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Critique of the Theory of Unequal Exchange

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Abstract

This study critically examines the theory of unequal exchange, revealing its fundamental flaw: the equivalence of one hour of labor to another across different countries, without taking into account the differences in socially necessary energy invested in the reproduction of labor power. The study demonstrates that international price disparities stem from monetary distortions resulting from colonial plunder as well as from imbalances in the reproduction of labor power. In this context, it proposes adopting the Necessary Calorie (N.C) as a material measure of value, as it reflects the living and embodied human energy inherent in labor power. Under this measure, exchanges governed by the law of value are fundamentally equitable; what appears as unequal exchange is, in fact, the result of distortions in the monetary expression of value and the leakage of surplus value. Accordingly, labor-hour-based measures misrepresent value and may lead to misleading calculations regarding the scale of global exploitation. The study further shows how dependency, technological monopoly, and the lack of control over the reproduction of social labor continually impose a transfer of value from the underdeveloped parts of the global capitalist system to its advanced parts.

Keywords

Law of Value, Unequal Exchange, Surplus Value, Global Capitalism, Socially Necessary Energy.

Research Problem

The dominant theory of unequal exchange assumes that one hour of labor in the underdeveloped countries is equal to one hour of labor in the advanced countries. This assumption is flawed. In advanced countries, a worker only becomes part of the labor force after society has invested heavily in nutrition, health, education, and training. Thus, one hour of labor there embodies a much higher amount of socially necessary energy. In underdeveloped countries, however, workers are often pushed into the labor market at a much lower social cost. Consequently, one hour of labor in these countries represents less socially necessary energy. The research problem, therefore, lies in exposing this mistaken equivalence and reestablishing the debate on the proper foundation of the law of value in political economy.

Research Methodology

The research employs a theoretical-critical methodology based on:

1. **Conceptual Analysis**: Carefully distinguishing between key concepts such as value, exchange value, price, individual value, and social value to reveal the theoretical errors embedded in the unequal exchange approach.
2. **Historical Analysis**: Tracing the origins of global price disparities to colonial extraction of precious metals and the resulting long-term distortions in the monetary expression of value across regions.
3. **Logical Deduction**: Constructing hypothetical numerical examples (e.g., in calories or grams of gold) to illustrate value formation, equal exchange under the law of value, and the real mechanism of surplus value leakage when the law is suspended.

4. **Case Study Critique**: Applying this framework to evaluate contemporary empirical studies, such as those by Jason Hickel and collaborators, and showing how their methodologies rest on flawed assumptions.

Introduction

Debates on unequal exchange have long occupied a central place in critical political economy. From Arghiri Emmanuel to contemporary global studies, the prevailing assumption is that international trade systematically transfers value from the underdeveloped to the advanced countries. These contributions highlight real asymmetries. However, they suffer from a fundamental error: they detach the discussion from the Law of Value as the regulating principle of exchange. By equating labor hours across countries without accounting for differences in socially necessary energy expenditure, these theories misinterpret the nature of value and the mechanism of international trade. This research seeks to overcome these limitations by situating the problem squarely within the framework of political economy's law of value.

I: The Law of Value and the Mechanisms of Unequal Exchange

In the manner of Smith's reasoning, Ricardo attempts to elaborate a theory of international exchange. He begins from the same premises as Smith, according to which capitalists tend to invest in their own countries and refuse to abandon their habits or relocate to nations whose governments are guided by unfamiliar customs and whose laws they disregard.[1] From this, Ricardo concludes that the capitalist resigns himself to lower rates of profit and prefers to remain in his own country rather than seek a more profitable application of his wealth abroad.

Although Ricardo presents his theory—founded, as we shall see, upon Smith's idea—through an arbitrary formulation, which we shall examine later, his conception, despite all the awkwardness and obscurity it contains, would nonetheless occupy a prominent place in the interpretation of international exchange.

When Smith turned his attention to the analysis of foreign trade, he arrived at an idea whose essence was that one country might trade with another and incur losses, and yet still deem it in its own interest to persist in that commerce. Smith applied this idea concretely to the exchanges between England, France, Portugal, and Germany; for he recognized that it was in England's interest—even if the balance of trade were favorable to France—to intensify its commercial relations with her. Thus, if French wine were both superior and cheaper than Portuguese wine, and French cloth likewise superior and cheaper than German cloth, it would be more advantageous for England to purchase wine and linen from France than to obtain them from Portugal or Germany.

Although the annual value of French imports might increase, that value would decline in the same proportion as French products—of higher quality and lower price—were cheaper than those of the other two countries. Ricardo clearly understood this idea and sought to apply it.

The second example[2] he presents, based on the hypothesis of the difficulty of transferring capital from one country to another, can be summarized as follows: Portugal is superior to England in both wine and cloth production; indeed, it

requires only 80 units of labor to produce one unit of wine, as against 120 units in England. Likewise, it requires only 90 units of labor to produce one unit of cloth, as against 100 units in England. Thus, Portugal is relatively more efficient in the production of wine than in the production of cloth, considering the proportions 90:100 and 80:120. Consequently, Ricardo concluded that it was in Portugal's interest, from the standpoint of society, to specialize in wine production and obtain cloth from England. In the same way, it was in England's interest to specialize in cloth production and obtain wine from Portugal; for although cloth production in Portugal costs less than in England, Portugal will find that by exporting wine (80 units of labor) to England and receiving cloth (90 units of labor) in exchange, it saves 10 units of labor, since it will henceforth obtain one unit of cloth for only 80 units of labor instead of expending 90. England, for its part, will discover its own advantage in exporting cloth (100 units of labor) to Portugal and receiving wine in return; because in that exchange it saves 20 units of labor, for instead of expending 120 units of labor to produce wine, it gives only 100 units of labor embodied in cloth and receives the wine.

All this means, in Ricardo's doctrine, that Portuguese wine, which costs 80 units of labor, will be exchanged for English cloth that costs 100 units of labor—that is, international exchange will be unequal!

In this way, Ricardo arrives at an essential conclusion, that the political economy after him would endorse, or at least regard within its general framework, albeit with different interpretations and foundations. That conclusion is that international exchange is governed by laws distinct from those that govern domestic exchange, both in respect of its organizer and of the determinant of value:

"The same rule which regulates the relative value of commodities in one country, does not regulate the relative value of the commodities exchanged between two or more countries. … The quantity of wine which she shall give in exchange for the cloth of England, is not determined by the respective quantities of labor devoted to the production of each, as it would be, if both commodities were manufactured in England, or both in Portugal." (*Principles*, Chapter VII).

Let us then return to Ricardo's example and examine the relation between the two commodities within the same country—that is, the relation between Portuguese wine and cloth, and the relation between English wine and cloth. Then, the relation between each commodity in each of the two countries. According to Ricardo, we have a rule composed of three parts, the first of which states:

"The labour of 100 Englishmen cannot be given for the labour of 80 Englishmen." (Principles, Chapter VII).

In the application of this first part of the rule, which coincides with the law of value, one unit of Portuguese wine that costs 80 units of labor will not be exchanged for one unit of Portuguese cloth that costs 90 units of labor; the exchange will be effected in accordance with the law of value, in the proportion of 80:90—that is, one unit of Portuguese wine will be exchanged for approximately 0.88 of a unit of Portuguese cloth. This, therefore, constitutes an equivalent exchange.

The same occurs in the case of English wine and cloth: one unit of English wine, which costs 120 units of labor, will not be exchanged for one unit of English cloth, which costs 100 units of labor; the exchange will be effected, likewise according to the law of value, in the proportion of 120:100—that is, one unit of English wine will be exchanged for 1.20 units of English cloth. Here too, we are dealing with an equivalent exchange. Where, then, is unequal exchange to be found?

In reality, unequal exchange begins and ends with the second part of the rule, which states:

"The labour of 100 Englishmen may be exchanged for the labour of 80 Portuguese, or of 60 Russians, or of 120 Hindus." (*Principles*, Chapter VII).

According to this second part of the rule, which rests upon no plausible rationale, the principle of unequal exchange is established as a possibility. But why should the labor of 100 Englishmen not be exchanged for that of 80 Englishmen, yet be exchanged for that of 80 Portuguese, or 60 Russians, or 120 Hindus? Ricardo replies with the third and final part of the rule:

"This may be easily explained, by the difficulty with which capital moves from one country to another." (*Principles*, Chapter VII).

Thus, we now know that domestic exchange is equivalent. But it is unequal on the international plane! Why? Because domestic exchange is governed by the law of value, whereas external exchange, according to Ricardo, is governed by the obstacles faced by the mobility of capital across international frontiers. Such is the manner in which Ricardo presents his theory of international exchange.

Let us note, however, that the exchange between Portuguese wine, which costs 80 units of labor, and English cloth, which costs 100 units of labor, does not result from a reasonable deduction or a logical sequence, but is arbitrary and contrary to the very line of reasoning itself. In Ricardo's example, Portugal ceases to produce cloth when it specializes in the production of wine and comes to depend on English cloth, which costs 100 units of labor, exporting in return wine that costs it 80 units of labor. The exchange thus takes place in the proportion of 1:1—that is, one unit of cloth for one unit of wine. Yet such a hypothesis is unrealistic on the one hand, and, on the other, it contradicts the law of value without any convincing foundation.

1 – It is unrealistic because capital may not, perhaps, be transferred from England to Portugal to produce wine and cloth—and it is precisely on this premise that Ricardo erects his entire theory—but the Portuguese wine and Portuguese cloth themselves will be transported to England to secure additional profits arising from the difference in social value between the two countries.[3] Thus, the Portuguese wine merchant may sell his wine in England for 85 units and obtain an extra profit of 5 units. Likewise, the Portuguese cloth merchant may sell his cloth in England for 95 units and thus also obtain an extra profit of 5 units. And all this without capital being transferred from England to Portugal. [4]

2 – According to the law of value, the exchange between the two commodities—that is, between Portuguese wine and English cloth—should be carried out in the proportion of 80:100, that is, 0.8:1; and all costs must also be taken into account, again in accordance with the law of value, such as transport expenses, the

movement of capital across borders, variations in costs, and so forth. There is, therefore, no comprehensible—nor even incomprehensible—justification for the exchange of Portuguese wine (80 units of labor) and English cloth (100 units of labor) to be carried out in the proportion of 1:1, that is, in an unequal manner! Unless one arbitrarily supposes, without any basis in reality, that the exchange between Portuguese wine and English cloth is carried out unequally, at the rate of 1:1. And this is precisely what Ricardo did, and what political economy followed for two hundred years.

In the field of foreign trade, Ricardo's theory is justified by Marx through the law of value. As we have seen, Ricardo constructed his theory of unequal exchange in international trade on the hypothesis that the labor of 100 Englishmen could be exchanged for the labor of 80 Portuguese, 60 Russians, or 120 Indians, due to the difficulty of moving capital between countries.

For this reason, Marx sought—starting from the law of value—to deepen the justification of this Ricardian hypothesis. He argued that the capitals of more developed countries, when employed in foreign trade, may obtain higher rates of profit because they compete with commodities produced in less developed countries under less favorable conditions. The former produces their commodities at a lower value than the latter and are therefore able to offer them on the international market at a price higher than their domestic value, yet lower than the value of similar commodities from the less developed countries. As a result, they achieve relatively higher profit rates (differential profit).

Marx illustrates this by referring to someone who makes use of a new invention before it spreads throughout a given branch of production: this individual sells at a price lower than all his competitors, while at the same time higher than the individual value of his own commodity. Hence, Marx concludes:

"The country which is more favorably situated in natural conditions, receives in exchange more labor than it gives." (Marx, Capital, Vol. III, Ch. 14).

In other words, the country with greater productivity secures a relatively higher rate of profit. Let us suppose that commodity "X" is produced in two countries, each requiring 500 hours of labor. If the more advanced country, by virtue of its higher productivity, manages to produce it in only 100 hours, it may then sell it at a price above its individual value—say, for 200 units—and yet at a price below the social value, which remains 500 units.

Marx's demonstration of the possibility of unequal exchange thus remains within the framework of one of the applications of the law of value, according to which a capitalist, by employing a new technique, may sell a commodity at a price above its individual value and below its social value,[5] a situation that is only temporary: for the new productive method will soon spread and become socially dominant, at which point the social value of the product will be equalized.

II: Price Divergence, Surplus Value leakage, and Global Reproduction of Dependency

However, if we take into account Marx's proposition—which may represent the most important means through which the advanced parts of the world generate

profit on a global scale—three key points must be noted regarding foreign trade in general:

(1) "Commodity prices rise in the advanced regions and fall in the underdeveloped ones." This is because, when Europe invaded and colonized the continents of the modern world, exterminated their peoples, and seized their gold and silver resources, it injected gold and silver currency[6] into its internal markets. The abundance of these precious metals led to a depreciation in their value, alongside a rise in the prices of European products—that is, an increase in the monetary expression of value, a continual rise in prices. A single unit of commodity "X," which may previously have been expressed by 5 units of gold, came to be expressed by 7 units, then 25, then 50 units, and so on. Thus, the prices of products began a sustained upward trajectory.

It must be noted here that the surplus quantity of money did not itself raise the price level. Rather, it enabled the system's inherent tendency toward rising prices to be activated. This marked a transition from an exchange level governed by the Law of Value to a mode of exchange that generates crisis. This helps us understand the difference between capitalist profit realized in accordance with the general law of value—which is reinvested in the expanded reproduction of social production—and extra profit resulting from the circulation of commodities at prices exceeding their social value, which simply circulates, generating a chronic inflationary crisis.

In any case, despite its abundance and near-constant flow, precious metal currency continued to circulate within Europe until it moved to the United States following the Second World War, where the victorious US dollar came to play the same role previously performed by precious metal money.
The inverse occurred in Latin America and Africa. America and Africa. From these regions, the precious metals were extracted, and no longer represented their products—primarily raw materials—except through a diminishing number of gold units as the monetary expression of value. A single unit of commodity "X" was no longer expressed by 10 units of gold, but rather by 8 units, then 5, then 3 units, and so on. [7]
Let us now suppose that 1,000 calories in Egypt are represented by 100 grams of gold, or by 100 meters of textile, or by 100 pairs of shoes. In France, however—and due to the historical impact of the influx of precious metals—the same 1,000 calories come to be represented by 1,000 grams of gold, or by 100 meters of textile, or by 100 pairs of shoes. According to an application of the law of value, which upholds the authority of the dominant productive technique, the exchange value of the calorie—both in France and in Egypt—will become 1 gram of gold. This is because France, in accordance with the prevailing productive technique, produces the greater quantity (1,000 grams of gold) at the same value (1,000 calories). This will be reflected in the exchange values of textile and shoes in Egypt as well: one meter of textile will no longer be exchanged for 1 gram of gold,

as it was previously—that is, before the dominance of the new productive technique—but rather for 10 grams of gold. The same applies to shoes: the exchange value of a pair of shoes will no longer be 1 gram of gold, but 10 grams. If Egypt wishes to import 100 meters of textile from France, it will have to send 1,000 grams of gold. Just as if someone in Egypt wanted to obtain textile produced in Egypt, that person would have to give the Egyptian textile producer 1,000 grams of gold in exchange for 100 meters of textile. In this way, the exchange—according to the law of value—would be an equal one.

If France wishes to obtain Egyptian shoes, it must transfer 1,000 grams of gold—just as if someone in France wanted to acquire shoes produced in France, they would have to pay the French shoe producer 1,000 grams of gold in exchange for 100 pairs of shoes. In this case too, according to the law of value, the exchange would no doubt be an equal one.

However, if Egypt—following a certain economic policy—were to maintain its internal exchange ratios, thereby (partially) suspending the operation of the law of value, the result would be as follows:

- In Egypt: 1 meter of textile = 1 gram of gold.
- In France: 1 meter of textile = 10 grams of gold.

This outcome would mean that Egypt holds a competitive advantage over France; hence, its textile would flood the international market. France would have no choice but to raise its productivity so that, with 1,000 calories, it produces 2,000 meters of textile. In that case, the exchange value of one meter of textile would become 0.5 grams of gold—lower than the Egyptian price of 1 gram. France could then earn additional profits—say, 0.4 grams—by selling its textile above its domestic price and above the price of Egyptian textile; that is, by selling it for 0.9 grams of gold.

All of this is merely an application of the law of value.

Once the new mode of production is adopted in Egypt, the country will again gain the upper hand; for it will now produce 2,000 meters of textile using 1,000 calories. However, one meter of textile will no longer be sold for 0.5 grams of gold, but for only 0.05 grams. France will then be compelled to push forward in its continuous pursuit of technological innovation, to increase the productivity of French labor and thereby overcome the falling price levels in Egypt.

What remains to be addressed is the most misleading issue, which crystallizes in the following question: how does exchange take place between Egypt and France when each country maintains its own internal exchange ratios, while completely suspending the law of value? That is, Egypt prevents the transfer of the productive technique, or—even after adopting it—continues to maintain low price levels, or devalues its currency, and so on. These are all practices that occur quite routinely in the economic policies of states.

The first point we must pay close attention to—in framing the question and, consequently, in attempting to answer it—is that the discussion has now shifted

from the domain of value to the domain of price, specifically world market price. Suppose France wishes to acquire Egyptian textile: it must transfer 100 grams of gold to Egypt to receive 100 meters of textile. But 100 grams of gold in France is equivalent to 100 calories; which means that France receives a greater value in international exchange, for it has acquired a commodity that required 1,000 calories to produce, in exchange for giving only 100 calories.

Now suppose Egypt wishes to acquire French shoes: it must transfer 1,000 grams of gold to France to receive 100 pairs of shoes. But in Egypt, 1,000 grams of gold is equivalent to 10,000 calories; which means that Egypt receives a lesser value in international exchange, as it acquires a commodity that required 1,000 calories to produce, in exchange for giving 10,000 calories.

It is clear, then, that the two exchanges—under the condition of a full suspension of the law of value and its applications—are not equivalent. This is where the theory of "unequal exchange" [8] emerged: as a theory based on market price. The central problems of this theory lie in the following:

First: It presents itself as a theory of value at the global level, while in fact it is a theory of international market price, built on the assumption of a complete suspension of the law of value. When the theory discovers that, once the law of value is disabled, it has nothing new to offer, it declares that international exchange does not fall under any economic theory![9] In this regard, it is also correct—since price theory is in fact based on the idea that everything depends on everything else.

Second: The theory ignores the fact that fluctuations in market price around social value naturally entail unequal exchange. As a result, unequal exchange emerges as a constant possibility, even among the advanced parts of the global capitalist system.

Third: The theory also overlooks the fact that a single commodity in a single country may have multiple prices—multiple exchange values—but it can only have one value. As previously stated, price is the monetary expression of value, and it does not necessarily correspond to it precisely. The lack of concern in political economy for the notion of value itself—and the confusion between value and exchange value—has played a major role in the theoretical instability of the theory of unequal exchange.

Fourth: The theory does not engage in investigating the historical conditions that led to rising prices of commodities in the advanced regions of the contemporary global capitalist system, and falling prices in the underdeveloped parts. It begins at the surface of the phenomenon, accepts it without question, and treats it as sufficient proof of capitalism's immorality—raising the prices of goods and services for the poor and miserable buyers of the Global South.

Fifth: In its current state—as a theory of global price that tells us only that international commodity prices fluctuate up and down, involving unequal exchange—the theory prevents us from addressing the central problem facing the underdeveloped regions of the capitalist system: the leakage of surplus value toward the advanced regions. Instead, it contents itself with an ideological stance against capitalism, which it accuses of plundering the South through unequal exchange.

Sixth: The theory takes ideology as both starting point and final destination. When ideology takes center stage, one must expect a rejection of everything scientific, all in the name of a hollow and hazy victory for dogma. [10]

(2) "The African peasant, in a year, receives in return for one hundred days of extremely hard labor, imported goods whose value barely equals that of twenty days of regular work performed by a skilled European worker." This is because what applies to living labor and the stored labor stored in means of production applies, with full accuracy, to the worker himself. [11]

With one difference: the labor embedded in the worker is what determines the value of that portion of wages that will be allocated to reproduce a similar worker. Hence, wages include the value of the means of subsistence necessary to keep the worker alive—so that he may continue working, living as a worker, and reproducing his class. Therefore, the European worker is in a better position than the African peasant not only because his productivity is higher, but also because the European worker embodies stored human effort—education, training, nutrition, leisure, and so on—that can be represented by a greater number of calories than those representing the stored human effort in the African peasant. The latter is nonetheless expected to reproduce his labor through a portion of the wage he receives from the capitalist.

Accordingly, the value of goods produced in the more developed countries is higher. Yet, in international exchange, the equation becomes one between quantities of necessary living and stored energy. Suppose the daily wage of an African peasant (in terms of the common terminology of political economy) includes 30 units for living labor and 170 units for stored labor,[12] while the daily wage of a European worker includes 30 units for living labor and 1,970 units for stored labor. It follows naturally that the African peasant earns one-tenth the wage of the European worker—alongside the higher value of the industrial goods exported by Europe to Africa, and the lower value of the agricultural goods exported by Africa to Europe.

This is the situation the advanced regions of the capitalist system actively seek to maintain. They work relentlessly, through all available means, to preserve a global division of labor that ensures the continuous flow of low-value goods from the

underdeveloped regions into their factories—only to re-export them in manufactured form, at higher value, back to those same underdeveloped regions. Thus, the process of exchange (whether export/import or the reverse) between the advanced and underdeveloped regions does not imply that the African peasant engages in an unequal exchange when he expends the effort of ten days' work to obtain a commodity that a European worker produced with a single day's labor. On the contrary, the exchange can be considered equitable once both the living labor and the stored labor embedded in the African peasant and the European worker are taken into account.

Let us take an example: According to the law of value, and to produce a coat in Egypt and another in England, a certain quantity of constant capital (C) and a certain quantity of circulating capital (V) are used, as well as labor power, considered as variable capital (V'). Based on this, we may represent the following schematic:

To produce an Egyptian coat, by Egyptian labor (in an underdeveloped capitalist economy), assuming a surplus value rate (S) = 100%:

4C + 2V + 3V' (1 living + 2 stored) + 3S = 12 [in terms of the Necessary Calorie (N.C.)]. [13]

To produce an English coat, by English labor (in an advanced capitalist economy), assuming a surplus value rate (S) = 100%:

4C + 2V + 9V' (1 living + 8 stored) + 9S = 24 [in terms of the Necessary Calorie (N.C.)].

Regardless that the capitalist would promptly move—with his capital and technology—to Egypt to benefit from cheap labor, and assuming that all the conditions of capitalist production are in place, let us consider the following: if a coat is produced in England using an quantity of necessary energy that is twice that required to produce the same coat in Egypt, and if the Egyptian coat is exchanged for 10 grams of silver, then the English one would be exchanged for 20 grams. This difference—assuming that the value of constant capital is equal in both countries—results from the disparity in the value of variable capital, that is, wages. However, as previously noted, wages do not merely cover what ensures the worker's survival, but also include the value of reproducing the worker as a class.

What makes the value of reproducing the English worker greater is not only his higher productivity or the higher cost of ensuring his survival, but also—and perhaps more decisively—the greater quantity of stored labor embodied within him; hence, the higher value of reproducing the class itself.

(3) In reality, the lack of control by the underdeveloped regions over the conditions of their own social reproduction—and the dominance of the advanced regions over those conditions, starting with their monopoly over advanced technology—is what has placed the underdeveloped parts in a position where they are constantly compelled to purchase (i.e., exchange for money) the products of the advanced parts to reproduce their social life. Thus, the underdeveloped regions, despite the high prices of goods produced in the advanced regions, must continue—relentlessly, without pause, and without reflection—to buy those

goods. This purchase is made through a leakage of surplus value produced within the underdeveloped regions toward the advanced regions, to acquire the goods and services whose production is monopolized—at high productivity—by the advanced regions and upon which the underdeveloped ones rely to reproduce their own societies. As such, the leakage of surplus value—via the oscillations of international market prices—becomes the underlying reason for the flow of surplus value into the coffers of capitalists in the advanced regions, instead of being reinvested into the economy's vital sectors that produced it.

III – A Contemporary Glimpse into Unequal Exchange

The article titled "Unequal Exchange of Labour in the Global Economy" can be taken as a typical example. Jason Hickel, along with Dylan Sullivan and Huzaifa Zoomkawala, attempted to formulate what appeared to them to be a quantitative revelation of a global economic crime committed daily in plain sight. According to their claim, countries in the North extract from workers in the South more than 826 billion hours of labor in a single year, which, when valued according to Northern wages, amounts to nearly €17 trillion. They add that Southern countries, despite contributing nearly 91% of global labor, reap only 21% of the global income.[14] It is the language of numbers mobilized to construct a narrative of temporal colonialism, legalized plunder, and unjust exchange in the name of the market! However, these figures, despite their moral resonance, are based on a dangerous conceptual fallacy. In addition to using the incorrect measure of value, and therefore assuming with complete confidence that "the value of one hour of labor by a worker in India is equal to that of a worker in the United States," they claim that wages in the South are unfair relative to wages in the North. This is unrealistic because, as we have mentioned, despite their relative meagerness, wages in the South express two things:

First: The historical scarcity of currency, resulting from the plunder of means of payment in the underdeveloped regions. Therefore, the disparity in prices between goods from a poor South and a rich North is merely a historical reflection of the transfer of wealth through colonial invasion, which stripped the South of its means of payment and impoverished it, thereby suppressing the system's inherent tendency toward chronic price increases. Conversely, in the plundering countries of the North, which were gorged on the plundered, low-value gold, the influx of gold allowed the system to indulge its tendency, which always appears as an inherent inclination toward a steady rise in prices (as a monetary manifestation of value, although this manifestation is not necessarily an honest reflection of value), in contrast to the decline in value itself.

Second: The quantity of socially necessary energy expended to prepare a worker for the labor market (upbringing, education, training, etc.), which is less in the underdeveloped parts of the capitalist system than what is expended on a worker in the advanced parts.

Since labor power is a commodity, it cannot have two values—one in the North and one in the South. Rather, it has a single value determined by the prevailing productive art, which aims to produce a commodity with the least possible value, under the natural and logical condition that the commodity is fit to perform its

social function. The same applies to the worker. Let's take, for example, a worker in the automotive production sector: if the qualified worker required to perform their productive task socially in this sector needs two million socially necessary calories from birth until they are put into the labor market, then their labor power is valued at the equivalent of the labor power of five workers, each of whom required 400,000 socially necessary calories from birth until they were put into an automobile factory.

Using the scientifically incorrect measure—the number of labor hours—which only tells us that a commodity was completed in a certain number of hours without revealing its true value, is what led the "unequal exchange" theory astray and, along with it, all the studies that tried to forcibly prove it. The assumption that the value of one hour of labor in India is equal to the value of one hour of labor in the United States is the only thing that could lead to the misleading results reached by Hickel and his friends.[15]

The fundamental dilemma of this theory and the studies that have defended it is that they ignore the crucial aspect that reveals the real source of the problem. This problem does not lie in a non-existent "unequal exchange" but in the inability of the underdeveloped economy to achieve self-sufficiency in its social production, which forces it to be dependent on goods and services coming from the advanced parts of the global capitalist system. This dependency results in the leakage of surplus value generated by the labor of workers, whatever the nature of their work, into the coffers of the rich North. Hence, the core of the problem is not unequal exchange but the leakage of value produced by the economy of the South to finance the economy of the North.

Conclusion

The study concludes that unequal exchange, when understood as a departure from the law of value, is a theoretical misconception. Exchange under the law of value is inherently equal: commodities exchange according to the socially necessary energy embodied in them. What appears as inequality arises from distortions in the monetary representation of value, historically shaped by colonialism and reinforced by global asymmetries. Moreover, the claim that one hour of labor in underdeveloped countries equals one hour in advanced countries is indefensible, since the social cost of reproducing labor power differs significantly across regions. Unequal exchange can and does occur, but not as a violation of the Law of Value. Rather, it is a consequence of how money imperfectly represents value across the uneven development of the global economy, and of the resulting leakage of surplus value from underdeveloped to advanced countries.

Footnotes

(1) "… every individual endeavour to employ his capital as near home as he can, and consequently as much as he can in the support of domestic industry; provided always that he can thereby obtain the ordinary, or not a great deal less than the ordinary profits of stock." Adam Smith, ***An Inquiry into the Nature and Causes of the Wealth of Nations***, Book I, Chapter X, edited by Edwin Cannan (New York: Modern Library, 1937). p.497.

(2) "To produce the wine in Portugal, might require only the labour of 80 men for one year, and to produce the cloth in the same country, the labour of 90 men for the same time. It would therefore be advantageous for her to export wine in exchange for cloth. This exchange might even take place, notwithstanding that the commodity imported by Portugal could be produced there with less labour than in England. Though she could make the cloth with the labour of 90 men, she would import it from a country where it required the labour of 100 men to produce it, because it would be advantageous to her rather to employ her capital in the production of wine, for which she would obtain more cloth from England, than she could produce by diverting a portion of her capital from the cultivation of vines to the manufacture of cloth." David Ricardo, *On the Principles of Political Economy and Taxation* (Cambridge: Cambridge University Press, 2015), 134–135. For a detailed explanation of the theory and its mathematical verification, see, for example: P. Kenen, ***The International Economy*** (Cambridge University Press, 2000), pp. 44–69.

(3) David Ricardo, ***On the Principles of Political Economy and Taxation***, p.138,

(4) Such a viewpoint is not only consistent with logic and reality, but also aligns with Ricardo's own doctrine; for, according to Ricardo: if the price of a barrel of wine in England is £50, and the price of a quantity of cloth is £45, while in Portugal the price of a barrel of wine is £45 and that of a quantity of cloth is £50, the wine will be exported to England with a profit of £5, and the same amount of profit will be obtained when the cloth is exported from England to Portugal. See: Ricardo, ***Principles***, p.139.

(5) Karl Marx, ***Capital: A Critique of Political Economy***, Volume I, Part Four, Chapter 10, translated by Ben Fowkes (London: Penguin Classics, 1992). p.198.

(6) Ludwig von Mises, ***Economic Policy: Thoughts for Today and Tomorrow***, Third Edition (Alabama: Ludwig von Mises Institute, 2006), p. 18.

(7) This phenomenon has long concerned those who benefited from this exploitation. Consequently, after the independence of the colonies, he has worked relentlessly—especially through his international financial and monetary institutions—to destroy this advantage previously enjoyed by the colonized regions! Forcing underdeveloped countries, by all means, and especially through forcing them into heavy debt, to adopt floating exchange rates has been the most suitable method employed by international capital to exhaust these low-income and limited-resource economies. When prices rise in underdeveloped regions, dependency on the outside world increases—since incomes do not rise in tandem with the price increases caused by currency liberalization. As a result, poverty rates rise, meaning, simply put, the inability to obtain basic needs whose prices have increased as a monetary expression of their value—values which have not changed at all! This leads society as a whole toward further dependence after losing its ability to reproduce its social structure without submitting to the centers of political decision-making in the advanced parts of the global capitalist system.

(8) For example: Arghiri Emmanuel, *Unequal Exchange: **A Study of the Imperialism of Trade*** (New York: Monthly Review Press, 1972). Samir Amin &

J. Saigal, ***L'échange inégal et la loi de la valeur: la fin d'un débat*** (Paris: Éditions Anthropos-IDEP, 1973).

(9) "It is impossible to establish economic laws for international economics. That is why I believe Marx did not write about the global economy." See: Samir Amin, ***The Law of Worldwide Value*** (New York: Monthly Review Press, 2010), p. 101.

(10) The comrades of the Left, after abandoning political economy and declaring it incapable, in their view, of explaining exchange at the global level, affirm their ideology instead: "We have disagreed in the past and will continue to disagree, but what unites us is our opposition to imperialism!" See: S. Amin, ***The Law of Worldwide Value***, p. 110.

(11) ""When any expensive machine is erected, the extraordinary work to be performed by it before it is worn out, it must be expected, will replace the capital laid out upon it, with at least the ordinary profits. A man educated at the expense of much labour and time, to any of those employments which require extraordinary dexterity and skill, may be compared to one of those expensive machines. The work which he learns to perform, it must be expected, over and above the usual wages of common labour, will replace to him the whole expense of his education, with at least the ordinary profits of an equal capital. It must do this, too, in a reasonable time, regard being had to the very uncertain duration of human life, in the same manner as the work done by the machine, over and above what is necessary for defraying the occasional expense of repairs, must replace, within a reasonable time, the whole price of the machine." See: Adam Smith, ***An Inquiry into the Nature and Causes of the Wealth of Nations***, Book I, Chapter X, edited by Edwin Cannan (New York: Modern Library, 1937). See also: Jean Baby, ***The Basic Laws of Capitalist Economics***, trans. by Sherif Hetata et al. (Beirut: Dar al-Qalam, 1970), where he discusses the cost of education and training, according to Marx, who pointed to: "The costs of education as part of the values spent on the production of labor power." See: Marx, ***Capital***, Volume I, Part Two, Chapter 4. Yet political economy, after the classics and Marx, has only considered stored labor in relation to machines—and rarely extends its laws to the human machine! This neglect of the human effort stored in the worker himself is a consistent tradition in political economy: it focuses only on what is needed to keep the worker alive and producing, without accounting for the socially necessary energy required to reproduce the working class itself—to produce a person who can be thrown into the labor market. On this neglect, see, for instance: Rosa Luxemburg, ***The Accumulation of Capital*** (1963); André Gunder Frank, ***The Development of Underdevelopment*** (1966); Oskar Lange, ***Political Economy*** (1966); Brown, ***International Trade and Imperialism*** (1967); Emmanuel, ***Unequal Exchange*** (1972); ***Profit and Crises*** (1974); Piero Sraffa, ***Production of Commodities by Means of Commodities*** (1973); Ernest Mandel, ***Marxist Economic Theory*** (1973); Kay, ***Development and Underdevelopment*** (1975); Anderson, ***Studies in the Theory of Unequal Exchange*** (1976); Maurice Dobb, ***Studies in the Development of Capitalism*** (1978); Zeljko, ***International Value*** (1980); Samir Amin, ***Accumulation on a World Scale*** (1978); ***Law of Value and Historical Materialism*** (1981); ***The Future of Maoism*** (1982).

(12) The African worker, from birth until he holds tools and raw materials in hand, costs only a few scraps of bread, contaminated water, dilapidated shelter, colonial-distorted education, and so forth. All of this can be calculated with scientific precision using units of expended energy expressed in calories—from birth to death—not only for the African worker but also for the European worker who, before and after being thrown into the labor market, eats, studies, receives medical care, enjoys leisure, etc., along with his class, at a level far superior to that of the poorly manufactured African worker.

(13) By "Necessary Calorie" (N.C.), I propose a unit of value that seeks to overcome the epistemological limitation deeply rooted in classical political economy, which, from Smith to Marx, consistently reduced value to abstract labor time. Within this tradition, time was treated as a neutral, universal, and objective metric for labor, regardless of its type, intensity, or social cost. Yet, time in itself is not energy—it is merely an external container in which labor takes place, without expressing its actual substance. In contrast, the Necessary Calorie is a materialist and objective measure based on the concept of socially necessary energy: the real effort expended to produce a commodity under historically and socially determined conditions. This energy is measurable and comprises not only the direct labor performed during production, but also the stored labor embedded in tools, machines, and raw materials, as well as the surplus labor that remains uncompensated and constitutes surplus value. Consequently, value can be reformulated not merely as a function of time, but as the quantity of socially necessary energy expended in production, divided by the time required to complete the process. This relationship is expressed in units of Necessary Calorie (N.C.), thereby transforming value into a quantifiable mass of energy rather than a mere temporal duration. Such a reformulation enables a reconstruction of value theory on a physically grounded and measurable foundation—one that accounts for real disparities in productive conditions across different economies, beyond nominal prices and surface-level market phenomena. The core fallacy of classical value theories lies not only in reducing value to labor time, but in the deeper illusion that time itself generates value. To claim that a commodity is worth five hours of labor merely states the duration of its production, not its value in terms of socially necessary energy expended. In this sense, time conceals rather than reveals the essence of labor. Any valid theory of value must therefore return to the concrete energy embedded in the act of production, rather than rely on an external, indifferent, and ultimately abstract metric such as time. A comprehensive theoretical elaboration of this framework—including its formal equations and methodological foundations—can be found in my study: Zaki, Muhammad Adel. "***Value / Time: An Essay on the Principles of Political Economy***." African Journal of Economic Review, Vol. 13, No. 2 (June 2025).

(14) For the full article, see:

Hickel, Jason, Morena Hanbury Lemos, and Felix Barbour. "***Unequal Exchange of Labour in the World Economy***." Nature Communications 15, no. 1 (2024): Article 6298. https://www.nature.com/articles/s41467-024-49687-y#Sec2

(15) According to the applications of the law of value, the (value) of the iPhone will be expressed through the wage of the Indian worker, not the American one, in accordance with the prevailing productive art, which produces the same commodity with a lesser quantity of socially necessary energy. Consequently, when exchange takes place, it does so according to this general application of the law of value. In other words, the exchange occurs on an equal basis. The inequality imagined by its proponents is, in its essence, nothing but a leakage of value toward the advanced parts of the world that monopolize the technology of the products upon which the underdeveloped parts depend for the reproduction of their social existence. Even with this monopoly—and leaving aside here the chronic problem of rising prices—the exchange between commodities will still occur on an equal basis. Let us suppose, for instance, that the Indian worker who produces the iPhone wishes to exchange his product (USD 2,000 / 50 hours of labor) for the television produced by the American worker (USD 6,000 / 50 hours of labor). In order to obtain the television, he would have to transfer 150 hours of labor. Yet here, together with Hickel and his colleagues, we are assuming—contrary to the most basic principles of the law of value—that one hour of Indian labor equals one hour of American labor! This assumption rests on the use of an entirely unsound measure of value, namely the number of labor hours—a measure whose error becomes clear once we apply the correct measure, that of the Necessary Calorie (N.C). The Indian worker costs less than the American worker in terms of socially necessary calories (upbringing, healthcare, food, leisure, education, training, etc.) required to bring him into the labor market. In that case, we can see that the value of the Indian worker's labor power amounts to one third of that of the American worker's labor power, and thus the exchange becomes equal at the level of value.

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