx and the TSSI." *Marxism 21*, 6: 2.

Kliman, A. and T. McGlone. 1999. "A Temporal Singe-System Interpretation of Marx's Value Theory." *Review of Radical Political Economics*, 11: 1.

Kristjanson-Gural, David. 2008. "Money is Time: The Monetary Expression of Value in Marx's Theory of Value." *Rethinking Marxism*, 20: 2.

Laibman, David. 1999a. "Okishio and His Critics: Historical Cost versus Replacement Cost." *Research in Political Economy*, 17.

_____. 1999b. "The Profit Rate and Reproduction of Capital." *Research in Political Economy*, 17.

_____. 2000a. "Two of Everything: A Response." *Research in Political Economy*, 18.

_____. 2000b. "Numerology, Temporalism, and Profit Rate Trends." *Research in Political Economy*, 18.

_____. 2000c. "Rising 'Material' vs. Falling 'Value' Rates of Profit: Trial by Simulation." *Capital and Class*, 73.

_____. 2004. "Rhetoric and Substance in Value Theory: an Appraisal of the New Orthodox Marxism." in *Freeman, Kliman, and Wells*. eds., 2004.

Lapavitsas, costas. 2000. "Money and the Analysis of Capitalism: The Siginficance of Commodity Money." *Review of Radical Political Economics*, 32: 4.

Liepietz, Alan. 1982. "Credit Money: A Condition Permitting Inflationary Crisis." *Review of Radical Political Economics*, 14.

Marx, Karl. 1971. *Theories of Surplus-Value, Part III*. Progress Publishers.

_____. 1976. *Capital: Volume, I*. Penguin.

Mohun, Simon. 2003. "On the TSSI and the exploitation theory of profit." *Capital and Class*, no.81.

Mohun, S. and R. Veneziani. 2007. "The inconsistence of the TSSI: A reply to Kliman and Freeman." *Capital and Class*, no.92.

_____. 2009. "The Temporal Single-System Interpretation: Underdetermination and Inconsistency." *Marxism 21*, 6: 3.

Moseley, F. 2000. "The 'New Solution' to the Transformation Problem: A Sympathetic Critique." *Review of Radical Political Economics*, 32:2.

_____. 2004a. "The Return to Marx: Retreat or Advance." in *Freeman, Kliman, and Wells*. eds., 2004.

_____. 2004b. "The Monetary Expression of Labour, in the Case of Non-Commodity Money." mimeo.

_____. 2005a. "Introduction." in Moseley. ed., 2005. *Marx's Theory of Money: Modern Appraisals*, Palgrave macmillan.

_____. 2005b. "Money has no price: Marx's Theory of Money and the Transformation Problem." in Moseley. ed., 2005. *Marx's Theory of Money: Modern Appraisals*. Palgrave macmillan.

Moseley, Fred and Dong-Min Rieu. 2009. "A Critique of Kliman and McGlone's Two-Commodity 'Refutation' of the Okishio Theorem." *Marxism 21*, 6: 3.

Okishio, N. 1963. "A mathematical note on Marxian theorems." *Weltwirschaftliches Archiv*, 91(2).

Ramos-Martinez, Alejandro. 2004. "Labour, Money, Labour-Saving Innovation and the Falling Rate of Profit." in Freeman, Kliman, and Wells. eds. 2004.

Rieu, Don-Min. 2009a. "Has the Okishio Theorem Been Refuted?." *Metroeconomica*, 60: 1.

_____. 2009b. "Interpretations of Marxian Value Theory in Terms of the Fundamental Marxian Theorem." *Review of Radical Political Economics*, 41: 2.

Roemer, John. 1981. *Analytical Foundations of Marian Economic Theory*, Cambridge University Press: Cambridge.

Saad-Filho, Alfred. 2000. "Inflation Theory: A Critical Literature Review and a New

Research Agenda." *Research in Political Economy*, 18.

Veneziani, R. 2004. "The Temporal Single-System Interpretation of Marx's Economics: A Critical Evaluation." *Metroeconomica*, 55: 1.

_____. 2005. "Dynamics, Disequilibrium, and Marxian Economics: A Formal Analysis of Temporal Single-System Marxism." *Review of Radical Political Economics*, 37: 4.

Willams, Michael. 2000. "Why Marx Neither Has Nor Needs a Commodity Theory of Money." *Review of Radical Political Economics*, 12: 4.

□ 국문 초록

마르크스 가치론에서의 최근 논쟁에 대한 비판적 고찰

김창근

이 논문은 마르크스의 가치론에 대한 최근의 논문을 비판적으로 고찰한다. 마르크스의 가치론에 대한 동시적이원체계해석과 새 해석은 음의 물리적 잉여와 음의 순생산물이 존재할 때 마르크스의 근본명제가 성립하지 않을 수 있다는 단점을 가지고 있다. 그리고 새 해석과 시점간단일체계해석의 노동시간의 화폐적 표현이 전형과정에서 정의 또는 결정되기 때문에 순환논리라는 문제점을 가지고 있다. 따라서 마르크스의 노동시간의 화폐적 표현은 상품화폐 이론에 기초하여 결정되어야 한다.

주요 용어 : 마르크스, 마르크스의 근본명제, 노동시간의 화폐적 표현, 상품화폐, 광산지대, 동시적이원체계해석, 새해석, 시점간단일체계해석.