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Modern Rent-Bearing Capital: New Enclosures, Knowledge-Rent and the Financialization of Monopoly Rights

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Abstract

This article advocates that a better approach to financialization is to shift the emphasis to the production process and to the commodity form. To accomplish this, we show how modern-day capitalism is heading towards the production of commodities *sui generis* – namely 'knowledge-commodities', which cannot be sold, but only loaned or lent. The underpinnings of this process are the modern formation of 'new enclosures' (patents and intellectual rights). Our thesis, reached by investigating the entire valorization process of those knowledge-commodities, is that the modern rentier form of capital has its logical origin in the development and rapid spread of knowledge-rent. The financial dynamics are made evident through the concept of modern rent-bearing capital.

Key-words: Marx, Financialization, Rent, Interest-bearing Capital, Property Rights.

JEL Classification: B51, O16, O34

1. Introduction

What is the best approach to understand the current financialization process of capitalism? Contemporary Marxist debate identifies two main theoretical explanations: Chesnais' financial-dominated accumulation regime and Arrighi and Wallerstein's modern understanding of long waves. The former approach draws on Braudel's notion of long waves and associates the current financial dynamics to a natural final phase of a long cycle, which will be followed by a new productive and inventive upswing. Chesnais developed an opposite line of reasoning to show that current financial dynamics represent a completely new phase, a radical break with past interactions between finance and production. He called this a "financial-dominated accumulation regime" to highlight the supremacy of the interest-bearing capital form.

However, more recently, a new Marxist interpretation has arisen from the works of Prado, who attempts to shift the discussion to the inner components of the present mode of production. Prado's main argument is that modern-day capitalism is increasingly heading towards the production of commodities *sui generis* that we will call 'knowledge commodities' – these cannot be sold, but only loaned or lent. Prado draws an interesting conclusion from this fact: that the intellectual property rights give a financial character to commodity-producing firms as they obtain financial revenue while lending their own products. Therefore, Prado's attempt is to show that this revenue, as it accrues from lending activities, can be characterized as interest yields.

By looking more closely at Prado's insightful vision, we will be able to show that revenues stemming from the possession of monopoly property rights (the 'new enclosures') should not be identified with interest revenues, but rather with rent revenues. Therefore, we will show how the shift towards production issues takes us inevitably to the discussion of what we call 'knowledge-rent', a modern and rapidly spreading type of rent that serves to bind knowledge to capitalist competition. We will analyze its specific circuits and, in the final part, we show how this approach represents a new way of dealing with the financialization of productive firms. The creation of a new concept will be proposed: the rent-bearing capital, to which monopoly rights are themselves traded as commodities. It is advocated that the current financialization process should be seen not only as a development of the money form, but especially as of the commodity form.

2. Marx, Hegel and the Financial Concept of Capital

Marx, by presenting the concept of capital in a dialectical manner, tries to indicate that the financial sphere has a tendency to become autonomous from the production sphere, a process which is already inherent to the commodity and money forms. From the very first chapter of *Capital*, Marx makes every effort to show logically how *value becomes increasingly independent of use-value, implying that financial autonomization is potentially present within the very essence of commodity form*. The development of the concept of capital is, therefore, just a matter of developing what is presupposed (i.e. present as a potentiality) in its essence: the ever growing separation of value form from its very support, use-value.

We can synthesize capital's logical formation with a simple scheme: commodity → coin → money → capital → continuous accumulation of capital → interest-bearing capital → fictitious capital. In the same way, it is undeniable that *Marx inherited Hegel's notion of truth as the adequateness of the object to its own concept*. It is known that Hegel's *Phenomenology of Mind* makes the *distinction between truth and certainty*. In a nutshell, it is possible to say that the latter is the adequateness between the speech and the object: if someone says that "it is raining outside", we only have to look outside to know whether the speech is adequate to the object. Hegel would say that this is a matter of certainty, not of truth. For the former, as has been shown by phenomenological experience, adequateness has to do more with objective aspects of reality. If, for certainty, the criterion is rather subjective, for truth the criterion becomes more dependent on the object: *truth, for Hegel, is the adequateness of the object to itself; or, to put it another way, is the adequateness of the object to its own concept.*

How can we know what the object's own concept is? Hegel's answer is immediate: through the logical production and formation of the object, which means that we get acquainted with an object's concept by examining its very development. This process is synthesized by Hegel with the German word *Bildung*, which means "formation", "production", "education" and "development". Truth, for Hegel and also for Marx, is neither discovered nor revealed (as if it were a hidden treasure, independent of the subject), but rather something stronger than that: *truth is produced; truth is developed.* The phenomenological process is exactly the dynamics by which truth is formed, produced, developed.

Therefore, we can affirm that *capital's concept is its own formation [Bildung], made evident by its logical presentation*. From the very first form (i.e. the commodity form), we experience an unequivocal tendency towards the separation of value from use-value. Money, capital, accumulation of capital, interest-bearing capital and fictitious capital are all enhanced forms in which value becomes increasingly independent from its support, the use-value: "All contradictions of the monetary system ... are the development of the relation of products as exchange values, of their definitions as exchange value or as value pure and simple" (Marx 1973, p.152)[1]. Here the notion of "independence" assumes a very precise meaning: *independence (or autonomization) is the introduction of new layers of logical mediation*. If fictitious capital is the most autonomous form of capital, it is so because there the value form is separated from use-value by several mediations[2].

The conventional approach is to consider the concept of capital accumulation chiefly as an accumulation of technology, goods and services – as can be seen through the specifications of several Solow-and-Romer-based-models. On the other hand, the Marxist point of view treats capital as a form. In this way, capital as M-C-M' can be

[1] Throughout this article, the quotations from Marx's *Capital* are from the Portuguese version. The English translation used was from the www.marxists.org website.

[2] Alternatively, following Fausto (1987b, p.327), we could say that *autonomization is the process by which the object internalizes its own presuppositions*, i.e. the process by which the object produces its own pre-requisites. That is the reason why Marx thinks of capital as an autonomous subject: because capital produces its own necessary conditions; that is, *its outcomes are the very pre-conditions of its existence*. In Marx's own words: "from the process of capitalist production itself, from which it constantly results and as whose constant result it serves as a constant prerequisite" (Marx 1984a, p.267). "Just as the conversion of money, and of value in general, into capital is the constant result of capitalist production, so is its existence as capital its constant precondition." (Marx 1984a, p.283).

abbreviated to M-M' exactly because the reason of capitalist production is not the augmentation of the production of commodities (use-values), but rather the enhancement of the valorization of value. As often as possible capital tries to disencumber itself from the production process, while still contradictorily attempting to self-expand.

Bearing this distinction in mind, we shall first address the question of: what is the truth of capitalism? That is, when is capitalism adequate to its own concept? How can we know if the "post-1945 welfare state" or "post-1990 neo-liberalism" is the true essence of capital? In short: *what is the concept – in its Hegelian sense – of capital?* This is the central question among Marxists. In the third volume of *Capital*, Marx presents the financial shortened circuit also known simply as M-M', money that appears to expand itself by means of itself without the mediation of the production process; which brings us to the inevitable dilemma: *what circuit, M-C-M' or M-M', is the essence of capital?*

3. Finance-Dominated Regime vs. Long Waves

In an attempt to answer the above questions, we identify two main proposals within contemporary Marxist debate. The first derives from the works of Chesnais and the French regulationist school, while the second derives from the works of Arrighi and Wallerstein. This section critically compares the two theories.

Chesnais (2005) explains in a more precise manner what his concept of "*finance-dominated accumulation regime*" means. Using Marxists categories, his central idea is that after the crisis of the Fordist industrial dynamics in the early 1970s, a new regime of accumulation emerged, characterized by the predominance of the interest-bearing capital form, motivated mainly by a fall in the profit rate and by the institutional deregulation of financial markets. That capital, which was largely from the Euromarkets and from the US twin deficits, encountered in the incipient financial reforms and in the digital technological revolution a new form of valorization that was becoming more independent in relation to the actual production process.

In some sense, Chesnais is following Keynes in a common distinction between 'good capitalism' (where industrial dynamics predominate) and 'bad capitalism' (where financial dynamics are predominant), for which the end of the Fordist regime serves as a transition point. Although, for Chesnais, this 'financial dominance' is not just an external influence, but rather the proof that all moments of capital, including the industrial circuit, are being increasingly organized as pure financial and rentier circuits. Hence, instead of being called a 'dominance of the financial valorization', it should be called a 'financial dominance of the valorization', in order to more accurately express the fact that it is a case not only of *quantitative* change, but also of *qualitative* change.

Chesnais' theory also purports that modern-day capitalism was able to experience a more autonomous financial sphere (interest-bearing capital) with the same production process. For him it is a matter of financial autonomization; or, more precisely, a case of 'relative autonomization'. However, his use of the term "relative" to qualify this autonomy only serves to confuse the issue, as it suffers from a conceptual inaccuracy. Chesnais *understands this interest-bearing capital dominance as a matter of institutional reform, rather than a development of the concept of capital itself. That is,* *he seems unaware that from the commodity form, Marx is trying to prove that the essence of capitalism is the autonomization of value from its support (i.e. use-value), for which interest-bearing capital and fictitious capital are its utmost logical outcomes.* Chesnais inadvertently treats interest-bearing capital and fictitious capital as if they were just "types" of capital, not respecting capital's logical presentation [Vo*rstellung*].

Additionally, the idea that we are currently facing a new phase of capitalism characterized by a new regime of accumulation with financial dominance has been criticized by an alternative Marxist approach that is based on the idea of *long-duration cycles*, as originally proposed by Fernand Braudel, having Wallerstein (2003) and Arrighi (1996) as its main modern advocates[3]. For them, *the current predominance of financial valorization is nothing more than a normal transition process that takes place in the final period of every capitalist accumulation cycle*. Therefore, the contemporary advance of the financial components would be nothing new, since financial expansions always occur at the end of a long wave.

One of our disagreements with this second approach is that the cyclical treatment ignores the radical technical changes that have been introduced during the past 30 years in the dynamics of capital. Those advocates, by only seeing a flowing continuity, do not consider the technological breakthroughs that have occurred in the form of the digital and micro-electronic revolution[4].

Above all, long-waves theories also share the same inadequate understanding of Marx's ideas. As already shown, *the development of the concept of capital is its own process of autonomization*, which means that value becomes increasingly separated from use-value. However, *a cyclical interpretation of capitalism is completely at odds with Marx's ideas and the categorical derivation of capital's forms*. Financialization is the very realization and effectuation of capital's essence. *A long-wave approach, therefore fails to consider this inherent tendency towards the separation between use-value and universal wealth (value).*

4. Capitalist Production of Knowledge

Another Marxist approach to the financialization issue was insightfully proposed by Prado (2005; 2006a; 2006b). His central argument is that we need to *examine the radical changes that took place inside the production sphere and then analyze their impact on the whole valorization process*; hence he asserts that we need to shift *the focus of the analysis from the financial sphere to the transformations in the production sphere*. For Prado we are currently experiencing a profound change in the mode of production of commodities and, according to him, this should prompt us to search for the novel essence of productive accumulation, as opposed to the theoretical efforts that are concentrated only on the transformations in the accumulation institutional regime. The cornerstone is the fact that the post-1980s technological revolution was based on the private appropriation of knowledge.

The main rationale behind Prado's assessments is the idea that the most advanced and dynamic sectors in the economy are increasingly heading towards the production of

[3] Suter and Pfister (1987) put forward a similar argument (albeit with more statistical data).
[4] A wider treatment of this subject is given in Teixeira (2007, Chap. 3).

commodities that are the outcome of the application of 'intellectual workers'. Those commodities *sui generis*, which can be seen both as final consumption goods and also as inputs for future production, demand substantial investments in R&D. Therefore, those *knowledge-commodities* require huge amounts of highly skilled labor-time, steeply increasing their cost. However, most of these special commodities – such as computer software, chemical formulae and engineering secrets – can easily be copied, despite the fact that their first-time production presupposes the investment of large sums of money.

From Marx, we already know that the value of commodities is determined not by the labor-time required to produce them, but rather by the labor-time required to *re*produce them. For example: if highly-skilled Microsoft employees spend three whole years developing a new operating system, but even a child of 8 can easily copy it, its value is nil. So, even though large investments were necessary for the development of the software, the fact that this commodity can be copied without any further complication makes it valueless. As Marx himself asserts, the "product of mental labor – science - always stands far below its value, because the labor-time needed to reproduce it has no relation at all to the labor-time required for its original production" (Marx 1861-1863, Addenda to Vol. 1)[5].

What is the solution? The answer is clear: transform knowledge into a monopolized commodity through the creation of intellectual property rights that impede effortless reproduction. This way, knowledge-commodities will be protected by several institutional devices that prevent people from freely acquiring them. However, there is one important additional concept: *those special commodities will no longer be sold, but only loaned or lent.* The 'buyer' (borrower) will only have the right of use, not of ownership. That is the logic behind licensing rights: the consumer becomes only a user, not the owner of the commodity.

The fact that those commodities *sui generis* cannot be sold, but only lent, creates the possibility for them to function as loaned and/or lent capital and the revenue obtained in this transaction can be identified as interest payments. The capitalist cannot sell knowledge as commodity, but will have to transfer the right to use it by means of a contract that safeguards his own property rights through legal guarantees. He has to necessarily consider it as *loanable capital* (Prado 2005, p. 107). In other words: *the producer becomes a financial institution that lends its products and demands payments in the form of interest. The producer has thus become a financial entrepreneur and the production process has become the production of interest-bearing capital, for which interest is its revenue.* The basis of this system is no longer only the appropriation of abstract labor, but increasingly the gains obtained over the appropriation of 'ideas' through intellectual property licenses and patents. As a consequence, the valorization form of those dynamic companies that produce these kinds of use-values becomes increasingly similar to the interest-bearing capital form:

> "[...] these products are, as stated by Marx, commodities *sui generis*. They receive the capital form as commodities. So, Microsoft – and this seems to have become a general tendency – operates in the M – C ... P ... M' circuit, as does a typical company that lends money. And this assertion is justified because, as

[5] This passage was also quoted in Perelman (2003, p.305).

> Marx said, '*all loaned capital is always a particular form of monetary capital*' (Prado 2006b, p. 222 – emphasis added). And, "that one who lends the commodities as capital lends the corresponding amount of money and he is, to all intents and purposes, a *financial capitalist*" (Prado 2005, p.108 – emphasis added).

Prado identifies the origin of the modern financial dynamics within the production process and states that the real change in recent years is a more profound change that has taken place in the production sphere. *Neo-liberalism and the theories of financial dominance are thus the embodiment of this more essential development* (Prado 2005, p.126). For modern times, the new base of profit is not only the exploitation of waged labor, but also the gains obtained by the monopoly protection of intellectual labor assured by property rights. Microsoft lends its operating system as if it were lending money or capital. And, as Marx himself stated, every lent capital is always a particular form of monetary capital. Those commodities *sui generis* operate as lent money because the producer cedes the use of it, but not its ownership.

We understand that Prado agrees with Chesnais about the existence of a financial dominance, even though *Chesnais' thesis has been restricted to the monetary form of interest-bearing capital, while Prado expands that vision by accurately demonstrating that for Marx, interest-bearing capital can also assume the commodity form, as long as it is considered as a sum of value*[6], for which patents and intellectual property rights are its existential proof.

5. A Productive Critique: Commodity-Capital vs. Capital-Commodity

Prado's ideas are strong and thoughtful. His attempt to draw attention to the essence of the production process as the best way to understand current capitalist dynamics is insightful and deserves further investigation. Nonetheless, we have identified a number of drawbacks to his approach, especially when he associates intellectual monopoly rights with interest-bearing capital. In the present section we will develop this rationale and in the subsequent sections we will use Prado's ideas and our criticism of them to develop a more accurate theory of financialization of capitalism based on the concept of knowledge-rent, i.e. our critique has a productive and purposeful aspect.

Prado is right when he states that *Marx, when discussing interest-bearing capital, writes that to assume this form, value does not necessarily need to be in money form, as it can also be in commodity form; what matters is that it presents itself as a sum of value.* This is what happens with the rent of a machine, of a building, of a vehicle, etc. In capitalism, as Marx himself asserts, every sum of value is potential capital, be it in money or in commodity form, and because of that it can additionally assume the form

[6] "Money – taken here as the independent expression of a certain amount of value existing either actually as money or as commodities — may be converted into capital on the basis of capitalist production, and may thereby be transformed from a given value into a self-expanding, or increasing, value. It produces profit, i.e., it enables the capitalist to extract a certain quantity of unpaid labor, surplus-product and surplus-value from the laborers, and to appropriate it. In this way, aside from its use-value as money, it acquires an additional use-value, namely that of serving as capital. Its use-value then consists precisely in the profit it produces when converted into capital. In this capacity of potential capital, as a means of producing profit, it becomes a commodity, but a commodity *sui generis*" (Marx 1985b, p.255 – emphasis added).

of interest-bearing capital when loaned or lent, allowing its owner to cede its use-value while demanding a monetary payment in exchange. Marx says that any sum of commodities or money can become possible capital and, if lent, become interest-bearing capital exactly because it is, above all, a sum of *value*. That is, it is the characteristic of value that assures its transformation into loanable capital.

However, *knowledge-commodities do not have this aspect, because – as stated above – they simply do not contain any value!* In other words: these special commodities require huge amounts of labor-time to be invested in their design, but require almost no labor-time to reproduce; and, as Marx puts it, it is the social labor time required to reproduce – not produce – that determines the value of a commodity[7]. In the case of knowledge-commodities, they have no value, even though they usually have very high prices attached to them by virtue of the special monopoly rights (patents, intellectual rights etc.). Therefore, *as they do not have value, they cannot become a sum of loanable value and, hence, cannot become interest-bearing capital*. They are not a sum of value and cannot be lent as such. In this way, contrary to Prado's view, those knowledge-commodities cannot become interest-bearing capital, *nor can the sum paid by the borrower be qualified as interest*. Additionally, for Marx, interest-bearing capital appears from the moment that, by the position of money as capital, any sum of value acquires the character of *potential capital*, that is, *its engagement in the productive valorization is not strictly necessary: value will be loaned as capital by its owner whether or not it is used as capital.*

Interest-bearing capital presupposes the existence of industrial capital. It is only through this existence that money or commodity, considered as autonomous sums of value, can become *potential capital*, with which money acquires the use-value of generating more value, not implying, therefore, any necessary relation between capital concession as interest-bearing capital and its insertion into the productive cycle (Teixeira 2007, Chap.3). Itoh and Lapavitsas also agree with this point: "the further advance of interest-bearing capital by the credit system need not to be directed exclusively towards real capitalist accumulation but also towards other activities not productive of surplus value" (1999, p.61). Marx is saying that *interest-bearing capital is autonomous from productive capital in the sense that although interest presupposes value creation, it does not necessarily have to be directed towards productive capital*. With regards to the interest-bearing capital form, it should be stressed that the interest is due whether the borrower uses the money as capital or not. As interest-bearing capital, the capital becomes a capital-commodity, capital that as capital became commodity. The existence of interest-bearing capital derives from the use of money as a commodity, and hence, money becomes potential capital, whether this possibility is actually realized or not. It is obvious that the sum of interests is a redistribution of value previously generated in the production process, but this does not necessarily mean that interest-bearing capital must always be directed towards production; it can perfectly well be used to help offset government deficits or be advanced to waged laborers in the form of consumer credit.

So now we should ask: what exactly is this revenue? Our answer is: the revenue obtained from the concession of knowledge-commodities, assured by the existence of monopoly rights, should not be compared with interest revenues – because those commodities are not a sum of value and cannot become interest-bearing capital, but

[7] "[...] the value of commodities is determined not by the time that it took to be produced originally, but by the labor time necessary to its reproduction" (Marx 1984a, p.298).

rather can be compared more accurately with *rent revenues, like ground-rent*. Following this line of reasoning, we will call the special rent derived from the knowledge-commodities '*knowledge-rent*'.

At this point, an objection could be raised, that knowledge-commodities only become capital when they penetrate the productive process. However, our answer is definite: when commodities enter the production process they are posited as use-values, not as values; when they penetrate the productive circuit (…P…) they do so as commodity-capital, as any other commodity that is used as input. Marx makes it clear, as mentioned earlier, that *it is not the use-value of the inputs that converts it into interest-bearing capital through it being loaned, but rather its value*. However, in this respect, a loaned machine yields interest because it figures not as a commodity, not with its use-value as an input, but rather as value. *What matters is what is being posited: value or use-value.* Marx (1985a, p.257-259) devotes an entire page attempting to clarify his arguments about the difference between commodity-capital and capital-commodity, as set out below:

> (1) **Commodity-capital** functions as a commodity and not as capital (it is only capital while considering the global process, but it is sold as a commodity and not as capital). It circulates as a *use-value* (e.g. means of production and productive inputs).
> (2) **Capital-Commodity** is commodity as capital, as a value that has the use-value of creating surplus-value. Despite being a lent commodity, it does not figure as use-value, but rather as a *value* (e.g. interest-bearing capital). It is money or a commodity as possible capital that becomes a commodity.

Therefore, Prado's theories are useful to us for two reasons: (a) where he is accurate, he rightly shifted the focus onto the new determinants of production and accumulation; (b) where he is less accurate, our criticisms now lead us to a deeper analysis of *financialization as an aspect of rent-bearing capital.*

6. Avoiding a Tempting Keynesian Approach to Marx

Misunderstanding the distinct logical nature of commodity-capital (posited as use-value) and capital-commodity (posited as value) might mistakenly lead to a theory that use-values can generate interest revenues. Keynes is certainly the most striking example of this. As became known through Chapter 17 of his *General Theory*, he thought that each commodity in the economy had its own particular interest rates according to its degree of profitability, liquidity and depreciation. For this precise reason, *Keynes also experienced great difficulty in dealing with interest rate issues, because he saw commodities only as use-values*, that is, considering only their function in the production process[8]. Following his rationale, we could also erroneously conclude that every commodity that enters the production process has the use-value of creating more value. What is missing is a dialectical understanding of those forms.

Let us, for a moment, consider machinery. Machines have different impacts on production and an individual capitalist could borrow a more productive machine and

[8] We are grateful to Leda Paulani for bringing our attention to this point.

expect to gain surplus-profits. However, in this case, we are dealing with two different forms of revenue. We should not identify all revenue received by the capitalist who employs a certain commodity (e.g. the machinery) with interest revenues. When the commodity is lent as interest-bearing capital, its owner receives the market interest-rate (plus an additional sum due to depreciation). The same occurs with land. Therefore, we are in fact dealing with *two distinct revenues*:

(a) The first is **interest revenue**, based on the machine's value. It derives from the fact that the machine is lent as a sum of *value* and thus as *interest-bearing capital* (the value is posited and the use-value is presupposed);
(b) The second is the appropriation of the surplus-profit as **knowledge-rent**, based on the difference between the new machine's productivity (due to technological progress and to the knowledge incorporated in it) and that of its direct competitors. It derives from the specific and differential *use-value* of this machine.

For the individual capitalist that owns the more productive machine and lends it to an industrial capitalist, he does so as if he were lending two different things at the same time. The first is the *value* of the machine, for which he receives interest-revenue. The second is the *differential use-value* ('differential knowledge') incorporated in the machine, for which he receives knowledge-rent. If it becomes available to all capitalists, the surplus-profit ceases and the extra-revenue (knowledge-rent in addition to interest-revenue) ceases with it. Using specific Marxist language, we shall state that the production process is the material and social basis for value creation, but not its source. *Use-value is the support of value, not its cause*, i.e. the production of use-values is the support of valorization, not its cause.

7. New Enclosures and Knowledge-Rent: A Marxist Approach

Land, in Marx's perspective, does not have value, as it is not reproducible by labor. Ground-rent, dependent on the legal setup of monopoly rights, is composed of the appropriation of a certain amount of value generated by other agents. Bearing this in mind, we will now attempt to demonstrate how *patents and authorial rights share the same categorical nature as the ground-rent*[9] and how these dynamics lead to the financialization of rent revenues.

According to Marx (1985b, p. 126), ground-rent is derived from the redistribution of the value created by production, as occurs with interest. The land does not necessarily have to be rented by a capitalist with the objective of using it in the production process: even if the tenant wishes only to benefit from the use-value, and not to make a profit, the rent is a distinctive revenue and, for that reason, must be considered such – as occurs in the case of interest. However, despite similarities that may lead to theoretical misunderstandings, the ground-rent determination is totally distinct from that of that of interest: Marx's ground-rent elaboration departs from the *differential rent* of Ricardo and Malthus.

[9] Although Perelman (2003, p.305) and Zeller (2008) also make this comparison, they do not develop the theory as we have here.

We shall firstly make a distinction between the revenues generated by land. The first revenue is due to the raw land and, as such, is an element independent of human labor. It is called "ground-rent" and constitutes *rent-bearing capital*. The second one is due to the improvements made to the raw land and, therefore, is the result of human labor. In this case, the improvements can be regarded as commodities that posses value, making the revenues a special interest-case, and as such, *interest-bearing capital*. Hence, the difference between produced and unproduced means of production creates the difference between profit (and interests) and rent. At first sight, this distinction might be somewhat confusing: "The boundary between interest on capital and rent on land appears somewhat blurred until the investment is amortized, when any improvement becomes a free good and therefore in principle no different from free gifts of nature" (Harvey 2006, p.337).

Let us suppose that the majority of industries in a country use steam (coal) engines and that the minority are powered by natural waterfalls. Let us assume also that capitalists who use waterfalls have lower production prices and, as a consequence, the social production price is higher than the individual production price. This difference generates a surplus-profit for the latter. The first part of this surplus-profit comes from a "natural power, the motive power of water, which is found ready at hand in nature and which is not itself a product of labor like coal, which transforms water into steam. The water has no value, it does not need to be paid by an equivalent, it costs nothing. It is a natural agency of production, which is not produced by labor" (Marx 1985b, p.143). There are natural elements and materials whose properties are favorable to those who work with steam engines, such as water, which can become steam; and coal, which can act as fuel, etc. Elements of nature are available to all. Secondly, the surplus-profit comes from the fact that one capitalist may employ a volume of capital greater than the average (the organic composition of this individual capital is higher than the sectorial average), or "from the fact that a capital of a certain magnitude functions in a specially productive manner", for example: "better methods of labor, new inventions, improved machinery, chemical secrets in manufacture, etc" (Marx 1985b, p.144-145). And, in our view, that is exactly what Prado meant when he considered modern-day 'inventions' and 'knowledge'. If the elements of nature are available to all, what is so particular about the waterfall case? The answer is that, unlike water, the waterfall is a "natural power, which *can be monopolized*", and is "*not producible* by certain capital investments" (Marx 1985b, p.145 – emphasis added). Hence, the surplus-profit of this specific capitalist is converted into ground-rent, which is a differential rent that corresponds to the difference between social and individual price, and derives from the existence of the monopolized natural power that introduces a relative difference in labor productivity between capitalists.

Ground-rent, although a form of property rent, is not of the same nature as the rent earned from interest. The latter is obtained from the property of a mass of value as potential capital, a value quantity in the form of a sum of money or of commodities. The commodity as interest-bearing capital is posited as value and presupposed as use-value; its use-value functions simply as a support for value. Ground-rent, on the other hand, is obtained by a use-value not reproducible by labor and, therefore, does not have value, even though it has a price. The fact that the monopolized land receives rent and has a market price leads to be confused with interest revenue.

Nonetheless, there is an essential difference with ground-rent that makes Marx ignore those "special circumstances" that allow a capital of a certain magnitude to operate in an especially productive manner. According to Marx, those circumstances are "neutralized as soon as the exceptional method of production becomes general or is superseded by a still more developed one" (Marx 1985b, p.145), as the surplus-profits from the higher organic composition disappear with the process of competition. Hence, he concentrates on the property of natural powers, since he considers them: (a) a *permanent source* of surplus-profit; (b) able to be *monopolized*; (c) *non-reproducible* by labor or by investments. From the moment that those special circumstances are no longer fortuitous but rather become producible by capital, society creates the possibility that knowledge – previously free and available to all – also becomes monopolized – as occurred with land. When knowledge production is performed as a capitalist production, investors will only continue with their plans if they can stand to gain revenue from them. This in fact logically creates the demand for *intellectual property rights, patents and authorial rights, which can guarantee permanent or at least long-lasting surplus-profits*. Access to this knowledge is granted in the same way as with land: only by permission of the owner, authorizing him or her the right to receive a percentage of the social revenues created by the use of those special techniques and ideas. This is exactly what we mean by "*knowledge-rent*": a new form of social *differential rent*[10]. The right of an individual capitalist to use this knowledge sets his individual production price below the social production price, creating a surplus-profit for him. And, as with ground-rent, we are currently experiencing the *transformation of surplus-profit into knowledge-rent*.

Why are interests different from ground- and knowledge-rents, considering that all the three are monopoly rents? Land (including all natural resources) has different capacities to increase labor productivity (for example, through greater fertility), and the same goes for knowledge-commodities. This happens because both *land and knowledge figure in the process of valorization as use-values, that is, for their concrete capacity to increase labor productivity*. In no way does land or knowledge create value:

> "The *natural power is not the source of the surplus profit, but only its natural basis*, because this natural basis permits an increase in the productive power of labor. In the same way the use-value is the general bearer of the exchange-value, but not its cause. *If the same use-value could be created without labor*, it would have no exchange-value, yet it would have the same useful effect as ever" (Marx 1985b, p. 145 – emphasis added).

The second underscored passage additionally reveals that Marx thinks, at least hypothetically, that there might exist use-values producible without labor that have the use-value of increasing labor productivity, even though they are devoid of exchange-value (because they can be reproduced without labor input). Our view is that *Marx in fact admitted the logical possibility of the existence of a knowledge-commodity*. It differs from land in that it is reproducible, and reproducible even without labor input.

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[10] Here we clearly disagree with Zeller (2008, p.98), who declares that in "contrast to the differential rent, which arises due to differently favorably located or fertile pieces of land, no information differential rent can emerge, because every enclosed information is unique and is normally used in each case for the production of specific products". As we will show below, Zeller seems to be unaware that Marx develops two types of differential rent.

Let us now consider the production of this knowledge-commodity, bearing in mind that its fundamental characteristic is that it does not require labor input to be reproduced. Its cycle should be:

$$M – C \ldots P \ldots C – M' \quad (1)$$

In the first metamorphosis (M-C), the capitalist producer of knowledge-commodities buys commodities such as fixed capital (laboratories, equipment etc.), circulating capital (productive consumption) and a special type of commodity (the 'services of intellectual activities'). To produce 'ideas' and 'knowledge' it is necessary to hire 'thinkers' and 'intellectuals' who are separate from the means of production of ideas (such as laboratories and equipment) and, therefore, need to sell their services to a capitalist. This relation assumes a waged form and constitutes a "class that, like any other, is the immediate expression of production relations" (Haddad 1998, p. 22). The second metamorphosis (C-M') highlights the fact that P does not use any living labor: the commodities produced have the same value as the commodities used in their production. However, they are sold at a value (M') greater than their production price. How is that possible? Although knowledge, to be produced, does not require a living labor-power[11], it requires huge sums of dead labor to be invested in laboratories, equipment (R&D) and wage payments to the innovative class. However, once produced, the cost of reproduction of this commodity is almost nil (Microsoft software is a good example of this) and it can be copied by anyone, even those unconnected to the company that originally created it. The capitalist would only be able to sell a commodity at its cost of reproduction, which is its social reproduction price. Hence, where does M' come from? As with the ground-rent, the capitalist will produce those knowledge-commodities (as consumption goods or as means of production) only if he is endowed with exclusivity rights to its production. Therefore, in this case, *profits derive from monopoly conditions* acquired by the capitalist. If those patents did not exist, the commodity produced would be a public good: non-rival and non-exclusive. But, unlike the natural monopoly case, it is a *social monopoly condition* (as with the ground-rent).

In *Capital*, Marx asserts that the divergence between value and prices can occur in two ways: quantitatively (as occurs with production prices and values) and qualitatively (as is the case with paintings, sculptures, art in general, non-cultivated land, etc.), so "price can be no longer the expression of value, even if money is only the value form of commodities" (Marx 2002, p.129). Thus: "An evaluation, though qualitative, continues to exist and necessarily needs to be expressed in quantitative form as a price. […] The harmony that regulates production relations, which appears as exchange ratios between commodities, becomes partially arbitrary. Therefore, *prices acquire a conventional component*" (Prado 2005, p.88 – emphasis added).

The original enclosures in England were a way to deny labor access to the land as means of production. Nowadays, we can say that '*new enclosures*' are a way of denying labor access to knowledge as means of production. Knowledge cannot be common property; although it is an essential condition of production, it must not belong to the

[11] For Marx, labor has a very precise meaning: it is the physical and intellectual activities employed in the reproduction – not production – of commodities. The developers of MS-Windows at Microsoft are not working, because they are producing the commodity, not reproducing it. Labor creates value only if it is employed in the reproduction of commodities, and similarly, value is determined by the labor necessary to reproduce – not produce – it.

labor-force that produces it. However, as in the case of land, in creating monopoly rights as a barrier to labor, capital also produces barriers to itself[12]. Harvey (1994) even used the term "accumulation by dispossession" to describe this process, which is not a historical pre-conditional phase, but rather an ongoing process that occurs concomitantly with the search for relative surplus-value. Harvey shows how technological progress can lead – contrary to what is generally stated – to a primitive accumulation.

Notwithstanding, we have not yet shown how knowledge-rent revenue is different from interest revenues, and in order to do this, we need to investigate how knowledge-rent is determined. In this connection, let us take a look at the valorization process when the knowledge-commodity is within the means of production bought by the initial monetary capital. The circuit of capital can thus be presented as[13]:

$$M - C \ldots P \ldots . C' - M'' \qquad (2)$$

The first metamorphosis (M-C) takes place when an individual capitalist buys labor power (variable capital), machinery and production materials (constant capital) and the knowledge-commodity. Through the acquisition of this latter type of commodity, the capitalist experiences a relative increase in labor productivity and, hence, can produce the commodity at a production price (C') that is lower than the social production price (M''), granting him surplus-profits. There are two cases to be considered: the case in which the individual capitalist has paid to gain access to the technology and the case where he is the owner of the technology. However, Marx himself states that this difference is irrelevant: whether the capitalist rents the ground or actually owns it, nothing changes. It is merely a case of rent redistribution. In the case of knowledge-commodities, the capitalist is expected to pay authorial rights to the actual owner, and thus we experience the *transformation of surplus-profits into knowledge-rent*.

Different types of land and of knowledge affect labor productivity in various ways, and they can only be different because they figure in the production process as *use-values*, that is, they are posited as *qualitative* differences. This is why these forms of rent can only be accurately understood as differential rents. At the same time, interest-bearing capital figures as value (which has the use-value of valorizing itself), but as value it has no qualitative distinction: it is a 'factor' that equally affects each individual capital.

According to Harvey (2006, p.349-357), we have to differentiate between four forms of ground-rent: *monopoly rent and absolute rent* exist when there are impediments to the free flow of capital and to the global equalization of the rate of profit. In this case, the prices in certain protected branches are set above their values. The level of absolute rent depends therefore on the economy's balance of supply and demand. On the other hand, we have two additional types of differential rents[14]. The *first type of differential rent (DR-1)* reflects the material conditions that make fertility differentials permanent production features. The *second type (DR-2)* expresses the effects of differential

[12] Perelman (2003) and Zeller (2008) give some examples of this contradictory process.
[13] This circuit concerns the global process, at the level of abstraction of the Volume III of *Capital*, in which values were already converted into production prices and the surplus-value into profit.
[14] "The real theoretical problems, he [Marx] discovered, lay not so much with Ricardo's failure to admit of absolute rent, but in Ricardo's erroneous interpretation of differential rent" (Harvey 2006, p.353).

applications of capital to lands of equal fertility[15]. Hence, if all lands had equal fertility, DR-1 would not exist, and if all lands received equal capital application, DR-2 would not exist. Where there is a differential rent, al least one producer has a production price set below the market value. Nonetheless, new capital investments can erase the 'equal fertility' assumption and create a basis for the appropriation of DR-1. That is to say: fertility actively changed through technological advances is a social product. DR-2 is converted into DR-1 by transforming otherwise transient qualities of the former into permanent effects of the latter. *This reasoning, slightly amended, is also applicable to knowledge-commodities*. Let us look at an example. If only certain companies use MS-Windows, they will obtain DR-1, because using this operating system will give them a productive differential. However, if all companies uses MS-Windows, this differential will be eroded and DR-1 ceases to exist. However, the capital investments among the companies that use this software are not the same, giving rise to the DR-2[16].

Therefore, innovations that in modern-day capitalism are no longer fortuitous, but have become systematic, with the new enclosures, *are a strong counter-tendency to the falling rate of profit*[17]. When intra-sectorial competition is established through the acquisition of knowledge-commodities, and not by raising organic composition, the global profit rate might begin to express a reversal of its tendency to fall. The forces from increasing organic composition and from the new enclosures can act in opposing directions, *making the global profit-rate behavior unpredictable* and weakening the theories that link the collapse of capitalism to a falling rate of profit.

8. Modern Rent-Bearing Capital and the Financialization of Rent

It is clear that companies such as Microsoft and large pharmaceutical conglomerates do not only passively receive rents (as landlords), but also actively use the revenue from patents and monopoly rights to pursue aggressive strategies in R&D investments, marketing, mergers and acquisitions. Thus, we could speak of a *'modern rent-bearing capital': a form of capital that substantively draws its profits from monopoly rents*[18].

However, modern rent-bearing capital are able to trade their own patents and monopoly rights as commodities, i.e. they can sell their own intellectual property rights to other buyers and make profits from these transactions. A pharmaceutical industry can sell one of its product patents to a rival company and profit from this fact. As such, the company can develop a new chemical formula and protect it with authorial rights, i.e. the company protects its commodity by demanding monopoly protection. However, *these monopoly rights can also become commodities themselves and can thus be traded on a*

[15] The DR-1 is the differential rent as stated by Ricardo (which was also maintained in Marx's reasoning). The DR-2, however, is the second type of differential rent as originally developed by Marx in order to demonstrate the theoretical restrictions of Ricardo's formulation.

[16] Additionally, patents and intellectual monopoly rights generate absolute rent and monopoly rent for Microsoft, enabling it to set market prices well above the value of its commodities.

[17] Perelman (2003, p.307) also noticed this fact.

[18] Marx also writes about a rent-bearing capital, though only associated with landlords: "Interest-bearing capital is personified in the moneyed capitalist, industrial capital in the industrial capitalist, rent-bearing capital in the landlord as the owner of the land, and lastly, labour in the wage-worker. […] rent-bearing capital exists only as agricultural capital, as capital which only yields rent in a particular sphere" (Marx 1861-1863, Addenda: Revenue and its Sources. Vulgar Political Economy, §5).

special market: the patent market[19]. Nothing escapes the commodity form in capitalism, not even patents themselves. Hence, the company makes monetary profits through creating and then selling the patents and monopoly rights, rather than the commodity itself. The company behaves as a *financial manager of its own patents* and treats them as financial assets in a portfolio that demands strategic allocation of its resources.

In other words, we advocate that *the current financialization process should be seen not only as a development of the money form, but also as of the commodity form*. As Lysandrou says: "a simple but effective way of establishing a coherent perspective on globalization is by building on Marx's insights into capitalism as a 'commodity system'" (2005, p.774). An excellent example of this is the Royalty Pharma company, a company that produces no commodities, but one which acts as a financial manager of patents originally developed by other pharmaceutical firms. The following quotation, taken from the company's website, would seem to support our theory:

> "Royalty Pharma has created a rapidly growing company within the biopharmaceutical industry through the acquisition of revenue producing intellectual property – principally royalty interests in marketed and late stage development biopharmaceutical products. Royalty Pharma does not discover, develop, manufacture or market products. Instead, the Company provides liquidity to royalty owners, and assumes the future risks and rewards of ownership. […]Royalty Pharma's strategy is straightforward and simple: acquire royalty interests in leading pharmaceutical and biotechnology products and hold these interests as part of a diversified portfolio. We seek to diversify our revenue base across product and therapeutic classes and can leverage these investments through borrowing under our AAA-rated securization debt facility, thereby enhancing our return to our shareholders. The value proposition to the seller is equally compelling: we provide holders with the opportunity to achieve liquidity for their interests and alleviate the substantial risk of owning a single-product royalty"[20]

The increasing dynamics of this kind of capital make it very special: *modern rent-bearing capital*, for which the monopoly rights are treated as commodities and traded with the clear objective of making financial profits. If the financialization process is often an attribute of interest-bearing capital form, we should now pay more attention to financialization as a process induced by rent-bearing capital. *A modern rent-bearing company that simply buys and speculates as a financial manager of patents in the intellectual properties market can make profits without producing a single product:* it simply makes money out of money (M-M'). In this case, what we are in fact seeing is the emergence of rentier firms capable of obtaining interest gains, dividends, monopoly rents and speculative revenues through their financial assets, within which there are the potentially productive assets. Enterprises have become rent-seeking organizations.

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[19] See Zeller (2008, p.105) for an account of the market for pharmaceutical patents.

[20] This passage was extracted directly from http://www.royaltypharma.com/overview/ov-main.html

9. Conclusion

Contrary to the idea that we are currently experiencing a change in the commodity form (as supported by the theories of "immaterial labor"), we advocate that in fact the commodity form is embracing a new sphere of social life, namely the production of knowledge. As Marx clearly states throughout *Capital*, *every time that the commodity form encompasses a new social object we observe an original logical development of the capital form*: (a) when the commodity form embraces labor products they become commodities; (b) when the commodity form embraces labor-power we experience the formation of capital as such; (c) when the commodity form embraces money we see the emergence of money traders, which lead to the formation of interest-bearing capital; (d) when the commodity form embraces land it creates ground-rent. We support the idea that *when the commodity form incorporates knowledge production it produces a novel logical moment: the creation of knowledge-rent and, consequently, financialization through modern rent-bearing capital*.

In the more advanced case *patents become a purely financial asset which are traded according to the rent they generate. What is bought and sold is a claim upon future revenues, a title to the knowledge-rent yielded by it*. When the trade of monopoly rights becomes a specific part of the circulation of interest-bearing capital it thus achieves its complete capitalistic form. The necessity to constantly improve production forces based on knowledge impels us to treat patents as purely financial assets. Hence, *it is not that monopoly rights are themselves a form of interest-bearing capital, but rather that they are currently being integrated into the circulation of interest-bearing capital*. In conclusion: rent financialization occurs when the circulation of rent-bearing capital becomes integrated with the circulation of interest-bearing capital.

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