No.32

AGOSTO DE 2020

Documentos CEDE

ISSN 1657-7191 Edición electrónica.

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Serie Documentos Cede, 2020-32
ISSN 1657-7191 Edición electrónica.
Agosto de 2020

Impreso en Colombia – Printed in Colombia

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Samuel Jaramillo González (*)

Summary

This text is inscribed in the debates raised by the new and growing interest in the economic theses of Karl Marx and, especially, in his Labor Theory of Value. The notion that animates this text argues that the multiple objections that have been raised about it actually point to versions and formalizations that correspond more to Ricardo's elaborations. Marx considered that his own version on the theory of value was not only different, but much more advanced and rigorous than that of his predecessor. In this text it is proposed that the new explorations on the theory of value, very promising for a critical interpretation of capitalism, rely decisively on reinterpretations of Marx in which elements of his reflection that have been eliminated by later thinkers, both supporters and contradictors, are rescued, and are developed and adapted for present times.

The text consists of a succinct reconstruction of the main milestones of the development of the Theory of Labor Value, interpreted from this perspective, which raises versions that are different to the most widespread ones. Thus the formulations of this theory elaborated by Smith, Ricardo and Marx are examined. From a current perspective, the questions raised around the debate on the Transformation of Values in Prices are analyzed mainly those developed by Bortkiewicz and later by Sraffa and the Neoricardian School. It includes also a reflection on the conceptions in this regard of the " 20th-century Marxism", dominant in the mainstream of Marxism during a long tima, which here is argued that they are de facto closer to Ricardo than Marx. Two contemporary neo-Marxist currents are examined, the "New Approach" and the "sequentialists" (of the Temporal Single System analysts) that are intended precisely to present new developments from reinterpretations of Marx's theses. The text ends with the presentation of some original pieces of analysis that have this same perspective, which are partially supported by neo-Marxist formulations, but also consist in re-elaborations of different moments of this tradition. It points to contribute to the formulation of an Abstract Labor Theory of Value.

Key Words: Labor Theory of Value, Marxism, Marxist Economics.

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Hacia una renovación de la teoría marxista del valor. Debates recientes.

Samuel Jaramillo González (*)

Resumen

Este texto se inscribe en los debates suscitados por el nuevo y creciente interés por las tesis económicas de Carlos Marx y, en especial, por su Teoría del Valor Trabajo. La noción que anima este texto sostiene que las múltiples objeciones que se han formulado sobre ella en realidad apuntan a versiones y formalizaciones que corresponden más a las elaboraciones de Ricardo. Marx consideraba que su versión sobre la teoría del valor no solo era distinta, sino mucho más avanzada y rigurosa que la de su predecesor. En este texto se plantea que las nuevas exploraciones sobre la teoría del valor, muy prometedoras para una interpretación crítica del capitalismo, se apoyan de manera decisiva en reinterpretaciones de Marx en las que se rescatan elementos de su reflexión que han sido eliminados por pensadores posteriores, tanto partidarios como contradictores, y su elaboración y desarrollo para épocas presentes.

El texto consiste en una reconstrucción sucinta los principales hitos de la Teoría del Valor Trabajo, interpretados desde esta óptica, lo que suscita versiones diferentes a las más extendidas. Así se examinan las formulaciones de esta teoría elaboradas por Smith, Ricardo y Marx. Se analizan desde una perspectiva actual los cuestionamientos planteados alrededor del debate sobre la Transformación de Valores en Precios principalmente por Bortkiewicz y más tarde por Sraffa y la Escuela Neoricardiana. Se incluye una reflexión sobre las concepciones al respecto dominantes en el marxismo del siglo XX, que aquí se sostiene que de facto están más cercanas a Ricardo que a Marx. Se examinan dos corrientes neo-marxistas contemporáneas, la "Nueva Aproximación" y los "secuencialistas" (del Sistema Temporal Único) que pretenden precisamente elaborar nuevos desarrollos a partir de reinterpretaciones de las tesis de Marx. El texto termina con la presentación de algunos planteamientos originales que tienen esta misma perspectiva, que se apoyan parcialmente en las fromulaciones neo-marxistas, pero también en re-elaboraciones de distintos momentos de esta tradición y que apuntan a la formulación de una Teoría del Valor Trabajo Abstracto.

Palabras clave: teoría del valor trabajo, marxismo, economía marxista

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The avatars of the Marxist Theory of Value

A century and a half after the first publication of *Capital*, the leading work of Karl Marx (1867/1967), resurfaces a growing interest in his thesis, particularly those of an economic nature. This undoubtedly has to do with the recurrent weaknesses of the orthodox economics to give a satisfactory diagnosis of the disturbances that the contemporary economy is going through and its failure to point out a path in which the aspirations of the great majority of population can be satisfied in a capitalist framework.

And within this general interest, the issue of his Theory of Value stands out. Marx himself attached great importance to this piece of his analysis. He considered that it constituted the foundation of his interpretative construction on capitalism, an unavoidable requirement to specify the way in which exploitation operates in today's society and a key piece to examine its dynamics.

Marx inherits from Classical Political Economy the notion of a Labor Theory of Value. But in contrast to a widely held opinion, and in that I think that it is necessary to agree with the German thinker, he considered that his version of the Labor Theory of Value is different from that developed by political economists, especially that formulated by David Ricardo , with which it is often wrongly identified. Marx not only considered it different, but saw his own version as the overcoming of his predecessors.

But it is known that the Marxist Theory of Value has been the subject of debate and serious challenges practically from the moment of its formulation. From the edge of the Neoclassical Economy, and considering the Labor Theory of Value simply as a Theory of Prices, it is judged insufficient and unilateral, since, it is said, it only takes into account supply factors, while the orthodox economy, in a more complete way, also considers elements of demand. A more structural and severe criticism arises in connection with the so-called debate on the Transformation of Values into Prices. From the formalization proposed by Ladislaw von Bortkiewicz (1905/1952) at the beginning of the 20th century, and in subsequent successive variants, consisting of a system of simultaneous equations, it is concluded that the labor theory of value (the Marx's and Ricardo's, which are treated as identical) is logically inconsistent. Contrary to Marx's view, who considered his theory of value to be the basis of his theory of exploitation, and that they are necessarily consistent with each other, orthodox criticism concludes that these two pieces of analysis are mutually exclusive: after this examination, one has to renounce to the labor theory of value, or has to discard the theory of surplus value. For these critics, this is enough to invalidate the bulk of Marx's elaborations on the capitalist economy, and especially one of the most controversial: his notion that the capitalist economy is an exploitative society and that the eagerness to seize this surplus is the heart of its overall dynamics.

But also from the heterodox side, purposes have arisen that seriously question Marx's theory of

value. Based on the work of Piero Sraffa (1960) from the mid-20th century, who elaborates a formulation that largely follows the guidelines of Bortkiewicz's approach, the Neo-Ricardian School concludes that what they understand is the Marx's approach to value, which for them is practically indistinguishable from Ricardo's, not only has serious internal inconsistencies, but also does not seem necessary to support Marx and Ricardo's fundamental analysis on capitalism Its conclusion on Labor Theory of Value is very severe, but differs from the diagnosis of orthodox economics. For the Neo-Ricardians, if the Labor Theory of Value is not essential to explain the fundamental relationships of the capitalist economy and induces inaccuracies and irrationalities, it seems convenient to dispense with this piece of analysis that adds nothing to the understanding of Capitalism, and, on the other hand, it does generate a great vulnerability to the heterodox and critical approach of the current economy. They do not propose abandoning the central theses of Marx (and Ricardo), including exploitation and class confrontation in capitalism, but they suggest to develop these notions without resorting to the Labor Theory of Value, something that they consider fully plausible- Let´s say they propose a Marxism (and a Ricardianism) without a Labor Theory of Value.

Following a very different trajectory, other groups of heterodox theorists, many of them from the Marxist tradition, have reached critical conclusions about the Marxist Theory of Value, but focus on what they find as a limited Marx's reflection on the monetary dimension. In contrast to the Neo-Ricardian (and Marxisto-Ricardian) versions, these authors (Benetti, Carlo and Jean Cartelier 1998; Orleans, André 2011) point out that a decisive success of Marx is to underline the monetary nature of transactions in the capitalist society. But they find that the Marxist conception of money, linked to a metal reality of his time, prevented him from understanding that money is a convention, a properly social construction. They consider that the contemporary evolution of capitalism makes clear that value is not associate with any essence other than the monetary convention. Even taking up Marx's own reflections as the so-called " dangerous leap of realization" they conclude that the capitalist economy must be understood fundamentally in monetary terms, without any "essential" type of bond, including the option of labor and social labor. In other words, again, they propose a heterodox and critical reflection, disregarding the Labor Theory of Value.

For many this is the state, perhaps final, of this discussion. Not a few will have stayed in one of its intermediate stations. In common there is the idea that the Labor Theory of Value is an analytical piece that perhaps made some sense in the development of economic thought in the past, but that today is no longer a useful instrument for modern economic analysis. In this text I intend to state that this is far from true. In recent times, and by this I mean decades, various approaches have emerged that I would call "Neo Marxists", which have a radically different position. From a thorough review of what these controversies have been, different groups of analysts conclude that Marx's claims about the centrality of the Labor Theory of Value are fully justified. They revise these objections and conclude that in general they are approaches and formalizations that that in general are inadequate to Marx's analytical proposals. And they argue that based on more precise reformulations of his theses and the refinement of some of his expressions, Marx's Labor Theory of Value appears not only as a fully valid theoretical tool, but with very auspicious

possibilities of interpreting contemporary phenomena of capitalism that other approaches have difficulties to fully understand. In this text I will briefly review two of these groups of Neo-Marxists: the one known as the "New Approach (Foley, D 1982,2014) and the one known as "sequentialists", although they prefer to call themselves the" Temporal Single System". (Freeman, A, Kliman, A, and J Wells (ed) (2004)

In this text I include a final section in which I synthetically present a series of suggestions that point to a reformulation of Marx's Theory of Value that takes elements from these Neo-Marxist contributions, but that also brings together other components, among others, a careful re-reading of the background of the Theory of Value of political economists, and especially, Smith. I propose as a denomination the Abstract Labor Theory of Value, which had already been tried by some authors in the eighties (De Vroey 1985), and which responds to the emphasis on what I consider one of the defining features of the proposal of Marx on value and which is particularly fertile for contemporary analysis: the differentiation between concrete and abstract labor, and its quantitative commensurability.

As usual in this type of discussion, the development of approaches that seek novelty goes through precisions and reinterpretations of previous concepts. In the text that follows I will do two exercises. In the first place, a very brief discussion on what a theory of value is and, in particular, on what is a labor theory of value, since frequently the diversity of opinions in this respect responds to discordant meanings about the nature of a theory of value. I will also briefly discuss the relevance of value theory to general economic analysis. On the other hand, I will make a quick review of what I consider to be the salient features of the most important background in this regard. More than an account of things already well known, I will highlight some points that imply revisions in the general interpretation of these reflections. I will examine the theses of Smith, Ricardo and Marx himself.

But I will also dwell on what some call "20th century Marxism," (Kliman, A 2004) which was the mainstream that dominated Marx's heritage for a long time. I will say something about the implications of the Neo Ricardian theses, and those of the aforementioned Neo Marxist nuclei, the New Approach and the sequentialists. Finally, I will present some ideas in what could be outlined as contributions to an Abstract Labor Theory of Value for present times.

Content and scope of a theory of value

Not everyone understands the same thing by a theory of value. The idea that a theory of value is simply a theory of prices is very widespread. We have seen that this is a criterion that the Neo-Classical School uses to disqualify the Labor Theory of Value. But a Theory of Value is somewhat broader. It consists of a device for explaining the core of the market economy, and as such it answers a series of questions that are linked, even closely, but are not identical. A theory of value provides a general equivalence benchmark for analytically comparing and explaining the choices agents make between commodities that are different from each other, and the result of work processes that are

not identical. A theory of value provides an invariable measure of monetary magnitudes (which is different from the previous function). Something very important: a theory of value carries a basic hypothesis of the behavior of agents; identifies which are their mobiles to go to the market and gives a reference to their "rationality". Finally, a Theory of Value also includes a Theory of Prices, or more accurately, it includes its root, the basic mechanism of operation which, eventually, must be developed, expanded and specified as a separate analytical piece. Different authors articulate these four dimensions of value theory (including subjective theory) in different ways and with varying emphasis. But as a whole what they intend to capture is what is considered the core of the market economic system. To make a judgment on a certain theory of value, these components and their articulation must be taken into account.

Another topic worth specifying is the relevance of the theory of value. Many very active economists show no concern or interest in this regard. Some prominent economists such as Joan Robinson (1965), consider that its relevance is weak. Most of the analysis that economists engage in do not seem to require definitions in this regard. This would be a specialized subject for academic theorists. At best it is an intellectual luxury, a simple interest of analytical consistency. To this would have to be contrasted the famous sentence of Keynes, who pointed out that economists who despise theory are often tributaries of theorists who do not know and who are often very bad. Indeed, as a cornerstone of economic analysis, the different theories of value delimit and determine the most concrete developments. Not only do they prefigure the answers that are made in more specific analysis, but, and this is decisive, they delimit the questions. In other words, theories of value structure analytic practices, usually without the knowledge of those who develop them.

Adam Smith's Labor Sacrifice and Labor Commanded Theory of Value.

Adam Smith (1776/1977) is credited with the first systematic and precise formulation of the Labor Theory of Value. This author is often credited with introducing luminous insights into the analysis of capitalist economics and is respected as the father of modern economic thought. But many later authors, some very illustrious, consider that this great author is not characterized by his internal consistency, that many of his formulations are imprecise and that he even incurs serious internal contradictions. In my opinion, part of these objections are associated with poor readings of their approaches or negligence in understanding their methodological strategies. Having clarified certain misunderstandings, Smith's theses appear very consistent and comprehensive and with a strong intuitive confirmation. From the Marxist side it was always considered that the political economist who is closest to Marx's developments is David Ricardo. From my point of view Smith seems to be closer to Marx. This despite the fact that Marx himself probably had a different opinion.

A point that leads to many misunderstandings is a methodological issue. Smith presents a scheme of social development in three stages: the first, which could be called "pre-mercantile" in which society is composed of isolated individuals who produce on their own all that each one consumes. A second stage is what we know as a simple commodity society, in which agents specialize in the

production of different goods, produce on their own without any explicit agreement between them and who exchange their products through the market. And a third stage would be the current one, made up of investors who hire salaried workers, who also produce independently and trade their products in the market exchange. In other words, capitalist society. Marx reproaches Smith for presenting this scheme as a historical line of evolution of all societies towards capitalism. He not only considers it a gross historiographic error, but considers that this scheme, and the hypotheses with which Smith explains the passage from one phase to another, carry an evident ideological burden: they make the market and capitalism appear as natural, inevitable institutions and necessarily beneficial to humanity. But if we abandon this claim to effectively describe the development of history, and consider these stages as "levels of abstraction," somewhat similar to what Marx later does, Smith's analysis make a lot of sense. Through them a great conceptual coherence in the conceptions of the Scottish theorist can be glimpsed.

Smith takes up the old question of Scholasticism, about the relationship that individuals establish with objects in a market society. Each individual estimates with different intensity the objects that surround him. But to do this exercise there seems to be a double scale. A reference for this is how much objects serve us. Smith calls it "use value". But on the other hand, this estimate also depends on a completely different referent: to what extent the objects can be exchanged for others, the “exchange value”, which can be independent of the use value of those objects for their owner. To do this, work must be mobilized. And this work has the characteristic of being painful. It causes us fatigue, it consumes our time. If we could we would avoid it. Arguably, in neoclassical terms, work has a negative utility.

In these terms, the ownership of a good for its owner implies freeing itself from the "sorrow and cares" that its production implies. We appreciate goods for the amount of work that saves us the fact of having them. It is what can be called "Labor Sacrifice". Thus, goods accumulate labor. The labor embodied in different goods can be compared quantitatively, although the objects are diverse and the works that make them possible are also. They can be added. It can accumulate.

This makes especially sense when reflecting on a pre-market framework of individual agents supplying themselves with the goods they consume. Since there is no market in this elemental sphere, neither commodities nor value can be spoken of. But when the market division of labor occurs, the benchmark for estimating a good is not the labor sacrifice of the owner of those goods. In this case, the value of a commodity, and we can already speak in those terms, is the labor sacrifice of the specialized agents in the production of each of these goods. Smith calls this " labor commanded". To the extent that the owner of a good does offer it in the market, in principle, he will be able to obtain for it an amount of value that corresponds to what a worker who specializes in its elaboration would have to work. It is not exactly what the applicant is willing to offer according to the tensions of supply and demand: it is the labor required according to the prevailing productive conditions. As can be seen, it is a labor that acquires a social dimension.

From this labor-sacrifice / labor-commanded pair, it is possible to formulate a hypothesis of agent behavior in the market that is especially suggestive in Smith. For the majority of individuals who are workers in a market society, they go to the market to obtain the goods they consume with a quantity of their own labor-sacrifice that is less than they should mobilize if they had to provide themselves. The productive advantages of specialization eventually allow them to achieve this goal. But on the other hand, insofar as commanded labor can be accumulated, the agent who possesses an appreciable amount of value has under his control a certain magnitude of other's labor. This is a powerful incentive for certain agents that what they look for in the market is not the access to goods or the reduction of the own labor necessary to obtain them, but to knead and exercise this control. Quoting Hobbes, Smith concludes that the theory of value is a theory of power. A special kind of power: economic power. In a hypothetical simple mercantile society made up of workers more or less equal, what prevails is the logic of the first meaning of "own" labor sacrifice. In a historical mercantile economy, in which eventually there are agents possessing large masses of value, these "potentates", operate following the logic of accumulation of economic power. In capitalist society this duality is exacerbated: on the one hand, simple commodity agents (and, as we will see, eventually salaried workers) seek in the market to obtain goods for the least amount of own labor sacrifice. Capitalists flock to the market to accumulate value, economic power.

Smith proposes his notion of labor value as a benchmark of general equivalence, and for him it plays a crucial role in a very central controversy with other economics writers of his day. The group of economic thinkers known as Physiocrats, had introduced a category that will be key for Classical Political Economy, for Marxism and for several current heterodox streams: the notion of "surplus", which potentially allows us to address the issue of exploitation and others related topics such as capital accumulation. But the Physiocrats reflected without a theory of value, in terms of physical production. This led them to a very controversial conclusion: as agriculture at the time was the only sector in which in general terms a single good produced, cereals, that can operate simultaneously as a product (the result of the harvest), as a productive good. (the seed) and as a salary (food for the workers), only in this branch is evident the presence of the "net product", the name they gave to surplus. Therefore, they concluded that only agriculture generates surplus, while other activities, such as industry and commerce, even if they are important, they do not increase production. This made no sense to Smith, because what he was staring at in amazement was the spectacular rise of English industry. His theory of value allowed him to generalize the notion of surplus to all productive activities, since despite the fact that in most branches productive goods, wage goods and general consumer goods are heterogeneous, their capacity as commodities of crystallizing a single substance, social labor, allows us to understand the formation of the surplus in all productive spheres, in terms of social labor, in terms of value.

Smith, like the rest of the Classical Political Economists, has a very singular position regarding the monetary sphere. They conceive money as illusory, potentially misleading. As money is imagined as a physical commodity, a precious metal, which have its own value, which varies with the conditions of production of that good, consider that the magnitude of prices expressed in monetary terms may have oscillations that do not obey changes in the value of the good to be measured, but to

fluctuations in the unit of measurement. For this reason, they propose to reflect in “real terms”, which for them implies in terms of social labor. This would be objective and transparent with respect to the nominal monetary magnitudes. The notion of value, for Smith, then implies an invariable measure of monetary magnitudes. Incidentally, this allows Smith to argue with other economic thinkers, the so-called Mercantilists, who considered that the meaning of economic action was to accumulate money by itself. Smith argues that this is unreasonable: money becomes socially relevant to the extent that it represents something else. From his reflection it is evident to conclude that this something else is value, as social labor: as a power relationship or as a requirement of access to goods.

In order to examine the dimension of Smith's theory of value as price theory, one must refer to one of its fundamental concepts: competition in the market economy. What is expected in a decentralized economy in which producers make decisions without any agreement, neither with other producers, nor with consumers, is that it was out of unmanageable instability. That each transaction be made for a different amount, according to the particular characteristics of the agents involved in each transaction. But despite the fact that there are fluctuations in prices and quantities produced, the truth is that capitalism does not collapse every other day and what prevails is a certain stability. Smith attributes this to the competition that is made possible in a value-driven commodity economy. This is manifested in the following: each agent, although he does not coordinate his actions, can correct his decisions. In particular, he can change the sphere of production. In this way a kind of automatic correction operates. If an agent that produces a good observes that for conjunctural reasons linked to the tension of supply and demand, the price it obtains in the market represents a lesser amount of value than what other producers obtained producing another good, in the following period he moves into the production of that second commodity. By doing this, he increases the supply of the branch he reaches, and causes the price to drop. And in the branch he abandons, he generates the opposite fact: with his departure, he restricts the quantity of goods offered and raises the price. In this way, what he calls "market prices" that are associated with the ups and downs of supply and demand, are corrected and tend to what he calls "natural prices". They do not necessarily imply that the former are merged with the latter, because since decisions are made by a large number of independently operating agents, there is no guarantee that these corrections will not be exceeded or insufficient. Nor do the gaps tend to narrow. Smith uses an astronomical simile that made a career: market prices “gravitate” towards “natural prices”. As can be seen, despite some similarity, this concept is not identical to that of the Walrasian equilibrium. Competition would be that famous “invisible hand” that gives stability and coordination to that multitude of agents who are not always aware of their mutual dependence.

Smith, on the other hand, has an explanation of the magnitude of "market prices." Returning to a reflection advanced decades ago by Robert Cantillon (1755/2011), the market price of a good would be the result of the tension between its quantity offered at a given time and the monetary demand for that good. The game of supply and demand is not ignored, but it is assigned a less prominent role: it would explain the short-term "market prices" and the momentary mismatches between

market prices and natural prices. But the latter, which are those with a structural character, are determined by value, that is, by commanded labor.

In the context of the capitalist economy, which Smith considers to emerge from the simple mercantile economy, through his much-discussed Theory of Abstinence, the simple market agents are replaced by the modern classes: salaried workers, capitalist entrepreneurs, and landowners. Most of the processes explained by Smith in the "early and rude society" are preserved, such as value, competition, and price formation. But among the new is that the created value is distributed in these three classes through their respective incomes: salary, profit and land rent.

In this regard, there is a certain ambiguity in Marx's reading of this argument known as the Trinitarian Formula, which he understands as a Smith's inconsistency. Marx vehemently commends Smith's contribution to understanding capitalism with his Theory of Labor Value. But he considers that this is erased by the Trinitarian Formula proposal, which he interprets as meaning that each type of agent, the wage earners, the capitalists and the landowners, each contributes to the formation of value, and therefore their income are nothing other than the remuneration of this contribution. As is known, this is the approach developed by Neoclassical Economics to avoid the notion of exploitation in capitalism. But perhaps this is not the meaning of what Smith is proposing: the Trinitarian Formula is not a theory of the formation of value, but of its distribution. Value is built from the work of the operators. But in capitalist society they receive only part of their effort in the form of wages. Profit and income would be part of the surplus received by the non-working classes. In this there does not seem to be much difference with the later developments of Marx, except for one certainly important aspect: Smith considers that despite the fact that the non-working classes seize a part of social labor, this is justified because it allows the operation of the capitalist society which is the most technically efficient, and this benefits all agents. The relationship between them is closer to symbiosis than to contrast.

The Labor Embodied Theory of Value of David Ricardo.

The intellectual work of David Ricardo (1817/1951) is considered the highlight of Classical Political Economy. In many respects it relies on Smith's works, which Ricardo considers the basis of his own reflections. But Smith and Ricardo have important differences, some of which emerge from contrasts in their respective personalities and in features of their methodological approach. Ricardo is much closer to the positivist approaches of naturalist researchers of his time. He aims to build a scheme of explanation of economic phenomena with the requirements of this referent: coherence as a whole and ability of taking into account the various manifestations of these practices, the explanations must have a clear direct causal link, which as far as possible must rely on "objective", verifiable, replicable considerations by other researchers.

A methodological feature that is associated with this consideration is that Ricardo discards the operation that Smith performs (and that Marx will later replicate) of reflecting on more abstract

planes than capitalism, something that he considers to be useless: he thinks from the beginning with reference to the capitalist society. Its central purpose is no longer, as in Smith, explaining what in contemporary terms we call "growth" (the "wealth of nations"), but the distribution of this wealth among the three great classes that Smith proposes: the wage-earners, the capitalists and landowners.

In this exercise that we have just mentioned, it is vital for Ricardo to have a unit of measurement of these magnitudes that is independent of eventual changes in distribution. And, as Ricardo understands it, Smith's “Labor Commanded Value” does not meet this requirement. He proceeds as follows: if the amount of value of a commodity depends on the amount of labor that its owner can demand in exchange for it in the market, in a capitalist context this depends on the magnitude of wages. If the latter changes, the value of the commodities is altered. It is as if a physicist wanted to measure the speed of an object, that is, the amount of space that the object travels in a certain period of time, but the magnitude of space changes with speed. Wage is a distributive variable, which is what must be explained, and therefore, for an objective observation, its mutations should not affect the magnitude of the value.

Let's make a comment from Smith's point of view. His notion of commanded labor is formulated by the Scottish thinker when he reflects with reference to a simple commodity economy, in which there are no wages. In this case Ricardo's reproach would have no place. In this context, what the owner can normally claim in the market for his commodity would be the amount of specialized worker's labor-sacrifice and for this reason he calls it “labor commanded”, which is probably not the most accurate expression. Smith anticipates the objection that in the capitalist economy this category will be inconsistent with the above: he points out that the labor sacrifice of the skilled worker, which is what determines the amount of the value of goods, continues to be of the same magnitude, regardless that the worker is better or worse paid.

But let's continue with Ricardo. This insufficiency that he thinks he finds in the Smithian version of the labor theory of value leads him to propose another one that does not have this weakness: he seeks a theory of labor value in which the value of commodities is not affected by eventual changes in distributive variables, such as wage, profit, or rent. One "objective" theory of value whose perception must not be subject to individual interpretations.

He then proposes as basis of value the labor that was actually required to produce the goods. This is eventually objectively measurable. When the production has already been carried out, the labor employed in it cannot be altered by any analyst. Independent observers should perceive the same magnitude, and this would not be subject to any subjective estimation. Contemporary statistical techniques facilitate these procedures. This is known as “embodied” labor and Ricardo's version is called Embodied Labor Theory of Value[1].

[1] Some later authors reproach Ricardo that in his category of "embodied labor" he takes in an undifferentiated way the amount of labor that each worker incurs to produce a good in historical terms. This would imply that in the production of the same good, less efficient workers would generate more value than more skilled ones. This incongruity is so gross that

Ricardo adds some refinements to the Labor Theory of Value. One of them is the differentiation between what he calls "live labor" and "dead labor". The labor of workers manufacturing goods over a certain period of time generates a new amount of value. He calls this "living labor" and corresponds to the activity of the workers who acted in the period of time considered "current". But usually, in the production of the overwhelming majority of commodities, goods are used that themselves have required labor for their elaboration: raw materials and other inputs, instruments, etc. They themselves carry value and already had it at the time of starting the production of the "current" commodity. The value of the latter then is the sum of these two labors: the one that was done in the present, in the last period of production, and the labor that was done in past stages.

Ricardo then approaches price formation in a similar way to Smith's. Two would be the quantitative determinants of them: on the one hand, embodied labor, with its two components, living and dead labor. And on the other hand, scarcity. But the first element is of structural relevance, while the second is more secondary. The first would determine the magnitude of the natural price. The second only deviations of market prices that "gravitate" around the natural price. And this is due to the following: if there is a shortage of goods offered at one moment, their price will be higher than the embodied labor. But this will make that a set of new producers, who have uniform productive conditions, expand the quantity of goods offered and the price will return to the level corresponding to the embodied labor, which will be the natural price. This circumstance in which production can be expanded with the inclusion of new producers that have the same efficiency as those that were already operating, is what Ricardo calls "infinite production", and would be the most frequent in all the goods in which production operates full competition. As can be seen, supply and demand are taken into account implicitly, but play a subordinate role. The magnitude of natural prices, which has a structural character, responds entirely to productive conditions.

The limited importance that Ricardo gives to circulation leads him to reflect preferentially in terms of production. In fact, he reflects, like almost all classical political economists, in terms of the so-called Say's Law, according to which supply generates its own demand. The intertwining between the different producers leads that a production decision implies an act of consumption in such a way that in the aggregate all are compensated. The disturbances in the circulation are marginal and Ricardo gives them less attention. His reflection refers to the structural situation, in which all long-term adjustments have been made.

Ricardo addresses what for him is his central theme, distribution, stating that the distribution of value is made from the operation of the prices of commodities. The value generated by living labor is distributed between wage and profit (provisionally omitting land rent) through this device. In capitalist society a labor market is constituted in which workers are bidders and employers are demanding. The wage, which is the price of labor, has a natural level, the subsistence wage. The

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it is difficult to attribute it to Ricardo, who, no doubt, refers to the prevailing production conditions. With contemporary statistical techniques, it is easy to estimate the amount of labor that was necessary for the elaboration of a good in general terms, but referring to effectively developed practices.

value of the minimum basket of goods consumed by workers, that is, the labor embodied into it, would constitute the amount in value of the natural wage. Deviations may occur in one direction and the other due to the effects of conjunctural tensions in the labor market, but it "gravitates" around the subsistence wage.

In the capitalist economy, which has advanced productivity, the value of the wage basket normally is less than the value generated by the workers who produce the goods in general. The difference is then the profit that the capitalist investor can obtain by selling the goods that his company produces for its natural price and paying the workers the value of the natural wage. As can be seen, it is nothing other than the notion of surplus expressed in terms of embodied labor value.

Wage and profit would then be inversely proportional magnitudes. If the sum of the two constitutes the living labor, as long as there is no technical change, if the wage increases, the profit must necessarily decrease. And vice versa. The distribution will then be a dispute between the classes involved.

The Ricardian notion of a subsistence level of wage as a "natural" wage reduces for him the relevance of this tension between capitalists and workers. As, at the limit, the basket of goods necessary for the survival of the workers is a technical datum, and it can be said that the embodied labor in them is also something technical, this distribution tends to be solved from these technical references. His theses in this regard, and in this other political economists influenced by him are more explicit, lead to the so-called Iron Law of Wages, according to which, even if an attempt is made to raise the level of wages with administrative or political measures, the dynamics of the labor market will lead to the subsistence level being imposed in the long term.

Ricardo transfers Smith's notion of competition to the relationship between investors. In principle, not all ventures have the same profitability, both individually and between branches. But competition between capitalists leads to the ratio between profit and capital getting closer, that is to say, an average rate of profit for the entire economy is consolidated. This is achieved from the aforementioned capital flow effects between the different branches that alter the prices of commodities (and the quantitative relationship between them). This notion of a general average rate of profit is of great importance for understanding the general interaction of agents in capitalism. It is not clear what its exact meaning is in Ricardo's work. If it is a posteriori convergence based on strategic decisions of the investors who are correcting their actions, or if it is a parametric behavior that each capitalist investor takes to set their prices (a “mark up”) or some other version. Most of Ricardo's followers take the option of parametric mark up, but that is one of the most discussed notions among contemporary theorists.

The contradiction to which Ricardo devotes his greatest attention is the one established between capitalists and landowners. Its interpretation focuses on the appreciation that the rent received by landowners is a part of the surplus, that is, a portion of the additional value that these agents

subtract from capitalist profit. In this way, also capitalist profit and land rent are inversely proportional in quantitative terms.

Ricardo's explanation of land rent dispenses with extra-mercantile factors and is entirely consistent with his notion of price formation. For technical reasons, agriculture shows an anomaly: there is no "infinite production" in this branch. Indeed, the lands do not have the same productive conditions in terms of fertility and location and this is something that competition cannot eliminate. This means that, unlike what happens in normal branches, not all individual producers have the same profitability in principle. If at first there is an abundance of better land, agriculture would operate as a normal branch and the natural price of agricultural goods would tend to what he calls "cost price" (Marx will call it “price of production”), it is say the equivalent of capital required by a normal producer increased by the average rate of profit. But if the demand for agricultural goods increases and it is necessary to resort to inferior land, agricultural capitalists would not produce there if they did not obtain the average rate of profit. Since they have higher costs on these less good lands, they will not produce there unless agricultural prices rise to the point where they can get normal remuneration. In this way, the “natural price” of agricultural goods would be governed by the productive conditions of the producers that operate in the worst lands. But since agricultural producers who continue to operate on the best lands continue to have the same costs, and at the same time, higher prices, they would in principle obtain a remuneration higher than the average rate of profit. Unlike other circumstances in which exceptional conjunctural gains arise, in this case the competition cannot eliminate this excess profit. The determinants of the existence of this exceptional profit does not lie with the investor's own characteristics but entirely with the attributes of the land. Whoever can legally control these conditions, that is, the landowner, can take advantage of the competition among agricultural investors, in such a way that he can demand all of this over profit in terms of rent.

Ricardo draws very pertinent conclusions from the mechanism thus exposed. The surplus converted into rent is actually a subtraction from the general fund of surplus value that the capitalists distribute among themselves. Therefore, its magnitude negatively affects the average profit rate. Consumers pay for agricultural products at a generalized price premium, as if all goods were produced at the highest cost on less favorable land. As capital accumulation and demand for agricultural goods increase, their natural prices, instead of remaining constant as in the normal branches, in this sphere tend to rise. Ricardo draws a very worrying conclusion from this: capitalism seems to have an internal structural contradiction. Rent can monopolize the entire surplus and annihilate capitalist profit. At that point, capitalism would collapse because the incentive to invest, which is the axis of capitalist dynamics, would disappear.

Ricardo contradicts the spontaneous perception, which takes up neoclassical economics, which identifies rent as the recognition of the "productivity" of the land. Rather it responds to the contrary, according to the English theorist: if there were a generalized abundance of better lands, the magnitude of the rent would be nil. It also gives a very convincing explanation for an apparent limitation of the labor theory of value: goods that are not produced by social labor and yet are

priced, just like land. Ricardo points out that the price of land is "built" in the following manner: the legal right to receive a periodic rent is assimilated to the possession of a real capital: it is the clearest manifestation of what Marx will call "fictitious capitals", that are so relevant at the economy of the present time. It is not that the value emerges from activities different from labor, but that market devices allow certain agents to capture value, that is, labor, subtracting it from the properly productive sphere.

Ricardo's reflection leads to a problematic issue that will give rise to one of the most far-reaching controversies in economic thought, around the interpretations of the capitalist economic structure and in particular about value: the so-called Transformation of Values into Prices. In Ricardo's approach this can be formulated as follows: he proposes two determinants of the natural price of goods in the capitalist economy. The first is, as has been said, embodied labor, that is, the sum of living and dead labor. The second is what he calls "cost price." Well, these two magnitudes are equal only in very exceptional circumstances: when the ratio of the non-wage share of capital to total capital (what Marx will call the “organic composition of capital”) is the same in all branches. If not, there will be a gap between "values" (embodied labor) and "cost prices".

Ricardo's contradictors then find that the labor theory of value is insufficient, judging it clearly, as a price theory. Ricardo's answer is surprising, and at the same time disturbing about the meaning that the labor theory of value has for himself. He points out that although the embodied labor does not explain exactly the prices, which are the ones that agents perceive, this factor provides a good approximation. He also indicates that the gaps between embodied labor and the cost price are compensated and are systematic: the difference between these two magnitudes depends on the difference in the capital composition of each branch with respect to the average. Therefore, the lags are compensated between the sectors with compositions above or below the average.

It is unexpected, coming from Ricardo that he defends his position with an empirical argument, when in general he is very demanding in the coherence in the causal concatenation in his own reflections and in those of his colleagues. [2]And it seems to reveal that for him the reference to labor is limited to the function of determining prices. That has made suspect to many that the meaning of Ricardo's theory of value, if it can really be talked as such, is different from the one in Smith or Marx. Perhaps for this reason it is difficult to find reflections in his work on other dimensions of value that are important in these other two great authors. And this is confirmed by Ricardo's personal concern, found by Piero Sraffa, his posthumous editor: without making it known in public, Ricardo was looking for a benchmark for measuring prices other than labor. As is known, it is the intuition that Sraffa himself will develop and that will lead him to his proposal of the "standard commodity".

[2] Unexpectedly contemporary empirical inquiries that mobilize sophisticated statistical instruments and abundant systematic data tend to confirm this intuition that Ricardo succinctly points out: taken as price theory, the amount of direct and indirect labor in the elaboration of goods has a great capacity of prediction of price trends, superior to other more complex and detailed explanations.

The Abstract Labor Theory of Karl Marx.

It is necessary to remember Marx's consideration of the fact that his labor theory of value, although it is based on the elaborations of Political Economy, is different, and in his opinion constitutes a criticism and an overcoming of them. Their differences, which become especially clear with respect to Ricardo, are associated, among other things, with contrasts in their methodological approaches. I highlight some that are especially relevant to his reflection on value.

Marx recognizes in Political Economy its urge to use abstraction, something essential to build a representation that transcends the mere systematization of events in their superficial manifestations. But he judges that political economists in this field are poorly equipped. In particular Marx considers of great importance the use of a hierarchical system of levels of abstraction. In the case of the theory of value, he initially reflects in terms of a simple commodity economy, and later he does so with reference to a capitalist economy. As we have seen, it could eventually be said that it is Smith's strategy, but it clearly contrasts with what Ricardo does, who uses a single level of abstraction and thinks of value directly in relation to the capitalist economy.

On the other hand, Marx establishes a conceptual articulation between structural and historical analysis, and in the latter he is very strict. Marx's operations of abstraction are linked to historical processes that have taken place, something in which Political Economy is not very rigorous. Political economist think in an ahistorical way, sometimes with openly speculative assumptions, with reference to schematic and ideological historical evolution paths and in a recurring way confusing specific phenomena proper to capitalism with more general categories.

Marx likewise has a critical vision of capitalism and especially of the mercantile division of labor. Unlike political economists, he has no apologetic commitment to the institution of the market and can recognize both the scope of this mechanism and its limitations and weaknesses, something vital to fully understand this device.

Another difference that is relevant in Marx's elaboration is that in his reflection on value he includes, with fundamental importance, the monetary dimension. In this he also contrasts with Classical Political Economy and Neoclassical Economics. Far from taking the monetary as an epiphenomenon that must be isolated in analysis to focus on the "real" magnitudes, for Marx money is the most developed manifestation of value. He takes it into account from the beginning of his reflection. Precisely the theory of value sets out to reestablish the connection between the monetary sphere, which is what is empirically perceived, and the social labor level, which is its foundation.

Neoclassical Economics, in its General Equilibrium Model, makes the value of goods emerge exclusively from circulation, since this formulation does not contemplate production. At the other extreme, Ricardo, who relegates circulation to a secondary role, brings out the value only of production. Marx's conception departs from the previous two: for him, and this is a definitive feature of his approach, value emerges from the interaction between production and circulation.

Not surprisingly, in his foundational treatment of value, Marx makes important considerations about circulation. A crucial point in this regard is the fact that in a market economy there is no a priori guarantee that transactions will take place. This is a perception that everyone who lives in a market economy has well in mind and that generates an irreducible uncertainty among agents. But Political Economy and Neoclassical Economics operate with the so-called Say's Law, according to which "supply creates its own demand". On the contrary Marx confirms that transactions are not always successful, and that in the mercantile economy it is not only possible and frequent that they fail, but that in the capitalist economy there are structural tendencies for systemic failures to occur in this regard, the so-called “crises of realization”. Marx coins the expression “dangerous leap of realization” to illustrate this reiterated risk of the market, an imperfect mechanism of socialization subject to recurring ruptures.

Precisely Marx considers that the realization of commodities, their sale, plays a decisive role in the formation of value. It is not enough that a good is produced with the prevailing technical procedures and that it has a commonly accepted use value: if for some reason it is not sold or, more precisely, it is not salable, the labor that was incurred in its production (it could be said, in the Ricardian language, its embodied labor), is not necessarily recognized in the market as social labor. Marx advances a distinction in his treatment of labor that he considers key and that political economy does not: the differentiation between "concrete" labor, which is the specific activity that each producer carries out, and "abstract" labor, which is labor considered as social. Precisely the realization, that is, the sale of the commodity, is what allows the conversion of concrete labor into abstract labor.

But in this matter there is a quantitative dimension. For Marx, much more clearly than for the classical political economists, value is a global notion that is constituted in the aggregate. Each individual commodity represents a portion of the total value, the latter the embodiment of the social labor of all producers. But in quantitative terms, the formation of value is not identical to its distribution. Logically, the total aggregate of embodied labor must equal the total aggregate of abstract labor. But in their distribution, in each commodity the magnitudes are not identical. This is what Marx refers to with a formula that is not always the most appropriate: each individual commodity has a quantity of abstract labor (what is required in social terms for its production) that would be its "value"; and a quantity of abstract labor that is the result of the mercantile entanglement that includes circulation, and which the German sage calls "price." This notion in Marx is very important, among other things, to interpret the famous transformation of values into prices.

Marx does not have a systematic exposition of what a price theory would be in strict terms. Broadly speaking, he adopts the notion of political economy of the “gravitation” of market prices around the natural price, the latter he calls the “regulatory price”. With respect to the physical quantities of the goods, it has expressions that suggest that he has a notion that for each commodity there is a quantity considered normal to satisfy consumption, and that the lags in the quantities offered with respect to it would be responsible for the aforementioned lags of market prices with respect to regulatory prices. Or it could be said that for Marx, the "normal" quantity is that which is consistent

with the regulating price. He considers, as it has already been suggested, that the regulating price do not always coincide in a particular commodity with its respective "value", and at different levels of abstraction they may differ, although they are compensated as a whole. This does not prevent him from having an intuition that he reiterates: "value", understood as embodied labor, for him continues to be the central determinant of structural prices and therefore the central referent of their long-term magnitudes.

Marx exposes more clearly than Smith an interpretation of the motive that attracts agents to the market. In what he calls the “simple circulation of commodities”, whose cycle is Commodity- Money-Commodity, the simple commodity agent seeks to obtain in the market a greater quantity of physical goods for his concrete labor (or to obtain the same quantity of goods for a smaller amount of concrete labor), which is achieved by benefiting from the productive advantages of specialization.
On the other hand, in what he calls capitalist circulation of commodity, the capitalist begins with a quantity of money, with that he buys productive commodities that are used in the elaboration of a new commodity, which he turns back into money. The difference with the previous scheme is that he does not go to the market to obtain a use value, but to increase his capital by means of an increase in the value of the commodity that he finally sells. However, Marx does not seem to understand this duality as simultaneous. He uses the reference to simple commodity circulation as an analytical resource and appears to be convinced that in practice capitalist agents eliminate simple commodity agents in competition. Capitalist logic prevails over simple commodity logic. This conclusion can be accepted in analytical terms to examine more clearly the operation of the capitalist economy. But the historical evolution of capitalism has shown rather the persistence of a situation of coexistence and articulation between simple mercantile agents and capitalist, and not only as something inertial, but that is a situation that is reproduced and that has great relevance in the operation of the capitalist economy.

This Labor Theory of Value with the aforementioned features is a benchmark for Marx to carry out the bulk of his analysis of capitalist society, but especially plays a central role in his reflection on certain points. One of them, no less, is the explanation he proposes about the specific form that exploitation takes in capitalist society. Unlike other class societies, in which the surplus is visibly extracted, which requires the use of force and very oppressive juridical-political features, in capitalist society there seems to be no exploitation. But of course there is. Only it occurs through an automatic and impersonal mechanism that makes it opaque and, in the limit, invisible. It is the market itself, which operates with the laws of value: the surplus is extracted through the assimilation of labor power to the condition of a commodity. The capitalist can buy it with reference to the value of the goods required for its reproduction, uses it in a production process, and sells the good resulting from it also for its value: usually the last quantity is greater than the first, since wage goods require less social labor in its production, than the value that workers add to the final product. The difference is what Marx calls "surplus value" and is the basis of the capitalist's profit.

With the theory of value Marx addresses the issue of the articulation between capitalists and waged workers, but also between capitalists of different branches: he proposes the estimation of the

relationship between the amount of the general rate of profit and the relative prices of commodities.

Marx also addresses other issues related to capital accumulation, the analysis of which depends a lot on his notion of the theory of value. One of them is the downward trend in the rate of profit that he deduces, derived from the increase in the organic composition of capital. And on the other hand, he uses this notion to analyze the different types of crisis, especially those of overproduction.

The sequel to Marx's Labor Theory of Value: Neoricardians and Marxists of the 20th century.

Marx's theses on value (and eventually those of Ricardo and Smith) have had a multitude of followers who have developed, criticized, and refined them from very different perspectives and with rich and varied conclusions. Although many claim to be the authentic and rigorously faithful followers of their teachers, the truth is that, in general, notable differences can be seen in these developments, some explicit and recognized by these new authors, but many hardly implicit and unconscious. I will refer then only to two currents of theorists who have dominated the debates on the subject after the publication of Marx's works, and who have ties to each other: in this section I will refer to the stream of theorists who simultaneously sympathize with Marx and Ricardo and who evolved into what is now known as the Neo-Ricardian School. In the next section I will say something about the current that has been hegemonic in Marxism for a long period, which some refer to as “canonical Marxism”. I prefer to call them, as is the suggestion of some of the sequentialists, as Marxism of the 20th century, since it refers to the bulk of the period in which this stream exercised its predominance among Marxists without major disputes. In my opinion, a good part of these developments have been originated by the famous debate on the Transformation of Values into Prices and, more specifically, by the formalization proposed by von Bortkiewicz (1906/1956), who with variants, aligned the discussion in very specific parameters. So it is worth briefly examining the heart of the matter.

In the exposition of Capital, Marx uses a scheme of levels of abstraction, which begins with the most abstract representation, and makes the analysis more complex, gradually introducing new determinants. Thus, in his discussion of value he starts thinking with reference to a simple commodity economy. There he assumes that the price of the goods is equal to their "value", and with this he implies that it is equal to the social labor embodied in their production. This is consistent with the competitive behavior of the simple commodity agent. Subsequently, Marx makes a series of analysis already with respect to a capitalist economy, which is initially treated in an aggregate way. There, he preserves the assumption that regulating prices are governed by the amount of embodied labor. Later, when he addresses certain phenomena of accumulation, he realizes that it is necessary to disaggregate this economy. Certain events, such as technological innovation, have very different impacts depending on the role that different goods play in the reproduction of the economic structure. This is why Marx breaks the economy down into three sectors or departments: the one that produces productive goods, the one that produces wage goods and the one that

produces consumer goods for the non-producing classes. But in these circumstances, and evoking this same issue in Ricardo, there is no force that leads to the organic composition of capital being the same in these three departments. If this variable has a different magnitude for the three sectors and goods are traded for the amount of social labor that their production requires, capitalists would obtain unequal rates of profit. However, at this level of abstraction competition imposes a uniform rate of profit as a trend for all capitalists and all branches. For Marx this does not imply any inconsistency, since it is entirely plausible, following the principle that the formation of global value does not necessarily coincide with its distribution in each of the commodities. For the regulating prices to be what Marx calls "Prices of Production", which implies that they are equal to Total Capital (Constant plus Variable) increased by a uniform rate of profit, implies that in the distribution some branches, those with an above-average organic composition, attract a certain amount of value from the others. It is therefore a redistribution of the generated value. What some branches lose, others gain. But obviously, the aggregate remains the same. These “value” flows are simultaneously surplus value flows. Also the aggregate of surplus value, which is now distributed differently than it originates, must be the same. What causes these flows? Obviously it is not the individual will of the capitalists or of any regulatory agent, which in capitalism is non-existent. In this case the origin of these movements is competition.

In these circumstances, a commodity has two quantitative relationships with the global value generated and distributed throughout the economy. One of them refers to the fact that a certain amount of social labor was mobilized in the process of manufacturing a commodity and in this proportion contributed to the formation of the value added. Marx calls this quantity "value." On the other hand, the owner of each commodity, according to the interaction of transactions, can claim in the market a certain amount of that global social labor. That is what Marx calls "price." The two quantities, in each individual commodity, as we have seen, do not have to be identical. At this level of abstraction, when there is a uniform rate of profit, the regulating price is no longer the "value", but the aforementioned " price of production". Now, to calculate these prices of production, it is necessary to know the average rate of profit. Marx has the intuition that it can be calculated in the aggregate of the branches: the totality of the generated surplus value divided by the totality of the mobilized constant and variable capital would yield the magnitude of the average rate of profit.

There is an aspect in this proposal of explanation of this process that Marx himself warns about, but to which he gives a lesser importance. In a quantitative illustration in which his central objective is to clarify his aforementioned intuition of the redistribution between the branches of the value generated, he shows how the goods produced, despite having a magnitude of "value", are exchanged for a different quantity, their "price " That is, using their vocabulary, their "values" are transformed into " prices of production". But some believe to find a deficiency in this procedure: since in the elaboration of most of the goods produced, other goods, produced in the same economy, are used as inputs, the value of these goods, (instruments, intermediate and raw materials and even labor force as a commodity) should also be "transformed", while in Marx's example they continue to be exchanged for their "values".

It should be noted that this is not something that escaped Marx's perception. In other parts of his work he deals with great insistence, sometimes bordering on the cumbersome, on this effect of changes in the prices of goods that for some branches are final prices, but for others are inputs. But in the mentioned passage, he judges that this is not the axis of what he wants to explain and considers that this task of transforming the values of the inputs is somewhat of minor importance than does not alter the main reasoning that is being exposed. This is why some later writers refer to this as the "incomplete" transformation of Marx.

One of the motives that will mark a good part of the inquiries about value is to "complete" this incomplete transformation of Marx. The most famous is, as we have already seen, the one formulated by Bortkiewicz, which will have a sequel in the formalization of Piero Sraffa (1960).

In a very simplified way, we illustrate the device proposed by Bortkiewicz with an economy of three branches. The first produces productive goods, the second wages goods and the third luxury goods. He starts from what in this vocabulary is called a "Table of Values" in which the magnitudes of each productive branch appear in terms of values, as follows (to make the example clearer, a simple reproduction capitalist economy will be assumed, that is, it does not grow, and replaces the same magnitudes in each production cycle).

Table of values

Sector I	$C_1 + V_1 + S_1 = W_1$
Sector II	$C_2 + V_2 + S_2 = W_2$
Sector III	$C_3 + V_3 + S_3 = W_3$
Total	$C + V + S = W$

C_1, C_2 and C_3 is the magnitude in value of the constant capital of each of the branches and C the total. V_1, V_2 and V_3 is the amount in value of the goods consumed by the workers of each branch and V the total. S_1, S_2 and S_3 is the surplus value of each branch and S the total. W_1, W_2 and W_3 is the value of the product of each branch and W is the total value of the goods produced by the economy.

Marx's transformation consists of replacing the value of the product in each sector (Wi) with its price of production (which we will name as Wˆ i) We will call x this relation in sector 1, that is, x =Wˆ1 / W1. We will call y the same relationship in sector 2, y= (Wˆ2 / W2). And in sector 3 we will call it z, z=(Wˆ3 / W2). To make this substitution, what Marx does is replace the surplus value of each sector, by what he calls profit and which would be the proportional magnitude according to the average rate of profit on the respective capital. (This magnitude in terms of production prices in Marxist vocabulary is not called surplus value, but is called profit (Rˆ) We will call r he rate of profit. For each sector it would be then:

$R\hat{}i = (Ci + Vi)\ (r)$

So the total value would be $(Ci + Vi)\ (1 + r) = W\hat{}i$

But as can be seen, what is transformed is the product ($W\hat{}i$) but the inputs remain in terms of values. What Bortkiewicz does is replace the values with the respective price of production, not only in the product (change Wi for $W\hat{}i$) using the converters x, y, z according to each commodity, but also in the inputs: where Ci appears, which is the same good that is produced in sector I uses x, and where Vi appears, y is used.

Table of Prices of Production

Sector I	$(C_{1x} + V_{1y})\ (1+r\hat{})\ = W_{1\,x} = W\hat{}_1$
Sector II	$(C_{2x} + V_{2y})\ (1+r\hat{})\ = W_{2\,x} = W\hat{}_2$
Sector III	$(C_{3x} + V_{3y})\ (1+r\hat{})\ = W_{3\,x} = W\hat{}_3$
Total	$(C\,x + V\,y)\ (1+r\hat{})\ = W\hat{}$

Note that the average rate of profit is no longer the one that appeared before in terms of values (r), because now the surplus value is not distributed between C + V, but between Cx + Vy. In other words, there is a new rate of profit in terms of prices of production ($r\hat{}$) that is not yet known.

Thus, in algebraic language, we are dealing with a system composed of three independent equations (those that correspond to each of the sectors) that has four unknowns: the three converters x, y, z, and the rate of profit in terms of prices of production, $r\hat{}$. The fact that the number of unknowns exceeds the number of independent equations implies that for its resolution the system has in this case a degree of freedom. This means that from a table of values, it is not possible to arrive at a single table of prices of production. There is an infinite family of prices of production tables that meet the conditions of being consistent with the source table of values. This means that with this method it is not possible to establish absolute prices of production that can be compared with the respective values. This is already a bit problematic, since Marx makes many analysis in which the comparison in absolute terms between "value" and "price" plays a central role, and according to this procedure this comparison is meaningless.

With different algebraic tricks with the scheme seen, even if absolute prices cannot be calculated, it is feasible to obtain the relative prices between the different branches (from the relative values). This allows us to calculate the new profit rate ($r\hat{}$). Many analysts conclude that if the fundamental objective of the theory of value is to estimate the rate of profit, the important thing is the relative prices and the absolute magnitudes of value lose relevance.

When there are degrees of freedom, there is a procedure to quantitatively “fix” the resulting system: the use of an “invariant”. It consists of establishing, for some extra-mathematical reason, a quantitative relationship of one variable in the two planes. Much of the subsequent discussion of value has been concerned with proposing an invariant. Some have argued that for theoretical considerations Marx and other value theorists assume that the total amount of the value of the traded goods must be identical in terms of values and prices of production. Others point out that what must remain fixed is the global amount of surplus-value with respect to profits, since the transformation consists of a redistribution of surplus-value. More recently, “added value”, that is, the sum of variable capital and surplus value, has been proposed as invariant, since it is the total living labor mobilized in a period of time.

But regardless of which invariant is used, this procedure yields another compromising result. The double equality between the total of values and the prices of production on the one hand, and on the other, the total of surplus value and the total of profits does not occur simultaneously but in exceptional circumstances. Normally when the total of the values is equal to the total of prices of production, then the total of the surplus value does not coincide with the total of the profits, and vice versa. This contradicts the expectation of Marx who considered that the passage of values to prices of the two categories are redistributions of the same aggregates and therefore the two equalities should be fulfilled simultaneously.

The implications that many analysts draw from there are far-reaching. Instead of confirming Marx's claim that his theory of value is the basis of the theory of surplus value, this procedure suggests rather that they are incompatible and that one must choose to keep one of them: the theory of value discarding the theory of surplus value or vice versa. To make it more critical, it would be said that the fact that the profits do not coincide with the surplus value would imply the validity of the neoclassical notions: the profit of the entrepreneurs does not come only from labor, but there are other sources of value, eventually contributed by the investor. In conclusion, this analytical device would test the inconsistency of the basic theses of Marxism and call into question the bulk of its critical conclusions about capitalism.

A more general version of these objections comes from the works of Piero Sraffa in the early sixties of the 20th century, a strong supporter of Ricardo and Marx's theses that he interprets as complementary. He is considered one of the fathers of the modern Neoricardian School who has made invaluable contributions to the interpretation of capitalism from a critical perspective. Inspired by Bortkiewicz's formal insights, Sraffa generalizes and refines them, with some clarifications or conceptual additions, some of them not always visible. I will not dwell on describing Sraffa's formal device, which I take for kmown, and rather mention some of his theoretical conclusions relevant to the subject at hand.

Sraffa rescues and reaffirms a notion that was already present in those who developed the Bortkiewicz scheme: the idea that the rate of profit and the relative prices in terms of prices of

production can be calculated from technical data. That is, departing from the physical quantities of intermediate and final goods that are intertwined in general production. In particular, Sraffa does not believe that this is an objection to the approaches of Ricardo and Marx, but rather a refinement. This would imply that the theory of value is not needed to make this estimate / explanation. Sraffa continues to connect profit to surplus, but he puts them in physical categories, which requires a measurement in these terms of both output and inputs. We know that it is a heterogeneous aggregate, a consideration that the Ricardian school itself raises as an objection to the neoclassical theory of capital, which assumes, without further consideration, that capital is a homogeneous physical quantity to which a "physical productivity" can be calculated. For measurements of physical goods, Sraffa develops the instrument that he calls "standard commodity". Ricardo himself assumed that if a commodity had the organic composition of capital equal to the average, and the same happened with the chain of its previous inputs, the "value" would not change quantitatively when translated into "production prices": it would be neutral to changes in distribution and could therefore be an unbiased unit of account. Ricardo considers that this commodity would be practically impossible to find in practice and he discards this methodological alternative. Sraffa makes two points: while it is difficult to find an individual commodity that has these characteristics, it is possible to delineate a group of branches that have them together, which for Sraffa's system of simultaneous equations would imply a subsector of the matrices that describe the globality of the productive branches. On the other hand, it is not necessary to find this “standard commodity” in practice, rather it is enough to construct it conceptually.

Sraffa then modifies the conception of the formation of wages and therefore of profit. The physical surplus is distributed among capitalists and workers, but not with reference to a basket of wage goods, nor through a properly market transaction: it is an extra-mercantile confrontation, basically linked to the relationship of political forces between these classes. It is therefore ruled out that the labor power really operates as a commodity or that it is rigorously traded in a labor "market".

From his formal scheme, Sraffa concludes that to calculate the aforementioned distributive variables, it is enough to take into account those branches whose products are inputs for other goods or for workers' consumption (what he calls the “basic system”). In other words, the branches of the so-called luxury goods, corresponding to the final consumption of the non-producing classes, are irrelevant to determine the rate of profit and the wage, and are expendable for the analysis. This consideration, among other things, calls into question some analysis on aspects of capitalism to which Marx attached great importance, such as the trend of the rate of profit to fall.

However, the most critical conclusions towards the theory of labor value have been developed more than Sraffa himself, by some of his followers such as Ian Steedman (1977). Indeed, these authors point out that the objections raised by Bortkiewicz's approach are reasonable and it is advisable to accept them as deficiencies. But also with the Saraffian formalization other inconsistencies become evident. In certain circumstances, a plausible scheme of prices of production cannot but correspond to value schemes with negative magnitudes, which is obviously irrational. When there is joint production of a plural number of products in the same production process, negative values can also

be reached. We have seen that if there are changes in the organic composition of capital exclusively in the non-basic subsector, the organic composition of global capital changes, but since this sector does not influence the determination of the rate of profit, the latter remains the same, which contradicts Marx's reflection. It would therefore be advisable to dispense with the labor theory of value. But this last conclusion is reinforced by the aforementioned notion that the value is not necessary to estimate the central variables, which can be calculated departing from the physical data. Steedman interprets that the procedure of Ricardo and Marx consists of starting from the physical magnitudes, as a first step: then, calculating what corresponds to the magnitudes in value (in labor terms) that this implies, as a second step; and finally arrive at quantities in terms of prices of production. But Sraffa points out that one can go directly from the first step to the end, without going through the values. This, as mentioned, does not imply giving up Marx's main categories, such as exploitation and surplus, which can be reformulated in the Sraffa scheme. Again: if the labor value is a category that induces logical inconsistencies, generates incorrect estimates and is not necessary, what seems appropriate is to renounce this notion. It is the conclusion reached by Steedman and other neo-Ricardians that leads to a general recommendation: to do Marxism without labor theory of value.

20th century Marxism as crypto-Ricardianism.

The approach of Steedman and other neo-Ricardians had a great impact on that theoretical tradition that from that moment practically unanimously adopted that the formalization of Sraffa is the modality of reference on interaction in capitalism for this stream of thought, which plays in it a role similar to that of the Walrasian general equilibrium model, and its contemporary variants, for neoclassical economics. And of course Steedman's conclusion to abandon the labor theory of value is also a widely accepted referent in this trend.

From a certain point of view this should not be too surprising since in some way, as we will see, these are developments consistent with the Ricardian views that are its starting point. But it is a bit unexpected that these elaborations have had a similar impact on the properly Marxist current, that clearly distances itself from Ricardianism in certain key aspects as stated by Marx himself and that are very pertinent to what we discuss here.

Indeed, the Sraffian representation is a formalization that internalizes defining features of Ricardo's approaches and that are different from those of Marx. The economy represented in Sraffa's system of equations is not monetary: money plays no role in it. This economy is thought primarily from the perspective of production, and circulation plays no role. There is no allusion to possible failures in the realization, that is, the famous "dangerous leap" is absent. The differentiation between concrete and abstract labor plays no role in the analysis. The conception of competition seems to obey parametric behaviors in which, more than gravitation, there is a concept of equilibrium close to even Walrasian. Why are Marxists concerned with conclusions drawn from representations that appear to be foreign to the properly Marxist conception of capitalist relations?

Here I return to some notions advanced quite early mid-eighties of twentieth century by Michel De Vroey (1985) in an overview that he made of the different positions that he believed existed at that time with respect to the labor theory of value. He characterizes what he calls the "traditional approach" in which he includes the leading theorists who explicitly declare themselves to be Marxists and who indeed made very important contributions to the critical analysis of capitalism. Most abide by Marx's warnings about the differences in his approach with the Ricardian one and the appreciation that it is a decisive improvement on Classical Political Economy. And yet, in their specific reflections they repeatedly exhibit features that we have pointed out here as characteristic of the Ricardian approach and that contrast with the elaboration of Marx. They conceive the monetary as a deceptive dimension that overshadows the "real" phenomena, which are the truly pertinent. Therefore, they do not grant a relevant function to the monetary and on the contrary they think that it is necessary to ignore it. On the other hand, they consider that the characteristic of Marxism is that it highlights production, which is synonymous with "objective", in contrast to the neoclassical conceptions that emphasize the subjective aspects of economic behavior. But this underlining of the production by these Marxists leads them to ignore the phenomena of circulation. Although they often mention elements such as the differentiation between concrete and abstract labor, or the “dangerous leap” of realization”, it seems that they had extremely imprecise notions about them, and what is decisive, in their analysis of capitalism they practically ignore these notions. In their reflections, the concept of competition that they effectively use is very similar to Walrasian equilibrium. In other words, despite his explicit statements, his analytical framework is much closer to Ricardo's than to Marx's.

This explains firstly the acceptance, without major objections, of the formalization of Bortkiewicz and later that of Sraffa, which are quite consistent with these Ricardian notions. And it also makes understandable the broad acceptance of the proposal suggested by Steedman and other close authors, to renounce the labor theory of value without necessarily denying the essential or the totality of Marx's postulates.

But it would have to be said that even if many of these “Marxists of the 20th Century” did not explicitly use these neo-Ricardian formalizations, nor did they abjure the labor theory of value, the truth is that the vast majority of them shared a vision of this basically Ricardian theory, and this in my opinion was a great limitation for many of their most interesting reflections. For example, I consider that one of the shortcomings of the very interesting work of the Latin American Marxists dependentist of the seventies of the twentieth century was precisely their use of these limited versions of the labor theory of value. Something similar could be said about the American theorists of the so-called "monopoly capitalism" like Sweezy (1942) and Baran (1966) . Today there is a renewed interest in the theses of these two groups. Without a doubt one of the current tasks is to re-interpret them with a more developed labor theory of value.

New developments in the labor theory of value

But as I have stated, in the last decades of the 20th century and in this 21st century, a plethora of theoretical explorations has emerged that seek to retake and develop substantial aspects of the intuitions advanced by Marx in his version of the labor theory of value, and to get rid of the reductions linked to these versions openly or covertly Ricardian and the formalizations linked to them that we have mentioned.

With regard to this last aspect, it is worth examining some important replies that have been formulated regarding the internal consistency of the formalizations in the Bortkiewicz and Sraffa mode, which are frequently presented as if they had an unshakable logic, and are considered as the unique possible formal option. I only point out some inconsistencies that, despite being simple, have a greater theoretical scope. With a special emphasis on Saraffian developments, there seems to be a repeated confusion between what algebraic procedures are for calculating certain magnitudes, and the causality attributed to them. An example: Sraffa argues that to calculate the rate of profit and relative prices in his system of simultaneous equations, it is enough to take into account what he calls the basic system, that is, the one made up of the sectors whose products are inputs from other branches or are wage goods. Therefore, it is not necessary to consider the non-basic branches, those that exclusively produce luxury goods. This statement is valid as regards the estimation of the magnitudes of relative prices and of the rate of profit. From there the Sraffians conclude that what happens in the non-basic branches does not influence these general variables. For example, if there is a technological innovation in a non-basic sector that in principle increases profitability in that branch, this would not alter the general rate of profit. Their implicit argument is that the regulatory prices of this non-basic sector will adapt until it gets the same profitability already determined in the basic sub-sector. Is this consistent? There is a much more plausible alternative. Given this event, which implies a higher rate of profit in a non-basic branch, it is expected that it will generate a migration of capital from all other branches to it. This will alter prices and returns in all branches. Prices will change, the same with the quantities produced and a new average profit rate will emerge. For the new equilibrium situation (to operate with the simultaneistic logic) it is possible to calculate the new magnitudes of relative prices and rate of profit from the basic sectors: but what happened in the non-basic sectors has participated in the determination of the new magnitudes. This is far from being a detail: a purported inconsistency that neo-Ricardians believe to find in Marx's approach to the trend in the rate of profit to fall is entirely based on the logic that we have initially presented, that implies a behavior of economic agents quite strange. (Cuevas, Homero 1985) And something similar can be said about the conviction that comes from Bortkiewicz that the physical magnitudes of goods in this system are determined exclusively by purely technical quantities, therefore, pre-mercantile circumstances. Hence the conclusion on the irrelevance of "values". This notion is very doubtful: the form of mercantile, and especially capitalist, circulation implies that combinations and especially quantities differ from purely technical relationships. Again: *a posteriori*, when the physical quantities are already decanted, determined in part by mercantile factors, relative prices can eventually be calculated. But in these quantities the sphere of value has already actively operated.

A similar consideration can be made regarding the operation proposed by Bortkiewicz for his "complete transformation". If the table of values is compared as an initial step with the table of prices of production as an arrival situation and such catastrophic conclusions are drawn from their quantitative comparison, there is a logical problem that is not insignificant. The substitution of the "value" per unit by the "production price" per unit in the Bortkiewicz procedure implies that it is multiplied by the same original quantities. How can this happen? Do all prices change, but the amounts traded remain fixed? That is difficult to sustain as economic behavior from any perspective, including Marx's. Here it goes unnoticed because the Ricardian approach deliberately ignores what is happening in the circulation. In fact, the system of equations should have an additional set of equations, one for each good produced: the one that relates prices and quantities in circulation. The system of simultaneous equations that does not include circulation is a representation that is not only simplified, it actually distorts the logic of mercantile and capitalist competition. It does not seem reasonable to draw conclusions from there that claim to be unappealable.

But another restriction of this debate around the simultaneous models of transformation of values into prices has consisted of severely reducing the range of reflection on value to these merely quantitative discussion referring to a specification of dubious validity, and has led to the relative abandonment of the other substantial aspects of the theory of value to which we have already alluded. This is a major obstacle to the full interpretation of many aspects of contemporary capitalism that could potentially be understood from Marx's insights. New explorations around the theory of value return to basic postulates to elaborate in another direction, critically rescuing very valuable notions that appear in Marx's original work, and trying to build new interpretative structures, even with formalizations that do not in fact coincide with simultaneist approaches.

One of these groups, known as the “New Approach”, takes up Marx's postulate that social labor manifests itself as value in its most complete expression as a monetary entity (Foley 1982; 1997; 2014). The Labor Theory of Value has as one of its primary objectives to reestablish the connection between monetary aspects and the dimension of social labor, which in the mercantile and capitalist economies tends to darken in spontaneous representation. The monetary appears as the only reality actually experienced by agents and without any connection to the sphere of labor. This would be one additional manifestation of the fetishism and the Theory of Value is a tool to counteract it. This group maintains that this is the “transformation” that makes sense: the concatenation of monetary relationships that are its visible expression, with the social work relationships that are sub-underlying. The approach to deal with the topic of "transformation" changes and for this reason they call themselves a "new approach".

However, this school does not limit itself to establishing this qualitative relationship between these two spheres, but rather postulates some quantitative relationships that are very interesting. First, in a simple mercantile economy, or in a highly simplified capitalist economy (in which all concrete labor is fully embodied as abstract labor) the following quantitative identity can be expected: the total sum of current labor mobilized for production in a period of time, that is, "live" work (excluding the work involved in inputs, instruments, raw materials produced in previous periods, which would

be what Ricardo called "dead" labor) must be equivalent to a well-known monetary magnitude in modern national accounts: what is known as total value added. Only social labor generates value, and the global monetary magnitude has that limitation. In other words, living labor and the total monetary added value are two sides of the same reality and quantitatively they are an identity.

On the other hand, the quantitative relationship between these two magnitudes can operate as a referent of the relationship of magnitudes between these two spheres: if the quantitative ratio between the monetary Added Value and the total amount of hours worked is established, we can have an idea of how much of money generally represents one hour of labor in the economy. These authors call this ratio the Monetary Equivalent of Labor (MEL) and can be used as a "translator" of the magnitudes of these two spheres. This is extremely important, since it allows quantitative analysis in terms of monetary magnitudes and to relate them to realities in terms of social labor.

The first identity must hold no matter what price theory is used. In other words, it refers to the consideration already mentioned that indicates that one thing is the formation of total value and another is its distribution. The idea is that the simplest form of distribution of total value among all the goods produced is that it coincides with the participation of each one in the production of value: this is called “simple prices”. But from there, more and more specific determinations can be specified to elucidate the magnitude of individual prices, respecting the global identity between live labor and monetary added value.

Some critics reproach this school that they merely propose a series of definitions, but abandone the claims of making substantial analysis of capitalism. I disagree with that. I consider that this perspective opens the possibilities of analyzing many aspects of capitalism in greater depth than simultaneist approaches. For example, this perspective opens the door to proposals on price formation that are much closer to the logic of market agents, and even allow us to articulate notions such as the abstract/concrete labor dichotomy and the “dangerous leap of realization”. Although not much progress has been made in all directions at the moment, the agenda that opens this perspective is vast.

The postulates of another group of neo-Marxist theorists, known as sequentialists (or theorists of the Temporal Single System) start from a methodological critique of the more widespread formalizations around the topic of the transformation of values into prices. For them, simultaneist models not only eliminate the temporal dimension of social and economic relations, but also seem to be contaminated with other dubious features of the neoclassical formal arsenal, such as the conception of identical representative agents and parametric behavior. This is not just an oversimplification, it substantially distorts Marx's exposition, and does not seem reasonable as a description of the competition and social entanglement of the capitalist society. In particular, they reject the idea that commodities have, at the same time, a "value" and a "price".

What these authors read in Marx is a movement over time: production is decided at a certain moment in which the commodities have a certain price, including the goods that make up constant

capital, prices with which investors acquire them. With the operation of competition and the reference of the average rate of profit, those same goods, at the end of the production period, acquire other prices that are not necessarily the initial ones. They are two prices on a successive timeline, not two simultaneous prices (or values). To deal with this, these authors propose an iterative formalization in which the final prices of one period are constituted in the initial prices of the next. What makes sense, more than a static situation, is the trajectory of the system. They interpret that Marx's transformation is incomplete, not because he would not have transformed the prices of inputs, but because what the German sage exposes is only the first stage of an iterative series, which even coincides with those expounded by him in historical terms: Capitalism arises in societies in which market exchange already exists and in which goods are traded for the labor required for their production: that is, for their values.

The operation of capitalism modifies them gradually. The correct operation of completing Marx's transformation is to continue the next steps of the iteration. This notion already had a background, sometimes referred to as "historical transformation" (Shaik, Anwar 2016), and it is noted that these iterative series tend to converge with simultaneist solutions. From these operations this group draws conclusions that are even closer to those argued by Marx, in terms of the persistence of the aggregates, which is given so much importance in the simultaneist debate. The latter is controversial, but in my opinion these authors of the Temporal Single System have made two contributions that seem important to me. They point out the serious limitations associated with the simultaneistic approach, which is much less innocent than an analytical simplification. It implies a different notion of competition and capitalist dynamics. On the other hand, they propose an iterative formalization that allows articulating not only decisive aspects of temporality, of uncertainty, of the risks of failure in the realization that promise very interesting developments.

Some elements to develop a modern Abstract Labor Theory of Value.

We present below some ideas to develop what would be a modern Labor Theory of Value, which is based mainly on the approaches of Marx himself, but also of other authors that we have mentioned here (or at least our interpretation of some of his theses) that it even goes back to approaches of Smith and Ricardo.

Social labor, source of value?

A primary theme of the Labor Theory of Value that is worth revisiting has to do with the notion that social labor is the source of value. As we have seen, this is contested not only by neoclassical economics, but also by various heterodox currents. Perhaps in the tradition of the Labor Theory of Value the very notion that labor as the support of value appears so evident and substantial, that after Smith's more or less original formulation, later authors take this concept for granted and elaborate from it as if it were something already indisputable.

Let us return to this topic by paraphrasing Smith. Let's put it originally in its most abstract, pre-mercantile dimension. At the risk of counteracting Marx's sarcasms about the “robinsonades” of political economists, let us examine this, initially in a context of completely isolated agents who self-supply everything they consume, such as the Robinson Crusoe that we economists have created from the rather more complex Defoe example. It is not a historical antecedent, needless to say, but an analytical device.

Just as in the relationships we maintain with our family, friends, acquaintances, we establish a hierarchy, and we esteem some of them more than others, the same could be said of the objects that surround us and with which we live. What is the reference for this operation? Since the Scholastic, two notions dispute the explanation of this behavior in relation with the objects which we live with. The first is utility. We esteem more highly the objects that serve us the most, that most intensely satisfy our needs or desires. It is the path chosen by Neoclassical Economics, which underlies its theory of value.

But, from Smith's perspective, "use value" as he calls it, makes sense for these purposes only in very exceptional circumstances: when goods are not reproducible or are freely available. That is, when production is not taken into account. In an economy on the eve of the end of the world, probably nobody will hesitate to prefer a bottle of water to a diamond ring, to evoke the iconic example of this paradox. (Remember that in the general equilibrium model, goods acquire value without any reference to production). But this exceptional situation does not seem to be a good description of the most general conditions in real economy. The vast majority of goods are not freely available like manna from heaven for the Israelites. The requirement for the consumption of a good is that before it must be produced. Once consumed, it is normal for it to be produced again to make a new consumption possible. And to carry out this productive process it is necessary to mobilize labor. It can also be affirmed with Smith that this activity, which involves the muscular and mental waste, which takes up time that could be spent on other more pleasant purposes, normally has a negative face for those who exercise it. If one could, one would avoid making that effort, and between two technical alternatives, one will probably go for the one that involves less work. We could say that labor has, in neoclassical terms, a negative utility.

Well, from these considerations Smith advances an intuition that will help him to elaborate his theory of value when the reflection reaches the level of the properly mercantile economy. For now, let us return to the circumstances of our Robinson. If labor has this negative connotation, having a finished good implies that its owner avoids "the sorrows and cares" that its production implies. This will be the criterion for establishing the "estimate" that awakens the various objects within Robinson's reach. For example: if cutting, transporting and stacking a bundle of firewood involves our castaway a working day, if he physically possesses it, that saves him precisely one day of work. Marx will later say on the subject of commodities, that being something still (a stock) condenses an activity (which is a flow). Now, if Robinson has a string of fish that involved him working for two days, this good for his owner crystallizes precisely two days that is avoided to procure it. This allows for many things that are crucial to a market economy and that appear here in a rudimentary manner.

Robinson can compare his estimate for these two goods: the string of fish save twice as much effort as a bundle of firewood. It is estimated twice as much. One can make this comparison despite the fact that both the use values of the goods are not the same and also the work processes required for their production are different. This estimate is not influenced by utility or use value. Utility can determine that Robinson produces more firewood than fish, or the opposite, but the estimate follows from how much effort it takes to produce each good. This estimate can be added: two fish strings crystallize four working days. It can be added crosswise: if one has a bundle of firewood and a string of fish, with them one has condensed three days of labor. In other words, heterogeneous goods and productive tasks are homogenized for their producer-consumer.

One can also introduce the notion of "dead" or past work that Ricardo will formulate, already talking about commodities. Let's say that in the case of the fish strings one day condenses the activity mobilized in the task of catching the fish, properly in fishing, and another day is linked to the work of producing the nets that allow fishing to be potentiated. This completes the two days that are the benchmark for its estimation by Robinson.[3]

As has been said, this notion that the estimation of goods arises from the saving in "sorrow and cares" that labor to produce them implies, is what Smith will know as "labor sacrifice" and is a fundamental intuition of the various versions of the labor theory of value. As a basic intuition in this pre-mercantile framework, it seems hardly refutable or replaceable by another in a context in which goods are produced and reproduced through human activity and effort.

But let us return here to the variation that Smith introduces when the division of labor becomes general, and one can refer to these goods as commodities. In this case, the value that the goods acquire does not refer to the labor- sacrifice of their owner (what we could call his own labor-sacrifice) but to the labor-sacrifice of the specialized producers of these goods. In effect, any consumer and potential buyer of the goods that I own could obtain them in exchange for an amount of value (labor) that is equal to the "sorrow and cares" that it implies to process it to the most effective producers on the market: the specialists. This is what Smith refers to when he speaks of "commanded labor" as a benchmark for the value of commodities. It is not, as some have interpreted, that commanded labor refers to the amount of labor that an agent can obtain in the market, subjected to the ups and downs of supply and demand. Commanded labor is a reference

[3] Here the operation behind the perception of neoclassical economics that "capital" generates "value" can be illustrated. Let us suppose that in the case of fish there is the possibility that Robinson catches them without nets, with a rod. But with this technique, obtaining the string of fish takes the castaway four days of work. A neoclassical would say that the network is "productive". It generates an additional estimate, in this case of two days, because if Robinson does not use a net, he should work four days to catch the fish, and using them, he should only work two days, one in fishing and the other in making the net. But here it can be seen that this is not a purely technical result. Robinson will not use the netless technique if he can craft the net. The second technique will only be a reference if there is any barrier to access, in this case to self-provision of the network. The "estimate" is related to the best technique that our castaway can use. But in the event that someone monopolizes the networks, Robinson may have an estimate of the network that exceeds the workday required for its production. He can estimate it in three days, in this case.

linked to structural productive conditions, and therefore not to market prices, but to the "natural" prices of commodities.

As can be seen, commanded labor is a social category and not only individual. As we saw before with the use value, although what we have called “own sacrifice labor” is not the determinant of the valuation of goods, it does not disappear and it continues to have other functions in economic activity. Indeed, the quantitative comparison between the private or own sacrifice labor that an agent should dedicate to provide himself with a good, and the amount of commanded labor that must be delivered by him through the market exchange, is one of the most important determinants for this agent to go to the market in order to access the goods and services he consumes. When the amount of labor commanded exceeds the amount of own sacrifice labor, the agent tends to go to the market. If the opposite happens, he will prefer to self-supply outside the market. This is an interesting insight to address an issue that is increasingly relevant even in contemporary capitalism: although capitalist firms are continually reducing costs and displacing non-market provisioning, the latter not only remains as a widespread practice: it seems even stay and increase. Unpaid domestic work that mainly affects women is one of these cases, and so, the self-construction of housing in peripheral countries. Even computer innovations seem to make proliferate new forms of non-market work that workers assume in their consumption practices. (For an approximation in these terms, see Jaramillo, Samuel 2019).

As we have noted before, this way of interpreting Smith allows us to establish a relationship between own labor-sacrifice, and Marx's concrete labor, on the one hand, and on the other, commanded labor and Marx's abstract labor, dichotomy that the latter author refines and develops.

Hypothesis on a multiple logic of behavior of agents in the market

This parallel allows the intuitions of Smith and Marx to be combined, to propose a formulation on the behavior of the agents in the capitalist economy which, in my opinion, can be very useful and which consists in the fact that two different logics of agents operate in the same market.

From Smith, it can be affirmed that simple commodity agents go to the market because, as we have seen, it is convenient for them from the point of view of their access to goods: what they seek is to obtain a certain quantity of goods for the minimum of their own labor-sacrifice. Or what would be symmetrical, they seek to obtain the greatest amount of goods for their personal effort. For this reason, they decide between self-supply or market labor to obtain the goods they consume through them. And they look for the highest efficiency. But Smith points out that in the presence of commanded labor, social labor, there are other agents who do not go to the market to obtain goods for consumption, but to accumulate that commanded labor that actually gives them control over others. As he stated, we have already seen it, quoting Hobbes, the theory of value is a theory of power, of a specific form of power, economic power. In this way, two logics that operate simultaneously would exist in the same market space: that of the majority of the agents who work

to obtain their livelihood and seek to have the maximum of physical goods for their effort, and on the other hand, that of the potentates who seek, through the market, to amass the greatest possible economic power.

From Marx's edge, there is potentially something similar but more precise. Let us remember that in *Capital* Marx begins his reflection on the division of market labor under the assumption of a simple commodity economy. There he establishes what he calls the simple circulation of commodity that corresponds to the simple commodity agent and whose scheme is Commodity-Money-Commodity C-M-C (to which it would be necessary to add an initial P, which designates production, since the commodity that this simple commodity agent leads to the market has to be produced. The complete scheme would be P/ M-D-M). This agent goes to the market to obtain more goods from the same magnitude of concrete labor and that is the objective that he pursues and that gives meaning to his decisions. But he does not seek to increase the value, which in this scheme would retain the same magnitude at the initial moment as at the final moment. In contrast, Marx points out that what predominates in the properly capitalist economy is what he calls capitalist circulation of commodity, M-C-M (adding production and considering that the magnitude of final value is higher, it would be M-C / P / C'-M ') The capitalist investor does not go to the market in order to obtain goods, but to increase the amount of value with which he begins.

It could be alleged, however, that the parallelism with what Smith put forward is not completely adequate because while Smith thinks of agents with different objectives at the same time, what Marx shows would not be simultaneous: the logic of the simple commodity agent operates in the simple market economy; in the capitalist economy what is imposed is the capitalist circulation of commodities. But this can be rethought in the following way. Indeed, Marx had the expectation that capitalist entrepreneurs would annihilate simple commodity agents through competition and would impose their logic in an absolute manner. He uses the reference to the simple market economy as an analytical resource to discuss general categories of the mercantile economy, and when he introduces the capital/wage-labor relation, he does not mention the simple mercantile antecedent any more.

But there is another consideration that broadens the scope of this observation. Proletarians are different from simple commodity agents. The latter sell in the market a commodity produced by them so that with the money obtained from this monetary sale they can purchase what they consume and, at least formally, they are independent of the capitalists. The proletarians are subject to the entrepreneurs and offer their labor power on the market, which is used in a productive process controlled by their employer. With the wage received they obtain the goods they consume. But from the perspective of their articulation to the market, wage earners and simple commodity agents have much in common. According to the same analysis of Marx, what the proletarians sell, their labor power, is assimilated into a commodity. The cycle of the commodity for the wage earner is similar to that of the simple mercantile agent: C-M-C (in this case we add an R that refers to the process of reproduction of the labor force: R / C-M-C). The wage earners don´t go to the market either to increase the value in their pockets. They do that to obtain their consumption goods.

In this way, from the Labor Theory of Value, it can be understood that in the capitalist economy in the same market space, agents that have different logics and seek different objectives coexist: on the one hand, simple commodity agents and salaried, both of them are workers and constitute the majority of the population. They go to the market in search of increasing the amount of goods they obtain for their work; and on the other hand, the capitalist investors, who in the market, seek to capture value, in this case, surplus value.

In principle, the objectives of these two sides are rigorously opposed. If there is no technological innovation, an increase in profits can only occur with a reduction in wages, and vice versa, as Ricardo suggested. But if there is technical change, eventually the two groups can increase the achievements in their objectives simultaneously: the capitalists can have more profits in terms of value, and the workers can increase the goods obtained by their concrete labor. Remember that this is the intuition behind Marx's notion of Relative Surplus Value. Regulationist Theorists' analysis of the recent phases of contemporary capitalism illustrates this phenomenon: in the Fordist period, that have notable advances in productivity, the profits of firms and the real wage of workers increased simultaneously (that is, the amount of goods that workers could buy for their wages). The neoliberal phase, which coincides with a pronounced stagnation in productivity, gives way to a “Ricardian” period in which the recovery of the profitability of the capitalists comes at the cost of a stagnation or a decline in the standard of living of workers, both salaried and simple commodity agents.

This same phenomenon sheds light on a feature that is a great strength of capitalism. Under certain circumstances capitalist entrepreneurs, when they have a high level of physical productivity, despite extracting surplus value and exploiting their salaried workers, can offer a wage that implies a higher standard of living than that compatible with the income obtained by workers as simple commodity agents or other pre-capitalist modalities. In these circumstances, the workers themselves are in favor of the expansion of capitalist production.

The consideration of this dual logic of the agents in the capitalist market allows to overcome a difficulty, not always noticed, that the traditional versions of the Theory of Labor Value have. Stated in unilateral terms, that only takes into account the the logic of the capitalists, this reflection finds difficult to coherently articulate the physical dimension of the goods produced. For example, growth in strict terms of the conventional labor theory of value can only be achieved by an expansion in the mass of workers. But the notion of growth that neoclassical economics handles also includes the increase in the quantity of physical goods produced. This is an absolutely pertinent notion, but seems not to be captured by the conventional labor theory of value. With the proposed interpretation, which includes the consideration of abstract labor, but also concrete labor, this notion can be apprehended, and in a way that is compatible with the Labor Theory of Value. That is to say, not only the perspective of the capitalists is considered, but also that of the majority of the population, that of the workers.

Towards a theory of prices consistent with an Abstract Labor Theory of Value

A task that is very pertinent for an enhancement of the Labor Theory of Value is to develop a Theory of Prices compatible with the features of the Labor Theory of Value that we have been talking about. In his works, Marx does not have a systematic and explicit exposition of this piece of analysis, and in broad strokes, he seems to follow the notions of Classical Political Economy. In some passages he uses something very similar to the Ricardian version, even with aspects that have been the object of criticism, such as a certain one-sidedness from production, parametric behavior and the absence of considerations on circulation. But at the same time, Marx in his presentation of his version of the Theory of Value advances insights that would allow a formulation more congruent with the general direction of his work. Here are some notes that might be helpful in this task. (Jaramillo, Samuel 2011).

First, it is necessary to clearly delineate certain categories and stabilize a vocabulary for them. As has been seen, the Abstract Labor Theory of Value conceptually connects the monetary dimension with the sphere of labor. We propose to specify certain notions in each of these orders, which are not only qualitatively articulated, but are commensurate with each other, if the aforementioned MEL (Monetary Equivalent of Labor) is used for this.

In the monetary sphere, in what we will call "prices", we can distinguish the following types. First, what can be called “concrete prices”: in a market, in a given period of time, there is a plural number of transactions between pairs of sellers and buyers. This is what really happens and where we have to start. It is not a deviation from something that has a higher reality, nor is it expected that its amount will be absolutely identical. But as a result of competition, these magnitudes tend to cluster. If a bidder demands an unusually high price, his buyer is likely to find another bidder with a more moderate price. The risk that this potential seller runs who asks for such high prices is that he will not be able to sell his commodity. He would fail in the dangerous leap of realization. On the other hand, if the buyer offers a very low price, it is most likely that the seller will look for another buyer and that the first one will not be able to acquire the good he is looking for. Precisely, with the Political Economists and with Marx, we call Market Price a trend amount that describes the predominant behavior at a given moment. Additionally, we call Natural Price the magnitude that competition generates in its sequential dimension over time, as a reference for the gravitation of market prices. Although it has similarities, it is not exactly the same as the neoclassical notion of equilibrium price: market prices oscillate around them, but it is not expected that they end up merging with this natural price, which Marx prefers to call Regulating Price; nor do their lags necessarily tend to be reduced: but it does establish a limited range of variation in market prices.

On the other hand, we have categories that have to do with the sphere of social labor. First of all, we can talk about Concrete Labor, which is the amount of work that each producer applies to the production of each commodity. Again, not all workers have exactly the same efficiency, but the competition is in charge of grouping these magnitudes, either by eliminating the less efficient from the market, or by diffusing the most productive techniques. But the awareness that there is usually a remnant dispersion is important for many analysis, for example, for understanding the dynamics of crises. Likewise, a relevant notion is that of Embodied Labor, which is the amount of direct and

indirect labor that *normally* is necessary to produce a good with the predominant efficiency. We use Ricardo's name because it coincides with his conception and refers to the amount of global energy that society must mobilize for the production of goods. And finally we talk about Abstract Labor, which is the amount of social labor that the owner of the commodity can claim in the market through its sale. The particularity of Marx's notion with respect to Ricardo is that the magnitude of abstract labor does not necessarily coincide in terms of individual commodities with that of embodied labor.

All these categories are commensurate with each other: those related to labor refer to time of work, monetary ones to amount of money, and among them, the MEL allows their equalization. The quantitative relationships between these notions are key to examining many aspects of capitalism that are difficult to deal with under the conventional arsenal. Among others, let us mention the following, some already mentioned: the coexistence of simple commodity workers in the capitalist economy, the quantitatively notable presence of work dedicated to non-mercantile self-supply tasks, the persistence of a relative overall stability in spite of failures in individual transactions, the change of direction of the crisis phases, and so on.

Now let us examine some elements of interpretation of these categories in relation with price formation. Neither Ricardo nor Marx pay much attention to the formation of market prices. Smith, in contrast, takes up an earlier formulation by Richard Cantillón (1755/2011) and proposes that the prevailing price of a commodity in the short term, that is, the market price, is related to the physical quantity supplied of the good, and its comparison with the quantity and solvency of those who aspire to buy it, that is, a monetary demand. This intuition can be refined and expanded as follows. In a specific situation, it is observed that, given a quantity supplied, there are a series of transactions whose prices are grouped around a magnitude which, as we have said, we call the market price. In principle, this situation does not have any virtue in terms of equity nor rationality in the allocation of resources. It doesn´t require any condition of equality between potential buyers. What we observe is the result of the bidding and the relationship of forces between sellers; between sellers and buyers; and among buyers. It is compatible by the fact that most of the milk on the market is bought by Cleopatra for her beauty treatments, and many mothers are left without food for their babies. Graphically it could be illustrated with a point in which the amount traded appears on one axis and the resulting price on the other. Let us think what would happen if, before the same monetary demand, for some reason linked to the precariousness of the market society, the quantity offered of the good is less than in the previous situation. The tradition of economic analysis will lead us to affirm that the price rises. But why? Due to the dangerous leap of realization: the eventual buyers warn of the danger of not being able to acquire the good, and the privileged way to ensure the transaction is to offer the seller a higher price than that of the other buyers who compete with him for the purchase of the commodity in question. And what happens if, from the original situation, the quantity supplied of the good, instead of being restricted, is expanded? The price falls, we intuit it. It is also due to the dangerous leap of realization. The fear of failure in the sale of the goods induces the suppliers of them to reduce the price as a mechanism to ensure the transaction.

In graphic terms, if the points that illustrate the magnitude of market prices are joined in the face of different quantities offered (but without changing the monetary demand), appears what we could call a Curve of Price of Circulation. Although it has similarities, it is not equal to the neoclassical Demand Curve in its Marshallian formalization. It does not reflect an exclusively “demand” behavior, but, as we have seen, it refers to the behavior of suppliers and demanders who interact in competition. Its central characteristic is that it refers to circulation. Its form in general is descending, but specifically it depends on traits related to its social role and the logic of sellers and buyers: it varies if it is a very necessary good or not, if it is perishable or expensive to store, and so on. And it is an aggregated category, which reflects collective behavior and not necessarily individual behavior. Its aggregation is not the result of an expansion from a “representative agent”

On the other hand, a similar exercise can also be done with regard to production. A productive agent produces a certain amount of a good and this implies mobilizing a certain amount of work that, in principle, we can consider as concrete labor. But this amount tends to be similar between producers as an effect of competition. Graphically, congruently with what we have just done for circulation, we can represent this as a point that relates the physical production produced by this agent and a quantity of work, which would acquire the character of abstract labor to the extent that it is recognized for the group of market participants that this is the amount of labor that is socially required to produce this good. At a high level of abstraction, as in a simple market economy, this quantity tends to be equal to the quantity of abstract direct and indirect labor required to produce the good and operate as a regulating price. In other words, it is the embodied work that Ricardo raises. At other levels of abstraction, the regulatory price character may imply a different magnitude than that of embodied labor: for example, in a highly simplified capitalist economy, it would be equal to abstract labor crystallized in the investor's capital, increased by an average rate of profite. (that is to say, what in Ricardo would be the "cost price" or in Marx the "Price of production"). In order to increase the overall quantity produced, in a situation of full competition, a new producer must come to the market, facing productive conditions similar to those of other producers who are his competitors. If this is repeated, what we could call a Curve of Price of Production can be drawn. Again it is an aggregate category, and in full competition it would have the form of a horizontal line, which corresponds to what Ricardo calls "infinite production".

In summary, in terms of production, each commodity would have three categories of labor, all pertinent to different analysis: the concrete labor that each specific producer must mobilize. Embodied labor, which is the amount of abstract labor that society must mobilize in general to generate said commodity. And the abstract labor itself, which is the amount of social labor that is required in a monetary transaction to obtain this good, and that its owner can claim in the market.

The articulation of these two curves offers us an approximation to the interaction of the agents in these two spheres. If at one point the quantity supplied implies, according to the Curve of Price of Circulation, a market price higher than that corresponding to the Curve of Price of Production, that is, the regulating price, the producers will be obtaining an extraordinary amount of abstract labor. This will attract other producers that operated in other branches, increasing the quantity supplied

and reducing the price: it is the aforementioned gravitation of market prices around the regulatory price.

With this principle, situations with different degrees of concreteness can be analyzed: for example, when there is no "infinite production", as in the case of branches that require land, wich is not homogeneous from the productive point of view. It alters the horizontal shape. Of the curve of Price of Production and gives rise to the emergence of a land rent. This representation allows us to further visualize this phenomenon analyzed by Ricardo and Marx, and allows us to specify some of its key features.

Basic Formalization of Market Interaction

One task that I consider important for this approach of the Abstract Labor Theory of Value is the construction of what I propose to call a "Basic Formalization of Market Interaction". As its name indicates, it is a formalized device that accounts for the general and overall interaction of the agents in the market. This plays a very prominent role in the theoretical consolidation of the more developed traditions of economic thought. I am referring to the General Equilibrium Model of the Neoclassical School and the Model of Production of Commodities by means of Commodities by Piero Sraffa for the Neoricardian school. This allows them not only to establish the congruence of various partial behavioral hypotheses but also to articulate various theoretical and empirical investigations to form a body with aspirations of coherence. The Abstract Labor Theory of Value in the Marxist tradition requires building such a piece, which is certainly not the Sraffian one, for the reasons we have mentioned, despite the fact that many use it pragmatically.

This analytical piece must be congruent with a series of notions of the Abstract Labor Theory of Value whose conceptual importance we have discussed and that are absent in other devices. We mention some of these traits. It should consider that its reference is a monetary economy and that transactions take place on those terms. The logic of agents is connected with the sphere of production and circulation and their interaction. It must operate in relation with a market economy that implies not only the possibility that transactions fail, (the "dangerous leap of realization") but that uncertainty and fear of these failures is a crucial determinant in decisions of the agents on the transactions. The foregoing makes it essential to take into account in a privileged way contemplating the passage of time (in which simultaneous formalizations are particularly insufficient) and the differentiation between past, present and future: rather than static situations, what should be aimed at is to define trajectories in time.

Below we present an outline in this direction that is inspired, rather freely, by an intuition in terms of formalization presented by Carlo Benetti and Jean Cartelier (1998) (although precisely these authors renounce the Labor Theory of Value, something in what we do not follow them).

The model is iterative in nature, which is an approximation to a dynamic vision, which has advantages over simultaneous models, although it still has some limitations in this regard that

should not be lost sight of. The traditional breakdown in three sectors is established: a branch that produces productive goods, another that produces wage goods, and another that produces luxury goods. There is a table of physical linkages: the quantity of productive goods and living labor that is required to produce each good, and which is specified with fixed coefficients. There is a certain number of workers in the economy, which in principle is established as fixed. Each of these goods has a price that for the starting period is *ex ante,* the same as a salary, and whose ulterior magnitudes can be made to depend on the results of the previous period. Agents have, each of them, an amount of money as capital and they invest it according to their profitability calculations.

Each good has a monetary and physical demand. Production goods have a physical demand that depends on the investment decisions of the productive agents in the different branches. The demand for labor power operates in similar circumstances. The demand for salary goods depend on the number of workers employed and their expected wage. The demand for luxury goods depends on the expected amount of profit (we include a portion that depends on the size of the entrepreneurs' assets, similar to the Keynesian notion of permanent spending). Market interaction based on decentralized agents that do not have a prior agreement between them yields results that rarely coincide with their forecasts. The purchases of the generated products usually vary, so both the *ex post* prices and the quantities traded are different from the initial ones.

An aspect of the “dangerous leap of realization” emerges in the model: the prices faced by agents may be different from those planned. But the model also makes room for another meaning of the dangerous leap, the one that Marx underlines: the quantities offered do not always coincide with those demanded, in such a way that some of the goods may not find a buyer. Those not sold do not generate value. And in these circumstances, unemployment can also appear. Investors' returns vary from their plans, and there may even be individual losses.

At the end of the period, the agents through their sales reconstitute their money capital. They start a new cycle, faced with new prices and wages that allow the process to be repeated. Using the MEL one can build accounts in value. And using the conventional deflation procedure, the physical dimension of the goods produced can be examined.

We have built a simplified version of a model of this type, operating in numerical experimentation terms, and it shows us that with some refinements that here there is no space to indicate in detail, iteration does indeed operate and inquiries can be made about some of the general statements of the Marxist analysis of capitalism, such as the falling rate of profit, relative surplus value, centralization of capital, or other pertinent processes. And it can be made more complex, introducing, for example, a banking sector, or the presence of the State, or the already mentioned coexistence of simple commodity and capitalist agents in the same market space.

As can be seen, development options for an updated version of the Labor Theory of Value that enhances Marx's intuitions are very broad. And they hold great promise for sharpening a critical view of the dynamics and structure of contemporary capitalism.

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