10
Unequal Exchange

I Unequal Exchange Before Emmanuel

With the solitary exception of Rosa Luxemburg, classical Marxian analyses of imperialism identified the export of capital as the fundamental mechanism by which metropolitan capitalism exploits the periphery (see Chapters 5–6, and 13 of volume I of this book). One of the consequences of the decline of the Leninist theory of imperialism after 1945, which was described in the previous chapter, has been an increasing interest in trade rather than capital flows as the principal instrument of international exploitation. What appeared to be a growing gap between developed and undeveloped countries, especially after the collapse of the Korean War boom and the sharp fall in commodity prices in the early 1950s, had important intellectual repercussions. Development economics had only recently emerged as a clearly defined academic subdiscipline. From its beginnings it had been on the margins of economic orthodoxy, with its practitioners much more inclined than their mainstream colleagues to tolerate state interference with the operation of market forces and to countenance radical political changes, such as land reform, as a necessary pre-condition for economic development. These heterodox tendencies were strengthened by the post-1952 experience, which reinforced the arguments of development economists like Hans Singer and Raul Prebisch who postulated a secular deterioration in the terms of trade of poor primary producers dating back to the nineteenth century and constituting the chief cause of the widening gap between rich and poor countries. One did not have to be a Marxist, in this period, to see free trade as a tool of imperialist domination.1

Although considerable doubt was subsequently cast on the claim about the terms of trade,2 the concept of unequal exchange proved to be more resilient. In fact it is not logically dependent upon any trend in the terms of trade, since inequality in exchange can be defined in terms of a quite different standard. In the labour theory of value, Marxian political economy has an alternative benchmark by which the degree of unequal exchange can be assessed.
When, however, the development theorists turned to the Marxian literature, they obtained little guidance. In *Capital*, Marx himself concentrated precisely upon showing how the existence of exploitation did *not* depend upon unequal exchange. For Marx surplus value is produced even when commodities sell at their values, due to the unique nature of labour power. While this did not preclude the possibility that unequal exchange might constitute an additional means of surplus extraction, Marx did not pursue it systematically, and was extremely critical of those who did, like the Mercantilists and Utopian socialists. Marx himself had failed to write the projected volume of *Capital* dealing with the world market, and his few references to the labour theory of value in international trade were fragmentary and unsystematic. The three most important are found in volume III of *Capital*. Two of them involve numerical examples illustrating the possible relationships between the rate of exploitation and the rate of profit in advanced and backward countries. In the first, Marx shows how a higher profit rate can obtain in Asia than in Europe, even though the rate of exploitation is much higher in Europe:

Europe: \[ 84c + 16v + 16s = 116 \]
Asia: \[ 16c + 84v + 21s = 121 \]

Europe has an organic composition of 4, a rate of exploitation of 100 per cent, and a profit rate of 16 per cent; for Asia the corresponding figures are \( \frac{1}{4} \), 25 per cent and 21 per cent. With this example Marx claims to have discredited Bastiat and Carey, who would have predicted a higher rate of profit in Europe, but he offers no further explanation. His second example contrasts an undeveloped country with a nation at a higher stage of development:

Undeveloped: \[ 50c + 100v + 100s = 250 \]
Higher stage: \[ 400c + 100v + 100s = 600 \]

The two countries now have the same rate of exploitation, so that the more advanced country, with its higher organic composition, has a very much lower profit rate: 20 per cent as against \( 66 \frac{2}{3} \) per cent. Marx continues by assuming productivity to be lower in the backward country, increasing necessary labour and reducing both surplus labour and the rate of exploitation:

Undeveloped: \[ 50c + 113 \frac{1}{3}v + 66 \frac{2}{3}s = 230 \]

The profit rate has fallen to \( 36 \frac{2}{3} \) per cent, but remains higher than that in the advanced country.

There is no direct reference to unequal exchange in either of these passages. Later in volume III, when Marx discusses the forces counter-
acting the tendency for the rate of profit to fall, he does refer to unequal exchange. His argument here is not concerned with international differences in the organic composition of capital, but with the fact that the higher labour productivity of the more developed countries allows them to sell their commodities for more than the labour embodied in them, 'even though cheaper than the competing countries' with lower productivity levels. Marx draws an analogy with the capitalist within a particular country 'who employs a new invention before it becomes generally used, undersells his competitors and yet sells his commodity above its individual value', thereby obtaining a surplus profit. In an international context, 'the more favoured country receives more labour in exchange for less labour, although this difference, this excess, is pocketed, as in any exchange between labour and capital, by a certain class'.

The next Marxist economist seriously to consider these questions was Otto Bauer in his important book on the national question, published in 1907. Although he did not cite Marx directly, Bauer was clearly influenced by the volume III argument concerning international differences in the organic composition of capital. Marx's theory of price, Bauer maintained, supplies the key to understanding the economic basis for antagonism between two regions at different levels of development which trade with each other. If organic compositions diverge, trade will take place on unequal terms, and 'the capitalists of the more highly-developed country not only exploit their own workers but also constantly appropriate part of the surplus value produced in the less-developed country'. This unequal exchange applies not only between predominantly agrarian and mainly industrial countries, but also within states.

Without a doubt this is also the economic relationship between German Bohemia and Czech Bohemia... What German writers so happily describe as the higher culture of German Bohemia, the 'lesser merit' of the Czech regions, is nothing other than the effect of the fact which dominates all capitalist competition, that the capitalistically more highly-developed parts of the country appropriate part of the value produced in the capitalistically less-developed areas.

Bauer had in fact added little or nothing to Marx's own discussion. In view of both Lenin's theory of imperialism and subsequent developments in the theory of unequal exchange it is significant that he strongly denied that imperialism could benefit the working class in the metropolis, and explicitly stated the rate of exploitation in low-wage Czech Bohemia to be lower than in the higher-wage German regions. Bauer's analysis was, however, quite influential in the 1920s, winning the support of both Henryk Grossmann and Evgeny Preobrazhensky, whose model of Soviet industrialisation hinged upon surplus extraction from the peasantry by means of unequal internal
Unequal Exchange

exchange. Grossmann used the first of Marx’s numerical examples, on p. 187 above, pointing out that if the rate of profit were to be equalised internationally this would entail a transfer of value from Asia to Europe. Both commodities would then sell at 118 1/2, giving a common rate of profit of 18 1/2 per cent and involving an unequal exchange in Europe’s favour of 2 1/2 units of value, since commodities embodying 116 units of value would sell for 118 1/2. This process of value extraction, Grossmann argued, was a significant offset to the falling rate of profit and helped to explain the strength of imperialist pressures in twentieth-century capitalism.7 In the 1930s the protectionism of the Romanian neo-fascist Mihail Manolescu owed something to Bauer, while in Japan Toichi Nawa and Kaname Akamatsu were anticipating much later developments in European Marxism in their debate on unequal exchange.8 Thereafter the issue became much less prominent, at least in Western Marxism. In his 1942 Theory of Capitalist Development, for example, Paul Sweezy rejected the very possibility that international trade could transfer value from one country to another, on the grounds that trade alone (without capital movements) cannot equalise profit rates. His collaborator, Paul Baran, was similarly dismissive.9 There was a substantial Soviet literature, dating from 1954, but this seems to have been of low quality and to have gone almost unnoticed in the West before the publication of J.-O. Andersson’s survey in 1976.10

By then it was of purely historical interest. In December 1962 a Greek economist working in Paris, Arghiri Emmanuel, delivered a lecture in which he attributed unequal exchange not to international differences in organic compositions but to the huge and growing gap in real wages between rich and poor countries. This, Emmanuel argued, gave rise to a large divergence between relative prices and labour values, leading to the exchange of vastly unequal quantities of labour in the normal course of international trade. Unknown to Emmanuel another Parisian, Henri Denis, was about to publish an article with a very similar theme.11 The ensuing controversy was at first confined to France but, with the publication in 1972 of an English translation of Emmanuel’s book, it soon took on global proportions.

II Emmanuel’s Theory of Unequal Exchange

Emmanuel’s starting-point is the existence of a powerful tendency for the rate of profit to be equalised on a world scale, while there remain huge differences in both wages and rates of exploitation between advanced and backward countries. He suggests that the international mobility of capital has eliminated any substantial gap in profit rates, after allowing for relatively small and quite stable risk premia.12 Thus, unlike Baran, Frank and the dependency theorists, Emmanuel considers the world economy to be
essentially competitive. However, he recognises one fundamental exception to this, and it constitutes the foundation for his analysis of unequal exchange. Such labour mobility as is permitted by immigration controls in the West is utterly inadequate to equalise wages between rich and poor countries. In fact, according to Emmanuel, wages 'can vary enormously in space but very little in time'. Even the physiological minimum is elastic, since socially-created needs can become biological needs if their satisfaction has been guaranteed for a long period of time: 'a stage is reached at which certain needs created by civilization become so habitual and urgent that a worker will rather cut down on his food and clothing than do without the corresponding article or service'. In addition, 'there are considerable moral constraints upon the labour market. In spite of everything capitalism retains certain vestiges of personal relationships inherited from the feudal regime. One does not change one's employer as one changes the shop where one buys things', and one's employer is seldom proud of wage reductions. Finally, 'the trade-union struggle of the working class and the reactions of the employers' organisations prevent the free play of the market in this field'.

For these reasons there exist very large international differences in the value of labour power, which Emmanuel takes to be exogenous in the sense that they are the cause of differences in commodity prices and in the level of economic development rather than the result. For him, wage differentials between rich and poor countries explain why it is that commodities produced in the Third World are so cheap, and those from the West so expensive; and this is responsible for the wide and growing gap in economic development between them. Emmanuel's rather confusing discussion of the relationship between wages and prices uses numerical examples which invoke first Marxian and then Sraffian models of price determination, in neither case very satisfactorily.

To illustrate his argument we employ a highly-simplified example of our own, framed in terms of labour values and ignoring all the problems with Marx's transformation algorithm (a more complicated and more acceptable Sraffian model is presented in section IV, although even this may have problems, as Chapter 15 below indicates). Rich country A produces 30 cars, using 720 days of direct and indirect labour, while poor country B produces 30 tons of tea with 480 days of direct and indirect labour. Wages are lower, and the rate of exploitation correspondingly higher, in B than in A, but the organic composition of capital is the same in the two countries. Assuming for simplicity that there is no fixed capital, the value relations can be written as:

<table>
<thead>
<tr>
<th></th>
<th>c</th>
<th>v</th>
<th>s</th>
<th>Total value</th>
<th>Value per unit of output</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>480</td>
<td>120</td>
<td>120</td>
<td>720</td>
<td>720/30 = 24</td>
</tr>
<tr>
<td>B</td>
<td>240</td>
<td>60</td>
<td>180</td>
<td>480</td>
<td>480/30 = 16</td>
</tr>
</tbody>
</table>
Here the (common) organic composition is 4, while the rate of exploitation is 100 per cent in A and 300 per cent in B.

Without international capital mobility, the rate of profit would be 20 per cent (= 120/600) in A and 60 per cent (= 180/300) in B. However, a uniform rate of profit is established, along the lines proposed by Marx in volume III of *Capital*,\(^\text{15}\) by dividing total surplus value by total capital employed, so that \(r = 300/900 = 33\frac{1}{3}\) per cent. Prices of production are obtained in the usual manner:

<table>
<thead>
<tr>
<th></th>
<th>Cost-price</th>
<th>Profits</th>
<th>Price of production</th>
<th>Price per unit of output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>((c + v))</td>
<td>(r(c + v))</td>
<td>((1 + r)(c + v))</td>
<td></td>
</tr>
<tr>
<td>(A)</td>
<td>600</td>
<td>200</td>
<td>800</td>
<td>800/30 = 80/3</td>
</tr>
<tr>
<td>(B)</td>
<td>300</td>
<td>100</td>
<td>400</td>
<td>400/3 = 40/3</td>
</tr>
</tbody>
</table>

The ratio of the labour values of the two commodities \((24/16 = 1.5)\) is less than the ratio of their prices \((80/3 = 40/3 = 2)\). Assume that A imports 6 tons of tea at a total cost of \((6)(40/3) = 80\). B’s receipts will allow it to import three cars without incurring a balance of payments deficit, since \((3)(80/3) = 80\). But the labour value of B’s imports is \((3)(24) = 72\), while the labour value of its exports is \((6)(16) = 96\). Thus rich country A gains 24 days of labour from this unequal exchange. Of the 60 days of surplus labour performed in the poor country only 36 remain there, the other 24 being transferred to the rich country in the course of trade. This value transfer, it must be emphasised, is quite separate from the unequal exchange discussed by Bauer and Grossmann, which results from differences in the organic composition of capital with wages equal (see Appendix A for an example).

Like his disciple, the Egyptian Samir Amin, Emmanuel argues that unequal exchange serves to sustain and increase international differences in wages. Growing prosperity in the rich countries increases the speed of their economic development, allowing still further wage rises. In the poor countries, on the other hand, the narrowness of the internal market means that accumulation is retarded, so that unemployment increases and wages decline still further. With a widening wage gap, the consequences of unequal exchange become more and more serious: the entire process is a cumulative one. It can be reversed only by deliberate policies to raise wages in the poor countries, which will necessitate export taxes and import substitution under tariff protection. Even complete autarky would, on Emmanuel’s argument, be preferable to unequal exchange.\(^\text{16}\)

The ramifications of Emmanuel’s analysis are profound and far-ranging. He repudiates the entire Leninist conception of imperialism as a stage of capitalism dominated by the export of capital. On the contrary, “all imperialisms are, in the last resort, mercantile in character,” yielding their huge profits from commodity trade rather than from foreign investment.
This explains why capital has always flowed more freely to advanced than to backward areas, and why decolonisation was implemented so rapidly after 1945 once the foundations for free trade had been secured. A further implication is that neither dependency, broadly defined, nor specialisation upon agricultural production need preclude economic development, so long as wages are high. Emmanuel compares Canada and the Congo (both considered to be highly dependent) to establish the first point, and cites the examples of Australia, New Zealand and Denmark in support of the second.

Finally, and by far the most important, he attacks the notion of international working class solidarity and replaces the class struggle with conflict between rich and poor countries as the central divide in world capitalism. As the chief beneficiaries of unequal exchange, workers in the advanced countries no longer have a common interest with those in backward areas, upon whose continued exploitation their own high living standards depend.

From the moment when the sharing-out of the product of international exploitation assumes an important, if not preponderant, place in what is at stake in the class struggle within the nation, this struggle ceases to be a genuine class struggle in the Marxist sense of the term, and becomes a settlement of accounts between partners around a jointly-owned cake.

Thus loyalty to the nation transcends class interests, and ‘national integration has been made possible in the big industrial countries at the expense of the international disintegration of the proletariat’. In the coming global revolution, the Western working class is likely to be on the wrong side.

III  Emmanuel and his Critics

Early in the debate which Emmanuel's ideas provoked, Charles Bettelheim raised an objection which was to be repeated frequently in the following two decades. The poverty of the Third World was due to the low level of development of the productive forces, Bettelheim argued. Wage differentials with the West were the result, not the cause, of underdevelopment. In similar vein, other critics maintained that Emmanuel had failed to recognise the importance of the level and rate of change of labour productivity as a determinant of real wages. It was their relatively high productivity which had allowed British workers to enjoy high wages during the Industrial Revolution, and the steady increase in productivity which had permitted wage levels to rise thereafter. The same was true, a fortiori, of the white settlers in North America and Australasia. Writing in the mid-1970s, J.-O. Andersson pointed to the grim example of Uruguay to arrive at the same conclusion from the opposite direction. Once known as the 'Switzerland of Latin America', renowned for its mass affluence and comprehensive welfare
state, Uruguay had been led by declining productivity in its export markets into apparently terminal economic decline, with working-class living standards savagely reduced and political rights destroyed. In all these cases wages seem to be the dependent, not the independent, variable. In his review of Unequal Exchange Henri Denis drew the same conclusion from a more neoclassical perspective. Consider the effects of a fall in the overseas demand for a poor country's exports. Balance of payments equilibrium would be restored by a depreciation of its currency, entailing a decline in real wages. Hence wages are affected by changes in world market conditions. They are endogenous, not exogenous, to the system.

Emmanuel's critics expressed further doubts concerning the quantitative significance of unequal exchange. Even if his analysis were assumed to be fundamentally correct, exactly how much of the poor countries' surplus value was being transferred to the rich countries? Was it enough to account for the blocking of economic development in the Third World? Could it also explain the dramatic century-long increase in real wages in the advanced capitalist countries? Bettelheim suggested that the answer to both questions must be a negative one, since the poor countries' exports to the West amounted (in the mid-1960s) to no more than $25 billion (see also section III of Chapter 11 below). Emmanuel replied that the impact should be measured in terms of the potential revenue from these exports if unequal exchange were abolished, which might be as high as $200-300 billion.

Samir Amin's estimate — again for the mid-1960s — was that unequal exchange cost the poor countries some $22 billion each year. This represented only 1.5 per cent of the GNP of the metropolitan capitalist countries, but 15 per cent of that of the poor countries, and was alone responsible for their failure to develop. All these estimates are somewhat speculative, and Emmanuel's seems to assume a pre-determined pattern of international trade and a zero price-elasticity of demand for the poor countries' exports.

We shall return to the quantitative importance of unequal exchange in the next section. Related to it are the political conclusions drawn by Emmanuel, which themselves became the subject of intense critical scrutiny. Both Marxists and neoclassical economists like Paul Samuelson were quick to note that unequal exchange is not, as Emmanuel maintained, inconsistent with mutual gains from trade. Even if the poor countries trade on unfavourable terms with their richer partners, their losses are relative rather than absolute. It follows that autarky would be inferior to trade on almost any terms, however unequal. Indeed, it is necessary to distinguish, as Andersson does, between unequal and 'disjunctive' trade. The latter is defined as trade which widens the economic gap between the parties. It is logically independent of the former, since a country which is the subject of unequal exchange may gain from a faster rate of economic development than its partner, and vice versa. The destruction of overseas competition by dumping illustrates this possibility; the converse case occurred with the de-
industrialisation of countries apparently benefiting from oil or gas rents, like Venezuela, the Netherlands and Britain.\textsuperscript{29}

A further pertinent objection to Emmanuel’s political conclusion was raised by Brewer, who notes that there are three classes, not two, in Unequal Exchange: a single unified bourgeoisie and two proletariats, one poor and the other rich. A \textit{ceteris paribus} increase in wages in either country will reduce the rate of profit, giving an objective basis for class conflict between workers and capitalists there. It may or may not lower wages for the other working class. At all events, there are no ‘national’ interests, as Emmanuel would have us believe.\textsuperscript{30} While this is true enough, it does not re-establish material prerequisites for the international proletarian solidarity which Bettelheim and other Marxist writers continue to assert. To shed light on this question a precise theory of income distribution is required, and neither Emmanuel nor his critics provides such a theory.\textsuperscript{31} We shall return to this question, too, in section IV.

Emmanuel assumes that the huge wage differentials between the Third World and the West are reflected in correspondingly large differences in rates of exploitation. Many of his critics have argued that the reverse is true: if the productivity differentials between rich and poor countries are larger than the real wage gap, then the rate of exploitation will be higher in the rich countries, not lower as Emmanuel supposes.\textsuperscript{32} This can be demonstrated in a simple one-commodity model. Assume that both Indian and British workers consume corn, but that the latter are very much better fed. Real wages in Britain (\(w_{B}\)) are thus much higher than in India (\(w_{I}\)). But agricultural productivity is significantly lower in India, so that the labour value of corn there (\(l_{I}\)) is much higher than that of British corn (\(l_{B}\)). Then necessary labour in India (\(w_{I}l_{I}\)) may be greater than that in Britain (\(w_{B}l_{B}\)); if the working day is the same in the two countries, surplus labour will be lower in India, and the rate of exploitation also lower. Once we allow for the fact that Indian and British workers consume different commodities, produced under a variety of conditions, the analysis becomes very much more complicated. But the underlying principle is the same: if labour power costs much more, in terms of labour, in India than in Britain, the rate of exploitation there will be lower. British workers will be richer, but more exploited.

This is an important weakness in Emmanuel’s analysis. It can be expressed, rather differently, as his failure to adapt the labour theory of value to the problems posed by international trade.\textsuperscript{33} When workers of different skills operate at different intensities upon quite different quantities of machinery and raw materials, it can no longer be taken for granted that their labours are equivalent. This difficulty applies within any particular country or region, so long as technical and cultural conditions differ. It requires that serious thought be given to the ‘reduction’ of complex to simple labour, and to the definition of ‘socially necessary’ simple labour, when conditions of production vary.\textsuperscript{34} When the comparison is between advanced
and backward countries, the problems are more acute. Emmanuel is able to assume them away because of his critical assumption that rich and poor countries are completely specialised. Rich country A produces cars, but no tea, in our example in section II; poor country B produces tea, but no cars. Comparisons of labour productivity are meaningless, since it is not possible to measure 'cars per hour' in relation to 'tons of tea per hour'. For Emmanuel, then, the notion of 'international value' is redundant. The value of a car is defined as the amount of labour socially necessary to produce it in A, and the value of a ton of tea is the labour-time socially necessary for its production in B. There is no ambiguity. If we were to relax Emmanuel's simplifying assumption and introduce a third commodity which is produced in both countries, this would change. The productivity of labour in this third activity is likely to be higher in A than in B, and the 'national value' correspondingly lower. But which of the two national values is the one which 'counts': that is, which defines the international value of the commodity in question? If it is the (low) A-value, it follows that an hour of labour-time expended in B counts for less than an hour in A, and estimates of unequal exchange must be reduced accordingly. If it is the (high) B-value, this is still true because one hour of labour-time in A produces more value than in B.

We may conclude from this that the theory of unequal exchange needs substantial modification once there are productivity differences, in comparable industries, between rich and poor producers. Indeed, if there were no such differentials it would be difficult to explain why any accumulation whatever is undertaken in the high-wage West. Why should internationally mobile, profit-seeking capital not concentrate all accumulation in the poor countries, taking advantage of the lower wages which it can pay there to produce the goods which Emmanuel assumes to be manufactured in the rich countries? Will this not eventually do away with the whole distinction between rich and poor countries, between the West and the Third World? Indeed, some Marxist economists have argued that de-industrialisation in advanced capitalism and the industrialisation of certain Third World countries indicates that this is precisely what is happening now (see section V of Chapter 11 below). But it cannot be understood, and its limitations established, within the confines of Emmanuel's 'cars-and-tea' model of a completely specialised world in which the pattern of trade is predetermined. In one sense this is the most damning criticism of his entire analysis of unequal exchange.

IV Andersson's Reformulation

In this section we set out a slightly simplified version of Andersson's model, which meets several of the objections to Emmanuel's analysis which were
considered earlier. There are two countries, distinguished by different wage levels, where the wage in country 1 is higher than that in country 2 ($w_1 > w_2$). But there are now three commodities, two produced in only one country and the third produced (under different conditions) in both. Commodity $A$ (machinery) is produced only in the rich country, and commodity $C$ (coffee) only in the poor country; commodity $B$ (cloth) is manufactured in both, with $B_1$ denoting the output of the rich country and $B_2$ that of the poor country. Thus trade involves the exchange of machinery for coffee.

Hence there are four industries, each of which uses labour and machines. The quantities of machinery and labour required, per unit of output, are $(A, L_a)$, $(B_1, L_{b1})$, $(B_2, L_{b2})$ and $(C, L_c)$ respectively, and prices are represented by $p_a, p_{b1}, p_{b2}$ and $p_c$. It is assumed that there is no fixed capital, that machines wear out at the end of each year, and that wages are paid at the end of the year. With $r$ as the common rate of profit, equal in all four industries, we can write the following system of equations:

\[
\begin{align*}
p_aA_a (1 + r) + w_1 L_a &= p_aA \\
p_aB_{b1}(1 + r) + w_1 L_{b1} &= p_{b1}B_1 \\
p_aB_{b2}(1 + r) + w_2 L_{b2} &= p_{b2}B_2 \\
p_aC (1 + r) + w_2 L_c &= p_cC
\end{align*}
\]  

(10.1)

The first equation in this system expresses the equilibrium condition that in the machinery industry sales proceeds ($p_aA$) must equal its wages bill ($w_1L_a$), plus its machinery costs ($p_aA_a$), plus profits on those costs ($rp_aA_a$). The remaining three equations state analogous conditions for the production of cloth in both countries, and for coffee production. In these four equations there are seven unknowns: the four prices, $w_1$, $w_2$ and $r$. They can be reduced to five by taking one of the four prices as numéraire: for example, setting $p_a = 1$, and by defining a relationship between $p_{b1}$ and $p_{b2}$ (which are the prices of the same commodity in the two economies). The system then has one degree of freedom, since there is one less equation than there are unknowns. The economic meaning of this is that only one of the two wage rates can be exogenous, not both, as Emmanuel assumes. Thus, if $w_1$ is taken to be exogenous, changes in wages in the rich country affect the wage rate in the poor country, and vice versa if $w_2$ were the exogenous wage rate.

We can now assess the merits of Emmanuel’s three fundamental claims. First we return to his argument that there is no basis for international working-class solidarity. This is related to the proposition that increased wages in the rich country are gained at the expense of lower wages in the poor country; in formal terms, this means that $dw_1/dw_2 < 0$. To examine this claim we make the simplifying assumption that there are no tariffs or transport costs, so that there is a single world market price for cloth.
Now assume the wage rate in the rich country to be exogenous, and equal to \( \tilde{w}_1 \). From the second and third equations in system (10.1) we find that

\[
w_2 = \left( \frac{A_{b_1}}{B_1} - \frac{A_{b_2}}{B_2} \right) \left( \frac{A - \tilde{w}_1L_a}{A_a} \right) \frac{B_2}{L_{b_2}} + \frac{L_{b_1}}{B_1} \cdot \frac{B_2}{L_{b_2}} \cdot \tilde{w}_1 \tag{10.3}
\]

so that

\[
dw_2/d\tilde{w}_1 = \frac{L_{b_1}}{B_1} \cdot \frac{B_2}{B_1} - \frac{L_a}{A_a} \cdot \frac{B_2}{L_{b_2}} \left( \frac{A_{b_1}}{B_1} - \frac{A_{b_2}}{B_2} \right) \tag{10.4}
\]

In order that \( dw_2/d\tilde{w}_1 < 0 \), this requires that

\[
\frac{L_{b_1}}{B_1} \leq \frac{L_a}{A_a} \left( \frac{A_{b_1}}{B_1} - \frac{A_{b_2}}{B_2} \right) \tag{10.5}
\]

But nothing can be said \textit{a priori} about the sign of this expression, which depends on the machine–output and labour–output ratios in machinery and cloth production. Consequently Emmanuel’s first claim is insecure.

A second claim implied by Emmanuel’s argument in \textit{Unequal Exchange} is that the rich country’s terms of trade are improved by an increase in wages there, and vice versa. This proposition can be assessed by taking machines as the numeraire and setting \( p_a = 1 \). Since the poor country exchanges coffee for machines, its terms of trade are now expressed by \( p_c \), which is the price of coffee in terms of machines. Using equations (10.1), (10.2) and (10.3) we obtain

\[
P_c = \frac{A_c}{C} \frac{(A - w_1L_a)}{A_a} + \frac{L_c}{C} \cdot \frac{B_2}{L_{b_2}} \left[ \frac{A_{b_1}}{B_1} - \frac{A_{b_2}}{B_2} \right] \left( \frac{A - w_1L_a}{A_a} \right) + \frac{L_{b_1}}{B_1} \cdot \tilde{w}_1
\]

so that

\[
dp_c/dw_1 = \frac{L_c}{C} \cdot \frac{B_2}{L_{b_2}} \left[ \frac{L_{b_1}}{B_1} - \frac{L_a}{A_a} \left( \frac{A_{b_1}}{B_1} - \frac{A_{b_2}}{B_2} \right) \right] - \frac{A_c}{C} \cdot \frac{L_a}{A_a} \tag{10.7}
\]

Once again, the relevant relationship, that between \( p_c \) and \( w_1 \), depends on the machine–output and labour–output ratios in the various industries, so that no firm conclusion can be drawn \textit{a priori}.

The third and final proposition concerns the relationship between international wage differences and unequal exchange. Emmanuel claims that the
country with low wages experiences unequal exchange and will suffer from it, to the benefit of the rich country. To appraise this claim we need to recognise differences in labour productivity and reformulate the four industry equations of system (10.1) in labour value terms. Where \( \lambda_a \) and \( \lambda_c \) are the quantities of direct plus indirect labour needed to produce machinery and coffee; \( \lambda_b \) is the quantity of direct plus indirect labour needed to produce cloth in the rich country; and \( \alpha (\leq 1) \) is a factor expressing the relationship between an hour of labour in the poor country and an hour of labour in the rich country, we have

\[
\begin{align*}
\lambda_a A_a + L_a &= \lambda_a A \\
\lambda_a A_{b1} + L_{b1} &= \lambda_b B_1 \\
\lambda_a A_{b2} + \alpha L_{b2} &= \lambda_b B_2 \\
\lambda_a A_c + \alpha L_c &= \lambda_c C
\end{align*}
\] (10.8)

The first two equations in system (10.8) relate to the rich country. The second equation, for example, defines the value of cloth in country 1 (\( \lambda_b B_1 \)) as the sum of the indirect labour (\( \lambda_a A_{b1} \)) and the direct labour (\( L_{b1} \)) required to produce it. The second two equations apply to the poor country, where labour is less productive and therefore 'counts' for less. The quantities of direct labour used to produce cloth and coffee in the poor country must therefore be scaled down from \( L_{b2} \) and \( L_c \) to \( \alpha L_{b2} \) and \( \alpha L_c \); and it is the more advanced conditions of production in the rich country which define the international labour value of cloth (that is, \( \lambda_a \), which is obtained by solving the second equation in the system). In the third equation, then, the value of cloth output in the poor country is shown as \( \lambda_b B_{21} \) and this equals the sum of the indirect labour (\( \lambda_a A_{b2} \)) and the direct labour (\( \alpha L_{b2} \)) required. The fourth equation sets the labour value of the output of coffee (\( \lambda_c C \)) equal to the sum of the indirect and direct labour required in its production (\( \lambda_a A_c + \alpha L_c \)).

Solving system (10.8), which has four equations and four unknowns (\( \lambda_a, \lambda_b, \lambda_c \) and \( \alpha \)), we obtain

\[
\lambda_a = \frac{L_a}{A - A_a}
\]

\[
\lambda_b = \frac{L_{b1}}{B_1} + \frac{A_{b1}}{B_1} \cdot \frac{L_a}{A - A_a}
\]

\[
\lambda_c = \frac{L_a}{A - A_a} \left[ \frac{A_c}{C} + \frac{L_c}{C} \cdot \frac{B_2}{B_1} \left( \frac{A_{b1}}{B_1} - \frac{A_{b2}}{B_2} \right) \right] + \frac{L_c}{C} \cdot \frac{L_{b1}}{B_1} \cdot \frac{B_2}{L_{b2}}
\]
$$\alpha = \frac{\lambda_a B_2 - \lambda_a A_{b2}}{L_{b2}} = \frac{B_2}{L_{b2}} \cdot \frac{L_{b1}}{B_1} + \frac{B_2}{L_{b2}} \cdot \frac{L_a}{A - A_a} \left( \frac{A_{b1}}{B_1} - \frac{A_{b2}}{B_2} \right)$$

(10.9)

The equation for \( \lambda_a \) is straightforward: the labour value of a machine is equal to the labour employed in the industry, divided by the net output of machines. The equation for the value of a unit of cloth (\( \lambda_b \)) shows it to be the sum of (i) the direct labour input per unit of output, \( L_{b1}/B_1 \), and (ii) the indirect labour which is required, given by the product of the machine-output ratio (\( A_{b1}/B_1 \)) and the value of a machine \( \lambda_a = \frac{L_a}{A - A_a} \).

The even more complicated expression for \( \lambda_c \) can be interpreted similarly. As for \( \alpha \), the fourth equation in system (10.9) shows it to depend (among other things) upon (i) the relative productivities of living labour in the cloth industry in the two countries (\( B_1/L_{b1} \) and \( B_2/L_{b2} \)); and (ii) the relative machine-output ratios (\( A_{b1}/B_1 \) and \( A_{b2}/B_2 \)).

We can now return to the question of unequal exchange. If we set the value-price ratio of machinery equal to unity, so that \( \lambda_a = \rho_a = 1 \), unequal exchange can be defined in terms of the trade in coffee alone. Exchange will be unequal if \( p_c \neq \lambda_c \), that is, if the price of coffee (in terms of machines) differs from its labour value. With \( \lambda_a = 1 \) in equation (10.9),

$$\lambda_c = \frac{A_c}{C} + \frac{L_c}{C} \cdot \frac{B_2}{L_{b2}} \left( \frac{A_{b1}}{B_1} - \frac{A_{b2}}{B_2} + \frac{L_{b1}}{B_1} \right)$$

(10.10)

and to establish the existence of unequal exchange we must compare equations (10.6) and (10.10). Again no simple conclusion suggests itself. Exchange is likely to be unequal, but there is no clear reason to suppose that it will necessarily benefit the rich country at the expense of the poor country rather than the other way round. Thus a more rigorous reformulation fails to provide any general substantiation of Emmanuel's three basic claims.37 This can be illustrated by inserting hypothetical numerical examples into Andersson's model, as in Appendix 38.

V Some Unanswered Questions

In spite of these serious analytical defects, it is difficult to deny that Emmanuel highlighted an important question. Why is it that Sri Lankan tea-pickers earn only a tiny fraction of the real wages paid to a working-class tea-drinker in the United States? Why do stonemasons or truck drivers in the
two countries, performing very similar work, enjoy vastly different living standards? Why is it, after centuries of international trade, that these wage differentials not only have not been eliminated, but have widened considerably? Is there not a 'labour aristocracy' on a global scale, and might this not shed light on the absence of international proletarian solidarity?

If Emmanuel achieved nothing else, he did ensure that Marxian economists were forced to pay long-overdue attention to questions such as these. And there are others. One is the Marxian attitude to the theory of comparative costs. The great majority of Emmanuel's critics rejected autarky as a feasible path to development. Were they not thereby endorsing the orthodox analysis of trade as a process in which both parties gain, and workers in poor countries may gain most of all? Another set of issues concerns the analysis of exploitation when wages differ. Are two groups of workers differentially exploited whenever they are paid unequal wages, or only when wage differentials exceed any differences in productivity? What if they are concentrated in different branches of production, so that their productivities cannot easily be compared? These questions have ramifications beyond the theory of imperialism: for example, in the analysis of discrimination against black or women workers within the advanced countries. They have yet to receive an adequate answer.

A third set of problems is posed by Emmanuel's assumption that competition rather than monopoly prevails in international economic relations. This is one of his most obvious disagreements with Leninism. Is it fully justified by the emergence of a global free market under US economic hegemony after 1945? Are the multinational corporations effectively free competitors on a world scale? If so, how is one to interpret the protective barriers imposed by the rich countries against the poor countries' exports? How do these trade barriers compare with the repatriation of profits, and with deficiencies in domestic demand due to low wages, as an obstruction to the economic development of the Third World? Was Emmanuel in fact correct to minimise the significance of capital exports (his second major break with Leninism)? Or is the focus of accumulation now shifting from the metropolis to the periphery, so that the whole basis of the distinction between rich and poor countries is beginning to break down? How long will it take, and what are the implications for wage differentials? We turn to some of these questions in the following chapter.

Appendix A: Unequal Exchange Due to Different Organic Compositions

If we modify the numerical example used in section II by allowing equal wages and rates of exploitation, but unequal organic compositions, we can write the following value relations:
Unequal Exchange

\[
\begin{array}{cccccc}
& c & v & s & \text{total value} & \text{value per unit of output} \\
A & 480 & 120 & 120 & 720 & 24 \\
B & 240 & 120 & 120 & 480 & 16 \\
\end{array}
\]

Here the average profit rate is \((240/960) = 25\) per cent, and the price relations are:

\[
\begin{array}{cccccc}
& \text{cost-price} & \text{profits} & \text{price of production} & \text{value per unit of output} \\
A & 600 & 150 & 750 & 750/30 = 25 \\
B & 360 & 90 & 450 & 450/30 = 15 \\
\end{array}
\]

Again the relative price of cars in terms of tea \((25/15 = 1.6)\) exceeds their relative labour value \((24/16 = 1.5)\). If \(A\) imports 5 tons of tea at a total cost of 75, \(B\) can import three cars costing \((3)(25) = 75\). The labour value of \(A\)'s imports is \((5)(16) = 80\), exceeding the labour value of its exports, which is \((3)(24) = 72\). The rich country has gained eight days of labour through this unequal exchange.

**Appendix B: Numerical Example of Andersson's Model**

For simplicity the output of each industry is assumed to be the same \((A = B_1 = B_2 = C = 100)\), and the input requirements are set at \((A_o = 80, L_o = 20), (A_{o1} = 50, L_{o1} = 50), (A_{o2} = 40, L_{o2} = 200)\), and \((A_c = 20, L_c = 100)\). Here machinery production is the most machine-intensive, followed by cloth manufacture in the rich country; cloth and coffee production in the poor country are equally labour-intensive. Setting \(p_o = \lambda_o = 1\), and \(p_{o1} = p_{o2} = p_o\), it is found from equations \((10.1) - (10.10)\) that \(\lambda_o = 1, \lambda_o = 0.5\) and \(\alpha = 0.3\). Assuming that \(w_1 = 0.2\), we also obtain \(p_o = 0.7, p_c = 0.35, w_2 = 0.11\), and \(r = 0.2\). Since \(\lambda_o = 0.5 > p_c = 0.35\), the poor country is the victim of unequal exchange. Raising \(w_1\) to 0.6, however, has the following effects. The rate of profit falls \((r = 0.11)\), the price of coffee increases \((p_c = 0.425)\) and the wage rate in the poor country rises \((w_2 = 0.205)\). Contrary to Emmanuel's expectations, an increase in real wages in the rich country has increased real wages in the poor country, improved its terms of trade, and reduced the degree of unequal exchange (since \(p_c/\lambda_o = 0.425/0.6 = 0.71\), as against \(0.35/0.6 = 0.58\)). Even though in this case unequal exchange does indeed benefit the rich country, its magnitude is unlikely to be very great.
Now reverse the production conditions in the rich country's two industries, so that machine production becomes less machine-intensive than cloth manufacture (the data for the poor country's two industries do not change). With \( A_0 = 50, L_0 = 50, A_{bi} = 80 \) and \( L_{bi} = 20 \), the labour value solutions prove to be the same as before. If we set \( w_1 = 0.5 \), the price equations can be solved to obtain \( p_c = 0.65, w_2 = 0.35 \), and \( r = 0.5 \). Unequal exchange now operates in favour of the poor country, since \( p_c = 0.65 > \lambda_c = 0.5 \). Increasing \( w_1 = 0.8 \) gives a new solution with \( p_c = 0.56, w_2 = 0.32 \), and \( r = 0.2 \). Wages in the poor country have fallen, its terms of trade have deteriorated, and its advantage from unequal exchange has declined (since \( p_c / \lambda_c = 0.56 / 0.5 = 1.12 \) rather than \( 0.65 / 0.5 = 1.30 \)). Although in this case there is indeed no basis for international proletarian solidarity, as measured by the criterion on p. 196, it offers very little comfort for Arghiri Emmanuel.

As a general theory, *Unequal Exchange* is evidently deeply flawed.

**Notes**


10. Andersson, Studies, pp. 167–79.

11. Emmanuel, Unequal Exchange, pp. 95, 104, n.81.


13. Ibid, pp. 24–5; cf. ibid, pp. 120–2.

14. Compare ibid, Ch. 1 and Appendix 5; on Sraffa see Chs 13–15 below.

15. Marx, Capital, III, Ch. IX; see also Ch. 3 of volume I of this book.


21. Ibid, pp. 339–40, citing Lenin on this point; cf. section III of Ch. 9 above.


29. Andersson, Studies, Ch. 2 (Andersson uses the term ‘non-equivalent exchange’ to describe trade which takes place – for whatever reason – at ratios other than those equal to relative labour values).
39. Samuelson, 'Ilogic'.