**Yang Heping: Critique of "Unequal Exchange" Theories by Arghiri Emanuel & Samir Amin: Marxist Labor Theory of Value in International Trade**

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**Summary**

Differences in labor value are the source of huge profits in international trade. The so-called "unequal exchange" theory that is currently popular in academia in the West has distorted the Marxist labor theory of value, replacing the subject of exploitation from imperialist monopoly capital with the working class of the great powers. It advocates that the high wages and high "welfare" of the working class in developed countries are the result of the empire states using the excess profits obtained from exploiting the third world through "unequal exchange" to bribe the working class of the great powers. However, the value of a commodity is determined by the socially necessary labor time required to produce it, and the scope of "society" is determined by the scope of labor mobility. Therefore, as long as labor does not flow internationally, the value of the commodity will not have an international standard, and the value of labor will also have no international standard.

The labor theory of value related to the international trade means that the value of a commodity will not be higher than the socially necessary labor time required for the importing country to produce the same commodity domestically, and the value of labor will not be higher than the socially necessary labor time required for the commodity producing country to maintain the reproduction of labor (working men and women) domestically. The huge difference in labor productivity and labor value between trading countries has created advantage conditions for the bourgeoisie, which controls the means of production, to obtain temporary excess profits in international trade.

**Arghiri Emanuel and Samir Amin**, who have first proposed the theory of "unequal exchange", denied that under the condition of labor mobility, the market that determines the value of commodities and the market that determines the value of labor are often different markets.

Instead, **Arghiri Emanuel and Samir Amin** have started from the international standards of socially necessary labor time and labor value, and made a fuss about production prices, violating the premise of the production price mechanism, and regarded the unequal labor exchange that inevitably resulted from the **difference in production prices** as the source of the exploitation of the third world by developed countries. As a result, they actually concealed the real mechanism for generating excess profits, which lies in the monopoly of resources, technology and markets by imperial monopoly capital. This use of the moral standard of "inequality" to accuse imperialism is hollow and non-Marxist. This article focuses on analyzing a simple commodity production and exchange model, and explains the relationship between differences in labor value, trade ratios, living standards, and average profit rates among trading countries. It reveals how the bourgeoisie obtains excess profits through the internationalization of commodity production and exchange, and explains that even in the absence of resource, technology, and market monopoly, international trade can still lower the value of labor in various countries, increase the exploitation of labor, and expand the number of unemployed people in various countries. It also increases the absolute living standards of the labor force while increasing the rate of surplus value and profit rate, and thus we can refute the pseudo-Marxist theory of "unequal exchange" that is still popular today.

This article is only the beginning for studying the characteristics of modern imperialism. There are a series of issues that need to be explored step by step in the future.

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Preface

Today, the imperialist hegemony is intensifying, and some social imperialist Marxists are trying to create confrontations among the working classes of various countries. On the surface, they strongly condemn the plunder of the Third World by the great powers, but in reality, they are providing cannon fodder for the imperialist hegemony. They claim that the high wages and high "welfare" of the working class in developed countries are the result of the excess profits obtained by the empire from exploiting the Third World through "unequal exchange" to buy off the imperial working class, and replace the subject of exploitation from the imperial monopoly capital with the working class of the great powers, and use this to hostile the workers' movement in Europe and the United States, which has been growing stronger recently. They are afraid that the workers around them will follow suit and hinder the progress of the imperialist hegemony, and spare no effort to destroy the unity of the proletariat around the world.

They use the theory of "unequal exchange" to oppose Marx's theory of surplus value, covering up the real mechanism of exploitation. These filial sons and grandsons of Kautskyism, in the same vein as the populist right-wing are turning the anger of the working class against cruel exploitation from the monopoly capital groups that directly exploite them to other powers competing for hegemony. They preached that once their country rose and "entered the pass" to become an empire, the workers could also "benefit from it", thereby encouraging the proletariat of various countries to kill each other for imperial hegemony. To this end, it is necessary for us to explain the basic laws of labor value theory in international trade, recognize the specific channels through which monopoly capital exploits the working class of various countries in the world to obtain excess profits, so as to see through this mistaken "unequal exchange" theory in the guise of “Marxism-Leninism”.

Like the "center and periphery" theory, the "unequal exchange" theory based on countries analyzes international trade from the perspective of circulation rather than production. Therefore, it avoids the question of how the monopoly bourgeoisie obtains surplus value and excess profits in the production field, conceals the true destination of surplus value and excess profits in international trade, and conceals the mechanism of the rise of China's coastal export trade new richening. Therefore, the "unequal exchange" theory is actually an anti-Marxist doctrine. Scholars who originally proposed the "unequal exchange" theory, such as Arghiri Emmanuel and his successor Samir Amin, are progressive scholars who were influenced by Marxism, stood on the side of the Third World, and opposed capitalism and imperialism.

However, they do not agree with the basic principles of Marxism in many places. In particular, Emmanuel tried to circumvent the imperialist monopoly on resources, markets, and technology in his 1972 English version of **book "Unequal Exchange: A Study of Imperialist Trade".**

On the one hand, he denounced the fallacy of mainstream economics on international trade, but on the other hand, he mistakenly applied Marx's theory of production prices to international trade and regarded it as the fundamental way for imperialism to plunder the Third World. In his book, Arghiri Emmanuel directly denied that the value of labor was determined by the cost of labor reproduction, and he regarded wages as an independent variable that could be independent of the cost of labor reproduction, and insisted that the increase in wages in a country must be based on the exploitation of workers in other countries. His views were severely criticized by Charles Bettelheim at the time. These academic controversies of the time have very important guiding significance for the revolutionary practice in today's world.

Although in the eyes of scholars such as Emmanuel and Amin, it is the capital groups of the great powers that set up sweatshops (çalışma şartları kötü işyeri) in the Third World, and therefore, it is more or less relevant and true to regard "unequal exchange" as the root of exploitation, the characteristics of today's era are very different from the era studied by these scholars. The shortcomings of this theory have been exploited by the social imperialists of the rising countries and transformed into an anti-Marxist doctrine, which then conceals the huge profits of the emerging monopoly capital groups in international trade and complains about the so-called "unfair treatment" they are facing.

In fact, the imperialists’ long-lasting excess profits in international trade are mainly obtained through the monopoly of technology, markets and resources, rather than through so-called “unequal exchange.” Using the latter to calculate the “excess profits” obtained by the empire and regarding “unequal exchange” as the source of exploitation violates the most basic Marxist labor theory of value. For example, one specific reason given by one apologist for the new social imperialism for why the emerging powers cannot be empires is as follows:

**“Becoming a core advanced developed capitalist country means exchanging one unit of domestic labor for multiple units of foreign labor. China's current exports contain about 90 million man-years of domestic labor. If China were to exchange one unit of domestic labor for four units of foreign labor, as the United States does, then China's imports would have to contain 360 million man-years of foreign labor. The labor contained in all the world's exports is less than 500 million man-years, and it is impossible to find such a large area to import so many man-years of labor into China**”. (See "A Criticism of the "Chinese Imperialism Theory")

The logic here is very strange. Why would a core power insist on such a large-scale export? What's wrong with exporting less and importing more, and enjoying to get tribute from all over the world?

It can be seen from this that they are either stupid or bad, either really don't understand, or pretend not to understand the source of surplus value. In the final analysis, their calculation method is to use the labor time contained in the trade between the two parties to measure whether it is an "equal" exchange. This calculation method basically ignores the difference in production methods: labor-intensive or capital-intensive method, and the huge difference in labor productivity caused by this difference. The Marxist labor theory of value has long refuted the fallacy that "the more inefficient the production, the higher the value of the product", so this "unequal exchange" calculation method has nothing to do with Marxism.

In fact, this analytical method is the basis for Western mainstream economics to attack the Marxist labor theory of value, and it is a malicious distortion of the labor theory of value. At the risk of being too wordy, I will analyze this issue in more detail below.

1. A Brief Discussion on the Source of Surplus Value

The Marxist labor theory of value does not believe that the products of inefficient producers contain more value, nor does Marxist labor theory believe that efficient producers "exploit" inefficient producers, such as the capitalists of the mechanized spinning mill "exploiting" the hand-weaving women. On the contrary, in a market that has not yet formed a monopoly, a commodity has only one value, which is the socially necessary labor time to produce the commodity within the market. If there is no trade between different countries, then the socially necessary labor time of specific commodities in each country is basically determined by the average labor productivity of the country producing the commodity.

The efficiency of different producers in producing the same commodity can of course be completely different, which is based on natural conditions or artificial differences. For example, the labor productivity of agricultural production is constrained by natural conditions, and the labor productivity of industrial production is constrained by proficiency and technical conditions. For each producer, some spend more time than the average, and some spend less time than the average. Therefore, the more efficient ones can obtain excess profits that exceed the average, while the less efficient ones will suffer relatively.

For example, to produce the same tonnes of corn, using oxen and hoes may take a month of labor time, while using tractors and combine harvesters may only take one day of labor time. If a clothing producer exchanges with a corn producer, the value of the corn obtained by exchanging the same amount of clothing is exactly the same. The 1 ton of corn produced by efficient producers on average in a day cannot be exchanged with the 60-plus kilograms of corn produced by inefficient producers on average in a day; similarly, clothing producers will not exchange more clothing for a small amount of corn out of sympathy for inefficient corn producers. The same 1 ton of corn exchanged for clothing will inevitably yield the same amount of clothing, so efficient corn producers will obtain more clothing through exchange for one day's labor than inefficient producers. This surplus wealth is not obtained by "exploiting" inefficient producers, but because the material wealth created by efficient producers in a day, whether calculated in terms of corn or clothing, is greater than that of inefficient producers. The exchange between efficient and inefficient producers cannot be the exchange of equal amounts of labor. This is the basic logic of commodity exchange.

WE CANNOT USE ETHİCAL, MORAL STANDARD

It can be seen from this that using the moral standard of "unequal exchange" to analyze international trade, the so-called "equality" concept lacks an objective standard and is completely non-Marxist. If the exchange of equal amounts of labor is "equal", then this concept means that whether it is 1 ton or more than 60 kilograms of corn, it is "equal" to exchange with equal amounts of clothing.

**How can there be equality if the labor productivity is different?**

Either equal amounts of labor are exchanged, or equal amounts of corn are exchanged, and you can't have both. Just like the bourgeois slogan of "fairness, justice, equality", this kind of concept is ultimately idealistic, and using moral criticism to accuse imperialism is pale and powerless.

**So, how is the staggering accumulation of wealth and the actual exploitation of capitalism achieved?**

This is the secret of surplus value. Surplus value is not obtained through violent expropriation, as Mr. Dühring shouts, nor is it obtained by the great powers through "unequal exchange", as the new social imperialists indignantly condemn. It seems necessary to explain and popularize the source of surplus value. One of Marx's great discoveries, the theory of surplus value, reveals the way in which surplus value is generated under the conditions of equal value exchange. The fundamental reason for the generation of surplus value is that the value created by a worker in a certain period of labor is greater than the value contained in the products and services needed to maintain the worker's survival in the same period.

In principle, wages are the price of laborers as commodities, or the price of labor, and the socially necessary labor time contained in the commodities that wages can buy is the value of labor; in other words, wages are the monetary form of the value of labor. The value of this labor is the labor time required to maintain the reproduction of labor, that is, the labor time contained in the products and services consumed by each laborer in food, clothing, housing, transportation, medical care, education and training, raising children, supporting the elderly, etc.

Just as how much work a horse can do and how much it is worth are two different things, surplus value is generated because the labor time that a labor force can provide or sell in its lifetime is greater than the total labor time consumed to maintain the survival of this labor force as a commodity. Talking about "exploitation" without analyzing surplus value is idealistic nonsense. If the entire production process is completed in one country, then although the value created by workers in one day is greater than the value of labor as a commodity, what workers sell to capitalists is only the value of labor as a commodity, so it is still a process of equal value exchange. **The source of profit is the difference between the value created by labor and the value of labor as a commodity in the same period of time. In other words, if the average net output value that a capitalist boss expects to hire a worker, or the value that a worker can create in one day is 1,000 dollar, and the average daily consumption to maintain the survival and reproduction of a worker is 500 dollar, then the surplus value of one day is 500 dollar.**

Even according to the marginal output theory of mainstream bourgeois economics, when the marginal net output value of the boss hiring the last worker (that is, when the means of production remain unchanged, if more workers are hired, the value created by the last newly added worker will decrease) is equal to the value of labor, the difference between the average net output value and wages is still huge. Therefore, when the price and value are equal, that is, under the condition of no monopoly, the capitalist boss earns the average difference between the socially necessary labor time and the value of labor, or the average profit.

Next, we will first explore why, without the monopoly condition, commodity exchange within a country results in the exchange of unequal amounts of labor. Then, we will further explore why, without monopoly conditions, the exchange of equal values ​​in international trade still results in the exchange of unequal amounts of labor. In this way, we will reveal that the real source of surplus value, whether domestic or international, does not come from the so-called "unequal exchange."

**2. The production price mechanism inevitably leads to unequal labor exchange**

In a country, the advantage of efficient producers often comes from the efficiency of production tools, which is what mainstream burjuva economics calls a capital-intensive mode of production. The so-called "unequal exchange" theory regards the unequal labor exchange that inevitably occurs between capital-intensive and labor-intensive production as an exchange that leads to "exploitation." However, the trend of equalization of profit rates will inevitably lead to such a phenomenon: **when the value of commodities is equal, the price of capital-intensive products must be higher than that of labor-intensive products. Therefore, the exchange of products of equal price is neither an exchange of equal value nor an exchange of equal living labor. Marx called the price caused by this profit equalization the production price.**

For example, the exchange of vegetables for staple food in China could be several kilograms of vegetables for one kilogram of grain before mechanization, but now it is several kilograms of grain for one kilogram of vegetables. Compared with grain, the price of vegetables has risen. So according to one view of international trade, is this a "deterioration of trade conditions"? If there is no monopoly of capital on resources, markets and technology, and without changes in labor productivity, it is meaningless to talk about changes in the so-called "trade conditions".

The reason for this change is that the rate of increase in labor productivity in staple food production is much greater than that in vegetable production. Relatively speaking, staple food production is capital-intensive, while vegetable production is labor-intensive. Under capitalist conditions, the exchange between the two cannot be an exchange of equal labor. The price of capital-intensive production must be higher than its value in order to obtain profits equal to those of labor-intensive production, otherwise there will be no capital-intensive production. There is no "exploitation" of labor-intensive capital by capital-intensive capital, and there is not even excess profit. However, according to the calculations of "unequal exchangers", even if the price of vegetables has risen relative to staple food, the capitalist bosses who produce staple food still "exploit" the bosses who produce vegetables, because the exchange of equal prices between the two is not the exchange of equal labor.

1. Production price model

To illustrate this issue more clearly, we can use a simple model to examine the impact of asynchronous changes in labor productivity of two types of crops on value and price. For ease of description, we can divide the total daily output into three parts: fixed assets (materialized labor), wages (labor value) and profits (surplus value). The value created by daily labor time (i.e., net output value) is composed of wages and profits, and does not include materialized labor, because the value of the latter is only transferred to the total output value. Whether it is the capitalists who produce vegetables or staple food, they always look at productive investment from two perspectives. **1) Investment in means of production, such as raw materials, production tools, equipment, seeds, land, etc., which are materialized labor; 2) Investment in labor, that is, wages as the value of labor.**

The combination of the two is cost. The profit of industrial capitalists is the surplus after deducting these costs.

In this case, we can assume that before mechanization, 500 kilograms of vegetables and 100 kilograms of staple food contained the same socially necessary labor time. If the value of labor is 50% of net output at this time, and the share of fixed assets (fixed capital) before mechanization is almost negligible (accounting for only 1% of net output), and the capital intensity is the same, then the profit per day is 250 kilograms for vegetables and 50 kilograms for staple food, and the profit rate (the proportion of profit to cost or investment, and investment consists of fixed assets and wages) is (250/255=50/51=) 98% (see Table 1).

After mechanization, if 1,000 kilograms of vegetables and 5,000 kilograms of staple food both require one day of socially necessary labor time, but the growth in labor productivity of staple food is much greater than that of vegetables (see Table 2), the original same profit margin cannot be maintained.

**The motivation of capitalists to promote mechanization is to increase the profit rate.** If the workers' real wages do not change after mechanization, then the bosses of both vegetable and staple food production will greatly increase their profit rate. The original wage equivalent of 250 kilograms of vegetables (that is, the total amount of vegetables purchased by the monetary wages used to purchase living materials is 250 kilograms) is only 25% of the net output after mechanization. If the fixed assets of vegetable production account for 10% of the net output, then the profit rate is expected to increase to about (750/(250+100)=) 214% (see Table 3). Similarly, the original wage equivalent of 50 kilograms of staple food (that is, the monetary wages equivalent to 50 kilograms of staple food) is only 1% of the net output after mechanization. If the fixed assets of staple food production are higher than those of vegetable production, reaching, for example, 25%, the profit rate is still expected to be as high as (4950/(1250+50)=) 381%.

If the monetary price of one day's labor time is 1,000 dollar after mechanization and the labor force is not mobile, then the profit rate will be the same whether calculated in kind or in money, except that the capital-intensive model will have higher profits (see Table 3).

However, this profit rate calculated based on the lower limit of labor value (i.e., maintaining the workers' original wages in kind) is unsustainable. The wages for producing staple food cannot be maintained at 1% of output. The flow of labor will inevitably lead to the convergence of labor value, at least to 25% of output, that is, the level at which the wages in kind for vegetable production remain unchanged.

At this moment, the share of fixed resources in producing vegetables is 10% of the net output, or 100 kilograms of vegetable equivalents, and the share of fixed resources in producing staple food is 25% of the net output, or 1,250 kilograms of staple food equivalents. The value of labor is 25% of the net output, that is, 250 kilograms of vegetable equivalents, or 1,250 kilograms of staple food equivalents.

Then the profit of vegetables = 1000 net output - 250 wages = 750 catties, and the profit margin = 750/(250+100) = 214.3%; and the profit of staple food = 5000 net output - 1250 wages = 3750 catties, and the profit margin = 3750/(1250+1250) = 150%, which is far lower than the profit margin of labor-intensive industries (see Table 4).

Regardless of whether the labor force is mobile or not, the value of one day's staple food production is now 6,250 kilograms of staple food equivalents. According to the (daily output) ratio of 1:5.68, the value of vegetables is (6,250/5.68=) 1,100 kilograms of vegetable equivalents. Therefore, the total output of one day's staple food can be exchanged for one day's vegetable production. Although the shares of fixed assets are different, the exchange of equal value is still the exchange of equal living labor.

The equalization of profit margins requires that the net output price ratio of vegetables and staple food be higher than 1:5, or the output price ratio be higher than 1:5.68. Since both labor and capital are mobile, that is, both will turn to the industry that is most beneficial to them, the equalization of profit margins only affects the prices of vegetables and staple food, and does not affect the value of labor and the share of fixed assets. The profit margin of vegetables or staple food is the balance of its production price-cost divided by the cost (=fixed assets + wages), so we can obtain the specific multiplier of the value of vegetables and staple food to the production price by solving the following quadratic equation. Let b be the ratio of the deviation of the price of vegetables and staple food from the value. From the above table, we know that:

Solving the equation, we get b = 0.892, or the output price ratio of vegetables to staple food is 1:7.14 (=5.68×44/35). In this case, the production price of vegetables (in terms of the value of vegetables = 1100×0.892=) is 981 jin, which is lower than its value, while the production price of staple food (in terms of the value of staple food = 6250/0.892=) is 7007 jin, which is higher than its value. In other words, only by "sharing" part of the surplus value of vegetable producers with staple food producers can the two types of capitalists with different labor productivity obtain the same profit rate (see Table 5).

After the profit margins are equalized, the production price of one day's staple food production is now 7007 catties of staple food equivalents. According to the (daily output) ratio of 1:5.68, the production price of vegetables is (7007/5.68=) 1234 catties of vegetable equivalents, while the production price of vegetables for one day is only 981 catties of vegetable equivalents. Therefore, one day's staple food production can be exchanged for (1234/981=) 1.26 days of vegetable production. The exchange of equal prices is neither an exchange of equal value, nor an exchange of equal living labor.

In this example, the increase in labor productivity leads to the following results:

1. The value of labor has dropped from 50% of net output to at least 25%, and exploitation has increased.

2. The rate of surplus value (surplus value/wages) increased from the original (250/250 = 50/50=) 100% (see Table 1) to (750/250 = 3750/1250=) 300% (see Table 4).

3. The profit margin increased from 98% (see Table 1) to 180% (see Table 5).

4. The living standard of the labor force has improved. Although the value of labor force before and after is 250 catties equivalent to the value of vegetables, the physical value converted according to the production price has increased from 250 catties to (250/0.892=) 280 catties equivalent. The value of labor force calculated according to the staple food has also increased from 50 catties to (1250×0.892=) 1115 catties equivalent. This behavior of "sharing" or "transferring" surplus value within the bourgeoisie class for the purpose of equalizing the rate of profit, in the perspective of the "unequal exchange" theory represented by Arghiri Emanuel, becomes an act of "exploitation" of another bourgeoisie by one class of bourgeoisie. However, even vegetable producers would not see the redistribution of surplus value obtained from exploited laborers to staple food producers as "exploitation" of themselves. **In the eyes vegetable producers, equalizing the rate of profit is "fair".**

In fact, this phenomenon of "sharing" or "transferring" surplus value is common within the bourgeoisie. For example, industrial capital generally has to "share" or "transfer" part of the surplus value obtained from its exploitation of labor to commercial capital, which is why there is a difference between wholesale and retail prices. However, from the perspective of today's unequal labor exchange equals "unequal exchange", the difference between wholesale and retail prices may be evidence of "exploitation". **This shows how subjective, vulgar and absurd the definition of exploitation is, by these non-Marxists!**

**2. Scope of application of the production price theory**

From the above examples, we can see that under the condition that capital and labor are both mobile within a country, when there are differences in labor productivity due to differences in capital intensity of different products, then the equalization of profit rates must be achieved through the mechanism of production prices. However, once there is a situation where only capital flows and labor cannot flow, such as during the apartheid period in South Africa or the slavery period in the United States more than a hundred years ago, does the unsustainable huge difference in profit rates of the two different industries reflected in Table 3 (214% for vegetables and 381% for staple food) also need to be achieved through production prices?

The equalization of profit margins requires the convergence of cost ratios. If the cost ratio of vegetable production remains unchanged, there are two extreme values ​​that can be considered for the convergence of staple food production costs and vegetables. One extreme is that the wage in-kind remains unchanged, which is achieved by increasing the fixed asset ratio to 45% or 2,263 kilograms of output equivalent, that is, on the one hand, the labor value is compressed from 50% of the output to 1%, and on the other hand, fixed assets are used more luxuriously (the same output originally could have used 25% of the net output but used fixed assets accounting for up to 45%). The other extreme is that the fixed asset ratio remains unchanged, and the wage ratio is compressed from 50% to only 15% (see Table 6). In this case, the cost ratio is 31.8%.

This example at least shows that if labor does not flow within a country, then the equalization of profit rates does not need to be achieved through the production price mechanism. Therefore, the existence of the production price mechanism must at least meet the following four conditions: different products, different capital intensities, and the flow of labor and capital. None of them can be missing.

**Mistakes made by Arghiri Emmanuel and Samir Amin**

One of the mistakes made by Arghiri Emmanuel, Samir Amin and others was that they transplant the production price mechanism to international trade where labor was not mobile, which violated the prerequisite for the emergence of the production price mechanism. Not only them, but all the literature in China that makes a big fuss about production prices has this fundamental fallacy. These literatures ignore the four prerequisites of the production price mechanism and wrongly apply the production price mechanism to study international trade.

**3. Differences in labor productivity inevitably lead to unequal labor exchange**

As mentioned above, the exchange of efficient and inefficient production cannot be the exchange of equal labor; similarly, **trade between countries with different labor productivity cannot be the exchange of equal labo**r. **Comparative advantage exists objectively. Differences in labor productivity are often the result of technology and resource monopoly.** Recognizing comparative advantage does not mean maintaining comparative advantage. Only by breaking the monopoly of technology and resources can we change comparative advantage and hope to achieve the exchange of equal labor.

For example, the United States has established a large number of sweatshops (çalışma şartları kötü işyeri) in the export processing zones in northern Mexico to produce labor-intensive products such as clothing and electronics in order to obtain huge profits. The direct source of the huge profits is the huge difference in wage levels between the United States and Mexico. The wage difference is mainly determined by maintaining the level of reproduction of the working class, which is based on labor productivity. The labor productivity mentioned here is the overall and comprehensive maintenance of all aspects of labor reproduction, rather than the labor productivity of a specific industry.

**1. The higher the capital intensity, the higher the labor productivity**

If we consider the two major sectors of social production, that is, the production of consumer goods (the production of food, clothing, housing, transportation, etc. for the people) and the production of means of production (the production of machines, factories, infrastructure, etc. as production tools), the so-called capital-intensive countries are countries where the proportion of labor engaged in the production of means of production is relatively high in the total labor force and the labor productivity is relatively high. In such countries, workers engaged in the production of means of production, such as the production of fertilizers, pesticides, agricultural machinery and other intermediate products, account for a higher proportion.

At the same time, from the perspective of the industrial chain, almost every product of a country can be an intermediate product in the industrial chain, serving as the raw material or production tool for the next product. Therefore, in the entire production process of an industrial chain, the later the product is, the higher the capital intensity that the capitalist who produces this product is likely to rely on. **Therefore, the capital intensity of a country is in fact the length of its industrial chain, or the proportion of labor force producing intermediate products.**

If the production of oil extraction, extraction equipment and oil refining enterprises belong to different capital groups, then whether it is oil extraction enterprises using extraction equipment to extract oil or oil refining enterprises using crude oil as raw materials to produce gasoline, they all show a high degree of capital intensity. However, if machine manufacturing, extraction and oil refining belong to the same capital group, then its capital intensity will be greatly reduced. Similarly, from cotton planting, machine manufacturing, spinning, weaving to garment factories, from coal mining, steelmaking, machine manufacturing to automobile assembly, each enterprise individually, the further to the back end of the industrial chain, the higher the capital intensity may be, but from the overall perspective, the capital intensity is actually not high. It can be seen from this that, looking at the industrial chain as a whole, the difference in capital intensity between different final products is basically the difference in socially necessary labor time of the entire industrial chain.

**This difference in capital intensity is reflected in the difference in labor productivity between countries. Below we analyze the unequal labor exchange caused by this difference.**

**2. International Trade Comparative Advantage Model**

In order to clearly demonstrate the mistake and deviation of the so-called "unequal exchange" theory from the labor theory of value, we need to build a relatively typical simple international trade model to illustrate the problem. In order to simplify the description, this model is based on the absence of market monopoly, absence of resource monopoly, absence of technology monopoly, scale effect and technological progress, and assumes that the production of corn (which represents the production of various meats and other foods, including fertilizers, pesticides, agricultural machinery manufacturing, etc.) and clothing (including cotton, textiles and related machinery production, etc.) from raw materials to finished products is completed in a single one country.

Due to the superior agricultural production conditions and high degree of mechanization in the United States, the model can assume that American farm workers produce 10 tons of corn per day and garment factory workers produce 100 pieces of clothing per day, as shown in Table 7.

Then, leaving aside the difference in wages, from the perspective of socially necessary labor time, the socially necessary labor time for one ton of corn is equal to the socially necessary labor time for 10 pieces of clothing. In contrast, due to relatively poor natural conditions and simple labor tools, the model can assume that Mexican farm workers produce 0.1 tons (200 kilograms) of corn per day and Mexican garment factory workers produce 10 pieces of clothing per day. Then in Mexico, the socially necessary labor time for one ton of corn is equivalent to the socially necessary labor time for 100 pieces of clothing. In this case, the labor productivity of the United States is 100 times that of Mexico in corn and 10 times that of Mexico in clothing. (These are non-realistic data listed for the convenience of calculation)

At this moment, based on the difference in labor productivity, “clever” speculators in both countries may think that it is more cost-effective to exchange one ton of American corn for 50 pieces of Mexican clothing (any ratio between 10 and 100 pieces of clothing per ton of corn will generate trade. In the following analysis, we can see that the specific trade ratio is affected by the difference in the value of labor between the two countries under the condition of equalization of profit rate). Because Americans have changed from exchanging 10 pieces of clothing per ton of corn to 50 pieces of clothing per ton of corn, clothing has become relatively cheaper; Mexicans have changed from exchanging 100 pieces of clothing for one ton of corn to 50 pieces of clothing for one ton of corn, and corn has become relatively cheaper. The result of such trade is that 10 tons of corn in one working day in the United States can be exchanged for 500 pieces of clothing in 50 working days in Mexico, reflecting the average difference in labor productivity between the two countries caused by the difference in the degree of mechanization. **This is comparative advantage.**

According to the so-called "unequal exchange" calculation method, one working day in the United States is exchanged for 50 working days of Mexican products, or 49 working days of "wealth" are transferred to the United States, so the United States "exploits" Mexico. However, no matter how much socially necessary labor time is required to produce 100 pieces of clothing or 10 tons of corn in Mexico, it only takes 1 working day of socially necessary labor time in the United States. Due to the difference in labor productivity between the two countries, the material wealth created by the same working time is different, so "unequal exchange" cannot calculate the real wealth transfer.

The two parties doing trade do not agree with the perspective of "unequal exchange". They see that imported goods are relatively cheaper than their own products. Because one working day of American corn can produce 500 pieces of clothing from 50 Mexican garment factory workers, which used to be equivalent to five American working days in the United States. Now it only takes one working day. If wealth is really "transferred", it is not 49 working days, but four working days are saved.

In contrast, in the same trade, 500 pieces of clothing, which took 50 Mexican labor days, were exchanged for 10 tons of corn in the United States. In Mexico, the output was equivalent to 100 agricultural labor days, but now it only takes 50. Therefore, the similar wealth "transfer" from the United States to Mexico saves 50 labor days. From the perspective of the labor days saved by both sides, the amount saved by Mexico is far greater than that of the United States. **Then** **can we say that** **Mexico "exploiting" the United States?**

**3. International trade model without comparative advantage**

**If we ignore the analysis of labor productivity differences and argue about who "exploits" whom, we may come to absurd conclusions.**

This is not a Marxist analytical method. According to these people's thinking, the greater the difference in labor productivity between the two countries, the more serious the "unequal exchange" and the more "transfer" of material wealth. Therefore, if Mexican workers abandon sewing machines and switch to hand-made clothing, resulting in only one piece of clothing per day as shown in Table 8, then the "exploitation" of Mexico by the United States will be more serious, and **the "transfer" of material wealth to Mexico will be greater. B**ut in fact, at this moment, Mexico's clothing-corn ratio is the same as that of the United States, which is also 1 ton of corn = 10 pieces of clothing. If the difference in wages is not taken into account, the comparative advantage disappears, both sides will lose interest in "exploiting" each other, and trade between the two countries may end.

There is no other way to abolish this mutual "exploitation" caused by "unequal exchange" except to terminate trade or improve Mexico's labor productivity. Just as technological progress often leads to a decline in employment in a single industry, this capitalist international trade will inevitably lead to the unemployment of some workers in both countries. For example, the previous trade led to the unemployment of 4 American garment factory workers and 50 Mexican agricultural workers. However, terminating trade is like terminating technological progress, which is a historical reversal and is actually reactionary. The only way out is to improve Mexico's labor productivity.

**The root cause of the obstacles to Mexico's labor productivity improvement is the imperialist monopoly on technology and resources. American monopoly capital will never accept to cultivate competitors for its products in Mexico or anywhere else in the world.** They strongly oppose the spread of technology that endangers their monopoly and strive to protect the **so-called "intellectual property rights."**

If there is no monopoly on technology and resources, the Mexican bourgeoisie can quickly master new technology, and the difference in labor productivity between the two countries will not exist for a long time, and then the difference in wage levels will not exist for a long time, and temporary excess profits will be eliminated by the trend of equalization of profit rates. We have only demonstrated the absurdity of the “unequal exchange” perspective, but have not yet confirmed the source of surplus value and the destination of excess profits. **To reveal how the bourgeoisie makes huge profits through international trade, we also need to explore the role of differences in the value of labor in international trade.**

**4. Differences in labor value are the source of huge profits in international trade**

After analyzing how differences in production prices and labor productivity lead to the exchange of unequal amounts of labor, we can further study the manifestation of the labor theory of value in international trade, as well as the impact of international trade on the value of labor, impact of international trade on trade ratios, and impact of international trade on profit rates, thereby we can reveal the true source of surplus value and excess profits.

**Once there is trade between countries, the determination of the value of a commodity is no longer as simple as within a single country.**

Since the value of a commodity is determined by the socially necessary labor time, and the scope of this "society" is determined by the scope of labor mobility, **as long as the labor force does not flow internationally, the value of the commodity does not have an international standard, and the value of labor also has no international standard.** Although Marx briefly mentioned the concept of "international value" in Chapter 20 of Capital, "National Differences in Wages", Marx did not expand or prove it. Today it seems that "international value" does not exist except in Europe and the United States where labor is relatively mobile.

As long as trading countries have not yet become a unified market like the European Union, and as long as the flow of labor is not smooth, the market that determines the value of goods and the market that determines the value of labor are different markets. At this time, the value of a commodity will not be higher than the socially necessary labor time required for the importing or the consuming country to produce the same commodity domestically, and the value of the labor required to produce the commodity will not be higher than the socially necessary labor time required for the exporting or commodity producing country to maintain the reproduction of labor domestically. The huge difference in labor productivity and labor value between trading countries has created conditions for the bourgeoisie, which controls the means of production, to obtain temporary excess profits in international trade.

Therefore, international trade has greatly changed the amount of surplus value they can obtain, that is, it is possible to obtain excess profits. At the same time, as long as there is no monopoly on technology, as long as there is no monopoly market or resources, the equalization of profit rates can be achieved in international trade, and trade will basically be carried out in accordance with the principle of equal value exchange in the sense of labor value theory, and equal value exchange in international trade does not exclude the acquisition of excess profits, at least at the beginning of trade. However, as the volume of trade increases, competition will further eliminate excess profits (and may even cause prices to be lower than value, which I will not cover in this article).

This is actually just like within a country, if the labor productivity of different products in two regions of the country is different, then production will move to the region with relatively higher labor productivity. For example, those who grow staple food in mountainous areas cannot compete with those who grow vegetables in plains, and those in areas with poor transportation cannot compete with those in areas with developed transportation. The same is true between countries. Take the above-mentioned trade in clothing and corn between the United States and Mexico as an example. Once the two countries start trading with each other, the value of clothing, corn, and labor is no longer determined by the socially necessary labor time within each country, but by the socially necessary labor time of both parties as importing and exporting countries respectively.

**Below we will start from several different situations and explain this issue in more detail. For the sake of discussion, we need to assume the following conditions:**

**1. Only capital is flowing between trading countries, but labor does not flow;**

**2. Only clothing and food production represented by corn are considered in the clothing, food, housing and transportation of trading countries;**

**3. Half of the workers' money wages for purchasing living materials are spent on food, such as corn, and half on consumer goods such as clothing;**

**4. Not considering the phenomenon of short-term price deviation from value or price fluctuation caused by supply and demand;**

**5. Not considering transportation costs;**

**6. All investments in means of production (i.e. materialized labor) can be converted into output of labor time, so there is no distinction between capital-intensive and labor-intensive;**

**7. Therefore, the physical consumption of production tools, the cost of seeds, etc. can be converted into labor time input, so output = value equivalent.**

Perhaps we need to explain the last two assumptions. The reason for this is that we have already assumed that the production of corn (which represents the production of various meats and other foods, including the labor of fertilizers, pesticides, agricultural machinery, etc.) and clothing (including the labor of cotton, textiles, etc.) is completed in one country from raw materials to finished products. Therefore, the investment in the means of production of each intermediate product is the crystallization of the previous step of the industrial chain, that is, all the means of production can be reduced to the output of labor time. Therefore, the difference between so-called capital-intensive and labor-intensive industries is the difference in the length of the industrial chain, and capital-intensive industries must be industries with longer industrial chains.

Since we analyze international trade based on countries, we can imagine that an abstract capitalist owns the entire industrial chain, so we do not need to consider the difference between so-called capital-intensive and labor-intensive industries separately. The error of Arghiri Emanuel et al.'s "unequal exchange" theory is that they directly apply the difference between capital-intensive and labor-intensive products in a country's internal industrial chain to international trade, that is, they transfer the theory of production prices to international trade, and thus draw wrong conclusions. We will point out the error of this approach later.

**1. The impact of trade on the value of labor under the disparity of labor productivity**

For the sake of analysis, we first assume that before trade, the value or wage of American labor was 40% of output (i.e., the entire share of the industrial chain), and the value or wage of Mexican labor was 60% of output (because the lower the labor productivity, the higher the share of output left to the workers, otherwise the reproduction of labor will be unsustainable. In fact, this is not important, even if it is the same share, it will not affect the subsequent conclusions).

The specific share of these labor values ​​is often related to the intensity of class struggle. The greater the strength of the working class, that is, the stronger the organization and combativeness, the higher the proportion of labor value to output may be, and the two are positively correlated. And the increase in the proportion of labor value will help alleviate the crisis of overproduction. Otherwise, the smaller the proportion of labor value, the faster capital accumulation is likely to be, and the more rapid the arrival of the overproduction crisis.

With the value of labor, we can determine the profit rates in both countries before trade.

We can certainly change the parameters in the table to change the profit rates within the two countries. What we emphasize here is that since capital and labor can flow freely within a country, the profit rates are equalized, but the profit rates between different countries cannot be equalized without trade. At the same time, we can see that the monetary daily wage of a laborer in the United States can buy either 4 tons of corn or 40 pieces of clothing (both are 40% of output). That is to say, the cost of maintaining the reproduction of a worker can buy food worth 2 tons of corn equivalent and other daily necessities worth 20 pieces of clothing equivalent on average before trade. Similarly, the monetary daily wage of Mexican workers enables them to buy either 0.06 tons of corn or 6 pieces of clothing, or an average of 0.03 tons (60 kilograms) of corn and 3 pieces of clothing. The difference between the two reflects that the cost of labor reproduction in Mexico is much lower than that in the United States.

**1. How to get the first pot of gold**

If American capitalists build clothing factories in Mexico, they still use Mexico's relatively backward production methods, and then sell them back to the United States through trade at a rate of 50 pieces of clothing for 1 ton of corn. Therefore, the 500 pieces of clothing exchanged for 10 tons of corn produced by a US farm worker cost 300 pieces of clothing (i.e. 60% of the output) worth 50 Mexican laborers, which is equivalent to (300/100=) 3 tons of corn in Mexico (because the clothing-corn ratio in Mexico is 100:1), that is, the wages of 50 Mexican clothing factory workers are 3 tons of corn. Therefore, the profit obtained from this transaction is (10-3=) 7 tons, which is 5 tons more than the profit of (0.04×50=) 2 tons (see Table 9) created by 50 farm workers producing 5 tons of corn without trade. Regardless of what the original profit was used for, the extra 5 tons of profit now allows American capitalists to use it as the first pot of gold in order to hire (5/0.06=) 83.33 more clothing factory workers for expanded reproduction and capital accumulation.

This is the motivation for American capitalists to set up sweatshops (çalışma şartları kötü işyeri) in Mexico in order to obtain excess profits. From this we can also see that earlier scholars such as Arighri Emmanuel and Samir Amin who proposed the "unequal exchange" theory regarded this exchange as imperial exploitation of the Third World, which seems to be reasonable.

However, if the owner of the Mexican clothing factory exports the locally produced clothing to the United States, then the production of these 500 pieces of clothing is exchanged for the labor value of 50 workers who produce 10 tons of corn, which is still 3 tons in terms of corn, so the profit is still 7 tons, which is 5 tons more than the 2 tons of profit of 50 farm workers producing 5 tons of corn without trade. Similarly, the Mexican capitalists can use the first pot of gold from the 5 tons of profit to hire 83.33 more clothing factory workers for expanded reproduction and capital accumulation.

It can be seen that no matter who invests in Mexico, the amount of profit calculated in terms of corn is the same. From this we can also see the fatal flaw of the "unequal exchange" theory, that is, looking at the problem from the perspective of the country rather than the class.

As Bettelheim criticized in the appendix to Emanuel's 1972 English edition:

**It means that when low-wage countries adopt relatively modern technology, they can achieve very low production costs, so that they can obtain higher prices as long as international market prices do not change due to the sales of their products (in fact, prices can only change after a considerable period of time). This may have great practical significance, allowing initially poor countries to enter the process of large-scale industrialization if they are in "favorable conditions" (meaning only that domestic and foreign production relations can enable them to accelerate capital accumulation). This transformation puts previously poor countries where wages have always been relatively low in an advantageous position, and productivity in certain sectors can be increased on a large scale, which explains why some countries, such as Japan, have been able to successfully achieve very rapid capital accumulation and thus huge growth in industrial production beginning from very low levels of productivity and wages. (See Chinese version, page 293)**

We have to admire that Bettelheim has correctly seen the development prospects of rising countries half a century ago!

**2. Preliminary level establishment of trade ratios and unemployment figures for average profit rates**

The equalization of profit rates will first change the price ratio of clothing to corn, and then change the value of labor in the United States and Mexico. To do this, we first need to calculate the price ratio of clothing to corn under the condition of equalization of profit rates. The core principle of this calculation is that although the trade ratio is international, the cost is calculated according to the domestic ratio.

Let m be the clothing-to-corn ratio of trade, that is, how many pieces of clothing can be exchanged for one ton of corn. Then, according to Table 9, one ton of corn can be exchanged for m pieces of clothing, and the cost is (0.4×10=) 4 pieces at the US clothing-to-corn ratio of 1:10. In contrast, each piece of clothing in Mexico can be exchanged for 1/m tons of corn, and the cost is also (0.6/100=) 0.006 tons at the Mexican clothing-to-corn ratio of 100:1. The average profit margin requires

Solving the equation, we get m = (4/0.006)1/2 = 25.8, which means that every 10 tons of corn produced by an American farmer can be exchanged for 258 pieces of clothing, equivalent to the labor of 25.8 Mexican garment factory workers. The profit margin of formula (2) is ((25.8-4)/4=) 545%, which is a huge profit. However, as the trade ratio and labor value of the two countries change, the profit margin may increase further.

The impact of trade on employment in the two countries is different. According to this trade ratio, the trade of 10 tons of corn produced by each farm worker in the United States and 258 pieces of clothing in Mexico will only lead to (2.58-1=) 1.58 garment factory workers losing their jobs in the United States, while it will lead to (100-25.8=) 74.2 farm workers losing their jobs in Mexico.

The impact of trade on the value of labor, and thus on profits and profit rates, has two upper and lower limits that we need to examine. The upper limit is assuming that the value of labor in both countries can still maintain its original share of output after trade; the lower limit is assuming that the value of labor in both countries can still remain at the physical level before trade after the realization of trade.

**3. The trade-induced ceiling on the value of labor**

The upper limit of the value of American labor is 2 tons of corn and 51.6 pieces of clothing equivalent to 2 tons of corn, or 4 tons of corn (i.e. 40% of output). The profit calculated in terms of corn has not changed. However, in terms of clothing, it is equivalent to (4×25.8=) 103.2 pieces of clothing. The cost is greater than the output, the clothing factory goes bankrupt, and the workers lose their jobs.

This situation is not realistic. The reason is that as clothing becomes cheaper, workers' motivation to go to strike or change jobs will decrease. At the same time, as the unemployment of garment factory workers increases, capitalists will try every means to lower workers' monetary wages. Therefore, to maintain the cost of labor reproduction, even if the amount of corn remains unchanged, the amount of clothing will not automatically increase from the original living standard of 20 pieces to 51.6 pieces.

The upper limit of the value of Mexican labor is a combination of 3 pieces of clothing and (3/25.8=) 0.12 tons of corn, or 6 pieces of clothing (i.e. 60% of output). The profit calculated in terms of clothing has not changed. However, in terms of corn, it is equivalent to (6/25.8=) 0.23 tons of corn, which is greater than the daily output of Mexican labor on corn. Agricultural capital is bankrupt (see Table 10), and agricultural workers are unemployed.

This is actually unrealistic. The reason is that as corn becomes cheaper and farm workers become unemployed, labor-capital conflicts will weaken, and the cost of maintaining labor reproduction will not automatically increase from the original 0.03 tons of living standard to 0.12 tons, even if the amount of clothing remains unchanged.

**Table 10. Upper limit of the value of physical labor in corn and clothing trade under labor productivity disparity**

**4. The lower limit of labor value caused by trade**

From Table 9, we can see that the lower limit of the value of American labor is the combination of 2 tons of corn and 20 pieces of clothing without trade. After trade, 2 tons of corn plus 20 pieces of clothing are converted into (2+20/25.8=) 2.78 tons of corn. The farmer's profit has therefore increased from 6 tons to (10-2.78=) 7.22 tons. At the same time, the cost of the clothing factory is 20 pieces of clothing plus 2 tons of corn, which is converted into (20+2×25.8=) 71.6 pieces of clothing. The profit has shrunk from 60 pieces to 28.4 pieces. The clothing factory is unable to continue, and some workers have lost their jobs.

But this is not realistic either. The reason is that workers’ monetary wages will not automatically adjust down to the combination of 2 tons of corn and 20 pieces of clothing as clothing becomes cheaper. Even if some workers lose their jobs, the struggle of employed workers will prevent this from happening.

Similarly, the lower limit of the value of Mexican labor is a combination of 0.03 tons of corn and 3 pieces of clothing. In terms of corn, it is (0.03+3/25.8=) 0.15 tons. This combination is greater than the daily output of farmers and workers, agricultural capital is bankrupt, and farmers and workers are unemployed; in terms of clothing, it is (3+0.03×25.8=) 3.77 pieces (see Table 11), and the profit of the clothing factory owner increases from 4 pieces to (10-3.77=) 6.23 pieces.

This is also unrealistic because due to the struggle of Mexican workers, their monetary wages will not automatically adjust downward to the combination of 0.03 tons of corn and 3 pieces of clothing as corn becomes cheaper.

Table 11. Lower limit of the value of physical labor in corn and clothing trade under labor productivity disparity

Although the two extreme values ​​of labor analyzed above are equally unrealistic, they give us the possible range of changes in the value of labor that will occur through trade.

Even if the amount of corn that sustains the reproduction of labor in the United States remains unchanged, as long as the amount of clothing that sustains the reproduction of labor is any value between 20 pieces and less than 51.6 pieces (see Table 12), it will both improve the living standards of employed workers and lower the value of American labor (from 40% of the original output to a minimum of 27.8%). Similarly, even if the amount of clothing that sustains the reproduction of labor in Mexico remains unchanged, as long as the amount of corn that sustains the reproduction of labor is any value between 0.03 tons and less than 0.12 tons, it will both improve the living standards of employed workers and lower the value of Mexican labor (from 60% of the original output to a minimum of 37.7%). The specific level of the value of the labor force in the two countries may be determined by the game between labor and capital.

Table 12: Upper and lower limits of living standards under conditions of disparity in labor productivity

**5. The relationship between labor value, trade ratio and profit rate**

In the previous section, the analysis of the production price mechanism leading to unequal labor exchange, because it is within the same country, the flow of labor makes the value of labor converge between two different sectors, and the adjustment of profit rate can only be achieved through the deviation of price from value. In contrast, international trade leads to the relationship between labor value, trade ratio and profit rate.

As mentioned above, let m be the international trade ratio, **m1** be the domestic exchange ratio of the United States, and x be the percentage of the value of the U.S. labor force in output. The profit of the U.S. production of corn and clothing exchange is calculated as m/m1-x, that is, one ton of corn is equivalent to m pieces of clothing, divided by the domestic clothing corn ratio m1 equals how many tons of corn equivalents are exchanged for the exported corn, minus the cost of producing corn x is the profit. For example, if the trade ratio is 20, one ton of corn can be exchanged for 20 pieces of clothing, which is equivalent to 2 tons of domestic corn, and the cost is 0.4 tons. The profit per ton of corn is 2-0.4=1.6 tons.

Let m2 be the domestic exchange ratio in Mexico, y be the percentage of labor value in Mexico in output, the profit of clothing and corn exchange in Mexico is m2/my, that is, each piece of clothing is equivalent to 1/m tons of corn, and the domestic clothing-corn ratio is m2/m pieces. For example, each piece of clothing is equivalent to 100/20=5 pieces when it is exchanged for corn and then converted into clothing, the cost is 0.4 pieces, and the profit of each piece of clothing is 5-0.4=4.6 pieces.

Let r be the profit rate of the enterprise with comparative advantage. The average profit rate leads to the following formula:

It is known that the domestic US exchange ratio m1=10 and the Mexican exchange ratio m2=100, then the relationship between the trade ratio, profit rate and the upper and lower limits of labor value can be calculated from formula (3) as follows:

Table 13. Relationship between the upper and lower limits of labor value and trade ratio and profit rate

From this table, we can see that Table 11 is not the lower limit of labor value. The trade ratio of 25.8 is only the result when the labor value ratio of both countries is at its upper limit. If we take an extreme example, such as the highest point of 40% of the labor value ratio in the United States and the lowest point of 38% in Mexico, the trade ratio is 32.4. Then the 2 tons of corn and 20 pieces of clothing in the United States after trade are converted into corn (2+20/32.4=) 2.62 tons, which is less than the lower limit of Table 11. On the contrary, the lower limit of the labor value of Mexico has increased to (3+0.03×32.4=) 3.97 pieces. On the contrary, if we take the lowest point of 28% of the U.S. labor value and the highest point of 60% of Mexico as an example, the trade ratio is 21.6, then the 2 tons of corn and 20 pieces of clothing converted into corn by the U.S. after trade is (2+20/21.6=) 2.93 tons, which is larger than the lower limit of Table 11, and the lower limit of the value of Mexican labor will be even smaller, reaching (3+0.03×21.6=) 3.65 pieces. Since Table 10 and Table 11 are not realistic, we don’t need to consider the actual limit beyond these two limits.

Table 13 actually reflects two connected trends. First, the change in the trade ratio is determined by the ratio of the value of the labor force in the two countries, which is consistent with Arghiri Emanuel's view that the trade ratio is entirely determined by wage differences. The greater the difference in the value of the labor force between the United States and Mexico, the greater the trade ratio. Secondly, the profit rate shrinks as the value of the labor force in the two countries rises. The specific value depends on the result of the struggle between labor and capital (of course, the profit rate here is only the profit rate of those competitive industries, and the capital of bankrupt industries is not included), and the profit rate has no direct relationship with the ratio of the value of the labor force to the output of the two countries.

For example, if we take 40% each as the starting point, Mexico's share rises to 50% and the United States' share falls to 30%, and the profit margin rises slightly from 691% to 716%, which is not much of a change. Another example is that Mexico's share falls from 55% to 45%, and the United States' share rises from 30% to 40%, and the profit margin falls slightly from 678% to 645%, which is also not much of a change. In contrast, Mexico's share falls from 55% to 45%, and the United States' share falls from 40% to 30%, and the profit margin rises from 574% to 761%.

If we take the labor value of the United States as 35% (or 3.5 tons) and Mexico as 45% (or 4.5 pieces), the corresponding trade ratio is 27.9, and the profit margin is 697% as the result of the struggle between labor and capital, then the labor value of both countries is less than before the trade. If the corn consumption of the United States is still 2 tons, the remaining 1.5 tons of corn is equivalent to (1.5×27.9=) 41.9 pieces of clothing, which is more than the original 20 pieces of living standard. If the clothing consumption of Mexico is still 3 pieces, the remaining 1.5 pieces of clothing is equivalent to (1.5/27.9=) 0.054 tons of corn, which is more than the original 0.03 tons.

At this moment, unemployment among workers in both countries has increased, the value of labor has shrunk, the living standards of employed workers in terms of real income have increased, and the profit margins of competitive industries have also been greatly improved.

This is the result of what bourgeois economists call "comparative advantage" and "win-win". No wonder the British bourgeoisie strongly opposed the corn tax and supported free trade, whose purpose was to increase the profit rate by reducing the value of labor!

6. Do Mexican workers’ struggles “exploit” American workers? The relationship between trade ratios and living standards

One of Arghiri Emanuel's mistakes was that he believed that the increase in wages in one country must be based on the exploitation of workers in other countries. He equated the level of living standards with the degree of exploitation and confused the relationship between the rate of surplus value and the standard of living.

If Mexican workers have raised the value of their labor from 40% to 50% through struggle, while the value of American labor is still at 30%, then is the increase in the value of Mexican labor based on the exploitation of American workers? From Table 13, we know that the corn-clothing ratio has dropped from 27.4 to 24.5, and the profit rate has dropped from 8.13% to 7.16%. The living standard of American workers has dropped from 27.4 pieces of clothing per ton of corn to 24.5 pieces. Clothing has become more expensive.

At this time, the bourgeoisie of both countries will say to the American working class in unison: "Mexican workers are our common enemies. They are the ones who suppress your living standards (and our profits)!" This is also in line with Arghiri Emanuel's argument.

However, another way for American workers to maintain their living standards is to increase the value of their labor, that is, to change the value of x, which is the ratio of the value of American labor to output, so that the surplus of 10x-2 tons of corn can still be exchanged for 27.4 pieces of clothing. For this purpose, let m be the international trade ratio, m1 be the domestic exchange ratio of the United States, m2 and y be the domestic exchange ratio and the ratio of the value of labor to output of Mexico, respectively. From formula (3), we know that the trade ratio and the value of labor to maintain the living standard are determined by the following equations:

Solving the equation, we get m = 24.9, x = 31%, which means that the value of labor increases from 30% to 31%, and the trade ratio changes from 27.4 to 24.9. Then, American workers can still exchange the remaining 1.1 tons of corn for (1.1×24.9=) 27.4 pieces of clothing, and their living standards remain unchanged. Of course, the profit margin declines further (the living standards of Mexican workers have also declined slightly before the increase in the value of American labor).

It can be seen from this that the trade ratio certainly affects the standard of living, but this is due to the non-year-on-year increase in the value of labor. As long as the ratio of the value of labor in the two countries remains unchanged, the trade ratio will remain unchanged. For example, while Mexican workers increase the value of labor, American workers also increase the value of labor from 30% to 37.5% through struggle. Then the ratio of the value of labor in the two countries is still 0.3/0.4 = 0.375/0.5, the trade ratio will not change, and the standard of living will increase significantly. This directly denies that the increase in wages in one country must be based on the exploitation of workers in other countries. In fact, no matter which country's wage increase will lower the profit rate, that is, the opposite of the working class in each country is the bourgeoisie, not the working class of other countries. Whether Emanuel realizes it or not, his argument is essentially "left" in form but right in reality.

**7. Profit margin at the limit of trade**

If the scale of trade expands to its limit, that is, the labor value of American garment factory workers calculated according to the lower limit of clothing volume will cause the profits obtained by garment factory capital to shrink significantly and become unsustainable, so clothing will no longer be produced and a large number of garment factory workers will be unemployed; at the same time, the labor value of Mexican farmers and workers calculated according to the lower limit of corn volume will cause agricultural capital to go bankrupt and a large number of farmers and workers will be unemployed, so there will no longer be corn produced for the market (even self-sufficient small peasant economy may exist in large numbers), and then the value of labor will be concentrated at a certain point between the upper and lower limits.

If the international trade ratio and the domestic exchange ratio converge at the same time, that is, the domestic ratio of clothing to corn is basically viewed from the perspective of international trade, or m = m1 = m2, then the trend of equalization of profit rates will also force the two countries to converge in the proportion of labor value. We can see this from formula (3), that is:

Since the probability of the labor value ratio of the two countries being equal is not high, the probability of the international trade ratio and the domestic exchange ratio converging is not high. For example, the labor value ratio x of the United States must be between 28% and 40%, and the labor value ratio y of Mexico must be between 38% and 60%. Therefore, the range of the labor value ratio of the two countries that meet the above requirements is narrowed to between 38% and 40%, and the average profit rate is also between (.62/.38=) 163.2% and (.6/.4=) 150%, and the profit margin is shrinking.

As shown in formula (3), the relationship between the labor value share, the domestic and foreign clothing corn ratio and the profit margin is a mutually influencing relationship. If the labor value share of the two countries does not converge, the domestic and foreign clothing corn ratio will also not converge.

From the above analysis, we can see that the source of surplus value has nothing to do with the so-called "unequal exchange". Even under the condition of equal exchange, industries with comparative advantages can use international trade to increase the difference between the value of goods and the value of labor to increase the amount of surplus value and profit rate of the industry. The consequence is that those industries without comparative advantages go bankrupt and workers lose their jobs.

So, do these results under conditions of large labor productivity disparities apply to when labor productivity is partially improved? Let us explore this question in the below part.

**2. The impact of trade on the value of labor when labor productivity is locally equal**

To further analyze the consequences of increased labor productivity in Mexico, we can assume that an American clothing company (or a Mexican capitalist boss) invests in building a clothing factory in Mexico, adopting a full set of American clothing production equipment and processes, resulting in a 10-fold increase in the labor productivity of Mexican clothing factory workers to the U.S. level (see Table 14).

Table 14. Physical value equivalent of labor days after Mexico's apparel textiles productivity increases ten times.

At the same time, for the sake of simplicity, we can ignore the specific process of Mexico's labor productivity improvement and assume that it is a very short process from being backward to widely adopting American technology.

**1. Re-establishing a trade ratio that equalizes profit rates**

The equalization of profit margins will first change the price ratio of clothing to corn, and will also change the value share of labor in the United States and Mexico. The core principle of calculating the two is still that the trade ratio is international, and the cost is calculated according to the domestic ratio. Due to the substantial increase in Mexico's garment labor productivity, the proportion of labor value to output is comparable to that of the United States. Applying formula (3), and knowing that m1=10, m2=1000, the relationship between the trade ratio, profit rate and the upper and lower limits of labor value (which will be calculated later, see Table 16 and Table 17) is as follows:

Table 15. Relationship between trade ratio, profit rate and upper and lower limits of labor value

**2. Trade leads to upper and lower limits on the value of labor after partial equality of labor productivity**

From Table 15, we can see that when the labor value of the two countries is equal, the trade ratio is 100, so the impact of trade on the labor value, and then the impact on profits, still has two upper and lower limits that need to be re-examined. As in the previous analysis, the upper limit is that the labor value of the two countries still remains at the original share after trade, and the lower limit is that the labor value of the two countries still remains at the physical volume level before trade after trade. However, due to changes in labor productivity, the limit value may change. The upper limit of the value of American labor is a combination of 2 tons of corn and (2×100=) 200 pieces of clothing equivalent to 2 tons of corn, or 4 tons of corn (i.e. 40% of output). The profit calculated in terms of corn has not changed. However, in terms of clothing, it is equivalent to (4×100=) 400 pieces of clothing. The cost is greater than the output, the clothing factory goes bankrupt, and the workers lose their jobs.

The upper limit of the value of Mexican labor is a combination of 20 pieces of clothing and (20/100=) 0.2 tons of corn, or 40 pieces of clothing (i.e. 40% of output). The profit calculated in terms of clothing increases from 40% of output to 60%. In terms of corn, it is equivalent to (40/100=) 0.4 tons of corn, which is greater than the output of Mexican labor on corn. Agricultural capital is bankrupt (see Table 16), and agricultural workers are unemployed.

Table 16. Upper limit of the value of physical labor embodied in trade after Mexico's apparel productivity increases tenfold

The lower limit of the value of American labor is still the combination of 2 tons of corn and 20 pieces of clothing before trade. After trade, the corn is converted into (2+20/100=) 2.2 tons. The farmer's profit is thus increased from the original 6 tons to (10-2.2=) 7.8 tons, which is more than the 7.22 tons calculated in the previous section. At the same time, the wages of the clothing factory are (20+2×100=) 220 pieces, which is higher than the daily output. The clothing factory went bankrupt and the workers lost their jobs.

The lower limit of the value of Mexican labor is the combination of 0.03 tons of corn and 3 pieces of clothing. In terms of corn, it is (0.03+3/100=) 0.06 tons, and the profit remains unchanged; in terms of clothing, it is (3+0.03×100=) 6 pieces (see Table 17), and the profit of the clothing factory owner increases from 4 pieces to (100-4=) 96 pieces.

Table 17. The minimum value of physical labor in trade after Mexico's apparel textiles productivity increases 10 times

At the same time, trade has also changed the living standards of the labor force in both countries. The upper and lower limits of the United States to maintain labor reproduction are 2.2 to 4 tons of corn. Even if the consumption of corn is maintained at 2 tons, as long as the amount of clothing to maintain labor reproduction is any value between (2.2-2) ×100=20 pieces and less than (2×100=) 200 pieces (see Table 18), it will both improve the living standards and lower the value of the American labor force (from 40% of output to a minimum of 22%).

In contrast, the upper and lower limits of Mexico's labor reproduction are between 6 and 40 pieces of clothing. If clothing consumption remains at 3 pieces, any value of corn required to maintain labor reproduction from (3/100=) 0.03 tons to (37/100=) 0.37 tons will both improve living standards and reduce the value of Mexican labor (from 60% of output to a minimum of 6%).

Table 18. Upper and lower limits of living standards under the condition of local equality of labor productivity

The owner of the clothing factory exports the clothing produced in Mexico to the United States. He produces 1,000 pieces of clothing in exchange for 10 tons of corn, which only consumes one day's labor of 10 Mexican clothing workers. The lower limit of the value of their labor is equivalent to (0.06×10=) 0.6 tons of corn, so the profit is (10-0.6=) 9.4 tons, which is 9 tons more than the profit of (10×0.04=) 0.4 tons generated by 10 farm workers producing 1 ton of corn without trade!

**3. Profitability and unemployment at the limit of trade**

Similarly, if the scale of trade expands to its limit, the United States no longer produces clothing and Mexico no longer produces corn, then the value of labor will be concentrated at a point between the upper and lower limits. From formula (3), we know that if the proportion of labor value in the two countries is not equal, then the average profit rate will not allow the domestic exchange ratio to converge. Since the probability of the labor value proportion of the two countries being equal is relatively large under the condition of local equality of labor productivity (it can be between 22% and 40%), the probability of the international trade ratio and the domestic exchange ratio converging is also large. The average profit rate calculated by formula (5) is between (.78/.22=) 354.5% and (.6/.4=) 150%, and the profiteering is shrinking.

If the trade ratio is 100, then the trade of 10 tons of corn per American farm worker and 1000 pieces of clothing from 10 Mexican garment factory workers will result in the unemployment of 9 garment factory workers in the United States (1000/100-1=), while 10 tons of corn is equivalent to the output of 100 Mexican farm workers, so the unemployment of Mexican farm workers will be (10/0.1-1000/100=) 90. Under other trade ratio conditions, the number of unemployed people in the United States is m/m1 -1, and the number of unemployed people in Mexico is m2/m1 - m2/m.

In any case, the impact of trade on Mexican employment is more severe than that on the United States. From this we can also see why industrial capital that is not competitive in international trade strongly opposes free trade. They protect employment to protect themselves. At the same time, we can also see why the working people in the Third World strongly oppose the impact of international trade on them.

The above analysis shows that after partial improvement in labor productivity, the surplus value and profit rate of corn production in the United States and clothing production in Mexico will increase significantly with international trade. These surplus values, whether obtained from corn production or clothing production, are controlled by the capitalists who control the means of production. If the capitalist boss who invests in building a clothing factory is from Mexico, then it is the Mexican capitalist boss who exploits Mexican workers. This fact is completely concealed by the "unequal exchange" theory.

**Conclusion**

From the above analysis we can draw the following conclusion: As long as there are differences in labor productivity among countries, international trade will inevitably increase profit margins. On the one hand, it will reduce the value of labor and aggravate unemployment, and on the other hand, it will also improve the living standards of workers. According to the "unequal exchange" theory, which takes countries rather than capital groups as units, the exchange of the labor results of an American farm worker with the labor results of 50, 25.8, 10 or any larger number of Mexican garment factory workers is extremely unequal. Therefore, according to the "unequal exchange" theory, generally and regardless of class concludes that the United States "exploits" Mexico.

This understanding of "exploitation" is absurd and has nothing to do with Marxism. This analytical framework is a typical theoretical framework used by capitalist economics. For example, in the study of supply and demand curves, they usually use the so-called "consumer surplus" and "producer surplus". (refer to the introductory textbooks of Western microeconomics or Baidu Encyclopedia).

If trade increases the American worker's consumption of clothing from 20 pieces to either 51.6 or 200 pieces, then if these extra pieces of clothing are not used in production, there will be no profit generation and capital accumulation. Similarly, if trade increases the Mexican worker's consumption of corn from 0.03 tons to either 0.12 tons or 0.37 tons, then if these extra corns are not used in production, there will be no profit generation and capital accumulation.

It can be seen from this that it is the bourgeoisie’s intensified exploitation of the working class through trade that leads to excess profits. Those who have made fortunes from trade and realized capital accumulation are neither American workers nor Mexican workers, but the bosses who built garment factories in Mexico—whether they are American bosses or Mexican bosses! They obtain, for example, 10 tons of corn through trade, but only paid wages worth less than 4 tons of corn to 25.8 or 10 Mexican workers, thus obtaining excess profits. This is precisely what the social imperialists who insist on the theory of "unequal exchange" avoid talking about. **They simply explain this process as how developed countries "exploit" the Third World, avoiding class analysis and covering up the essence of exploitation.**

**Therefore, it is still the basic principle of Marxism: surplus value is created in the field of production, not through exchange. Trade itself does not create value, it is just a channel for value realization.**

In the above analysis, the value of labor is measured only by corn and clothing, so it seems that trade may significantly increase the actual wages or living standards of workers in the Third World. However, in real life, we must use a basket of goods to measure the value of labor, including the cost of raising children, supporting the elderly, food, clothing, housing, transportation, education, and health. If the labor productivity of this basket of goods does not increase accordingly, the impact of trade on the value of labor is often negligible in the short term. The monopoly bourgeoisie of various countries obtains relatively long-term huge profits and excess profits precisely through the differences in the value of labor brought about by differences in labor productivity.

If the so-called bourgeoisie of the "semi-periphery" relies on cheap domestic labor to develop export trade, then these excess profits belong to the bourgeoisie of the "semi-peripheral" countries, that is, whoever controls the means of production can obtain excess profits in international trade. **This is the story of the rise of export traders in the Pearl River Delta and the Yangtze River Delta. It is completely wrong and non-Marxist to talk about the destination of excess profits without taking into account the possession of the means of production and the corresponding class analysis.**

**Postscript**

The analysis in this article is based on the premise that capital has not yet monopolized technology, markets or resources. The situation after the emergence of monopoly capital needs to be discussed separately. In this regard, I plan to further elaborate on some issues of modern imperialism through several articles later. In addition to discussing that imperialism still originates from monopoly and several forms of monopoly, it is also necessary to prove that the empire exploits the working class all over the world in order to refute those "entry studies" under the banner of Marxism.

The final draft was completed in May 2023. We would like to express our sincere gratitude to several enthusiastic netizens for their valuable comments and suggestions on the first draft, but any omissions or errors in the final draft are the responsibility of the author.

All feedback can be made to any of the following email addresses: <peace.yang2023#proton.me> or <peace.yang#hotmail.com> (just change # to @ before sending the email).

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Appendix: Critique of the “Unequal Exchange” Model

The models of scholars of “unequal exchange”, especially the model of Amin in “Unequal Development: On the Social Form of Peripheral Capitalism” on page 115, can be converted into the following table according to our method:

Table 19. “Unequal Exchange” Model I, Same Product, Same Rate of Profit and Rate of Surplus Value

\* The value of 32 in the original table on page 115 cannot possibly achieve a profit margin of 40%.

This is a strange model of production rather than trade. Since the same product is produced, there can only be a single value in the country and a single price in the international market. Therefore, the so-called production price here actually represents the difference in output, which is also the difference in value.

The labor time of these two types of production methods is incomparable both domestically and internationally. From the perspective of the mobility of domestic labor and capital, the so-called 30 units of labor time in type A is only equivalent to 28 socially necessary labor hours, while the 30 units of labor time in type B is equivalent to 32.2 socially necessary labor hours. Therefore, the surplus value rate of this model is not equal. The surplus value rate of type A is only (8/10=) 80%, while the surplus value rate of type B is as high as (9.2/7=) 131%.

As demonstrated in Chapter 2, only when the capital intensity of different products is different and both labor and capital are mobile, can the equalization of profit rates be achieved through the mechanism of production prices. In fact, there is no so-called production price mechanism to achieve the equalization of profit rates for the production of the same product. The efficient ones have higher profit rates than the inefficient ones, and the trend of equalization of profit rates often leads to the bankruptcy of the inefficient ones. This model only presents the possibility that two production methods with different labor productivity can still have the same profit rate.

If these two types of production are carried out in different countries, then the errors of this model are even more significant. First of all, there is no international standard for socially necessary labor time, nor is there an international labor value. The 30 labor time units spent on the product of the "rich country" type B production method are equivalent to 32.2 labor time units of the same product of the type A production method in the "poor country". Since the cost of labor reproduction is different in the two countries, the value of labor in the two countries is also incomparable. Therefore, this model is invalid for studying international trade.

This model actually reflects different labor productivity. The labor productivity of category A is (28/30=) 0.93 units of output per unit of labor time, and that of category B is (32.2/30=) 1.07 units of output. The so-called "equal" exchange is to force 0.93 units of products to be exchanged with 1.07 units of the same product. **Therefore,** **condemning the "unequal exchange" of the great powers is counterproductive.**

Samir Amin also agreed that Bettelheim's criticism of the above model was correct, so Samir Amin felt the need to use another expanded model of Arghiri Emmanuel (i.e., equal capital intensity and huge wage disparity) to explain the essence of "unequal exchange". On page 117 of the same book, his model can be expressed as follows.

Table 20. “Unequal Exchange” Model II, Same Product, Same Profit Rate and Unequal Surplus Value Rate

**Since Samir Amin emphasizes that this is a production model for the same product (such as oil), this model is actually based on a unified international standard for socially necessary labor time and labor value, and is therefore a wrong model.**

If the data in the table is indeed labor time, and the product price is unified, then the labor productivity of the "poor country" is (26/30=) 0.87, which is lower than the labor productivity of the "rich country" (34/30=) 1.13, or the output of 30 units of labor time spent on the "rich country" B production method is equivalent to 34 units of labor time of the same product in the "poor country" A production method. Because the output of the two types of production methods is different, value has not been transferred from one country to another.

Furthermore, since the cost of labor reproduction is different in the two countries, the value of labor in the two countries is also incomparable. If the high labor productivity of export products has little impact on the labor reproduction cost of poor countries (for example, gasoline consumption accounts for a negligible proportion of the labor reproduction cost in the third world), then even if the labor productivity of the two countries in specific products is equal, the value of labor can still be very different.

In short, the international deviation between the so-called production price and value in the table is either due to the empire's monopoly on the market, technology or resources, or the output is different, or the so-called production price is the difference in output. The latter is the same as the above scenario of efficient and inefficient corn producers in a country. The surplus value of inefficient producers in the same period of time cannot be equal to that of efficient ones. At the same time, since labor is not mobile internationally, the value of living labor cannot use the same time scale.

It can be seen from this that Samin Amin was unable to correct and save the fatal error of Arghiri Emmanuel's "unequal exchange" model.