

# UNEQUAL EXCHANGE AND ECONOMIC POLICIES: SOME IMPLICATIONS OF THE NEO-RICARDIAN CRITIQUE OF THE THEORY OF COMPARATIVE ADVANTAGE

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## Introduction

Over the last 150 years, there has been an endless stream of critical literature on the theory of comparative advantage. Why should one bother with yet another paper on the subject? It is the purpose of this paper to show that the recent upsurge of critiques of the standard theory of comparative advantage (as expressed in the classical Ricardian forms and in the highly refined neo-classical form) have far reaching consequences, not only theoretically, but in the implications of the theories for policy and action in the concrete world. Since the full implications of these critiques are only just beginning to be worked out, only passing reference is made to some of the consequences.

In this article, I deal only with what might be termed the neo-Ricardian critique<sup>1</sup> of the theory of comparative advantage. A survey of recent Marxist critiques of the theory of comparative advantage, together with Marxist critiques of the neo-Ricardian trade theory, will be the subject of a further paper.

Reasons for dissatisfaction with the prescription of specialization in accordance with 'comparative advantage' in an ideal world of free-trade and capital movements are not hard to find. Apart from revolutionary activity in the Third World, directed towards breaking away from the world capitalist system, an obvious source of discomfort to conventional wisdom is the rapid rise of inter and intra national income inequality in the post-war era. This has occurred in spite of a massive increase in trade and capital flows, which,

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<sup>1</sup>The most important names associated with this critique are Emmanuel, Saigal, Amin, Braun, Metcalfe, Steedman and Mainwaring. See bibliography for a list of their most important writings.

according to the neo-classical theory of comparative advantage, should have resulted in a more equal distribution of the fruits of the development of the forces of production. Over the last twenty five years, free-trade (or freer-trade) policy prescriptions have been accepted by many capitalist governments; the Kennedy Round tariff cut is perhaps the most shining example of the successful implementation of this type of policy. Such policies are usually implicitly or explicitly based on the neo-classical trade model, and have been implemented both with and without a supplementary package of policies designed to eliminate others which are counter productive, to offset imperfections in the economy, and so on, as required to validate the free or freer-trade policy. Whilst the neo-classical trade model generates the presumption of potential economic benefits from free-trade, and the more equal distribution of such benefits, the fact that such predictions were not fulfilled need not necessarily be taken as evidence that the model was wrong. It is possible that in a second-best situation when special complicating real-world factors are included in the model (factors which in no way undermine the basic model), the observed outcomes are quite reconcilable with the model. Alternatively the neo-classical model itself could be fundamentally flawed.

It will be argued here that the problems with both the neo-classical and Ricardian models are more fundamental than has been generally admitted. It is not simply a matter of taking into account more realistic and complicating factors. It will be shown, for example, that under the most simple assumptions about the nature of the world economy, the general presumption in favour of free-trade will be entirely removed from the theory of comparative advantage. This is a matter of enormous importance, for at this level of abstraction even Marx did not challenge Ricardo. Thus the neo-Ricardian critique is of crucial importance for all who work on the problem of international trade and value; an understanding of the neo-Ricardian critique of the theory of comparative advantage is a prerequisite for the development of a more satisfactory theory of international values. For empirically oriented policy research, the consequences are far reaching. An example close to the work of IDS is the recommendation of freer-trade in agricultural products to raise employment in Third World countries, and possibly to improve income distribution

as well, made in Singer *et. al.* (1973) and discussed by Singer and Selwyn elsewhere in this bulletin. As will be shown later, whilst it is possible to presume that such a policy will have favourable consequences for employment and income distribution on the basis of the type of evidence used by the authors, there remains the possibility that there exists a radically different trading policy which would be much better. This possibility is reinforced by the observation that, under plausible dynamic assumptions, the short-run gains from freetrade may be eroded over time.

In the sections which follow, I will first outline the original Ricardian theory of comparative advantage and the neo-classical development from this theory. Passing reference will be made to modifications to the neo-classical theory developed to try to encompass some observed phenomenon in the real world without rejecting the fundamental theory. The next two sections deal with the two routes in the neo-Ricardian critique. The first is the capital-theory route taken by Metcalfe, Steedman and Mainwaring, followed by the 'Unequal Exchange' route, stemming from the French Marxist, Emmanuel. The neo-Ricardian trade model is then used to generalise the Lewis surplus labour model, and to incorporate some of the mechanisms influencing the distribution of the gains from trade discussed by Prebisch and Singer. The final section deals briefly with the 'Unequal Exchange' model as one starting point for the development of a Marxist theory of international value. An appendix sets out diagrammatically Emmanuel's 'Unequal Exchange' model as a special case of the Metcalfe-Steedman-Mainwaring model, and uses this diagram to illustrate the points made on Lewis, Prebisch and Singer.

### **Ricardian Theory and the Neo-Classical Development**

Ever since the publication of Ricardo's *Principles of Political Economy and Taxation*, the law of comparative advantage has never been seriously challenged as the fundamental determinant of international trade and values, whether formulated in the Ricardian or in the neo-classical framework associated with the names of Heckscher,

Ohlin and Samuelson.<sup>2</sup> The challenges of a long list of protectionist theory and its associated free-trade doctrine have been integrated into the main body of international trade theory.<sup>3</sup> By directing attention to correcting the malfunctioning of the market mechanisms which operate in one way or another to give incorrect 'signals' as to the direction of comparative advantage, the free-trade argument has in general survived the onslaught (see for example Bhagwati, 1969). Protectionist arguments arising out of the work of Keynes (1936), from which it can be shown that a single country can gain from protection in the presence of unemployment, do not constitute a challenge to the theory of comparative advantage. Such problems, it is argued, can be better dealt with by using fiscal policies to overcome the market malfunction which gives rise to unemployment.

Considerations arising from the problem of decreasing costs and external economies have been dealt with by the identification of appropriate market interventions where the malfunctioning of competitive markets leads to specialization against 'true' comparative advantage. More recently, there has been work stressing the dynamic nature of comparative advantage within the context of computable programming models designed to give planners the 'right' price signals for investment decisions (see for example Chenery, 1961, and Bruno, 1970). Questions of domestic monopoly, factor price distortions, incorrectly valued exchange rates, have been treated as a market imperfection which can lessen the gains from trade arising from specialization according to comparative advantage. In the production of new technology, monopoly is in fact often regarded as an essential market mechanism for attracting resources into R & D (research and development) and for the realization of a comparative advantage in R & D. Monopoly in foreign trade also leads to one of the few 'legitimate' arguments for export taxes or tariffs.

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<sup>2</sup>There are, of course, some exceptions to this. For example, 'availability' has been suggested as the fundamental determinant of what is traded. The direction of trade flows has been related to similarities in income levels and demand patterns, which is opposite to the theories of trade determination discussed here. See Kravis (1956) and Linder (1961).

<sup>3</sup>See, for example, List (1885), Manoilescu (1931), Lewis (1954), Prebisch (1950, 1959), Singer (1949a, b).

Ricardo's concern with international trade is related to but not integrated with his theory of capital accumulation in a closed economy. Behind his analysis of accumulation was a deep concern with the struggle for power in England between what he saw as a progressive and modernizing industrial capital class and a reactionary landed gentry living mainly on the rents from their agricultural land (see Halévy, 1928). A related concern was the possible development of revolutionary forces in the emerging industrial working class — forces generated in part by the high cost of bread resulting from the Corn Laws (in France in 1830 bread absorbed between 30 and 50 per cent of a working man's wage — see Emmanuel, 1972). Ricardo's demonstration of the possibility of gains from free-trade (especially from the abolition of the Corn Laws) had the attractive feature of providing a favourable outcome for industrial capital with whose interests he closely identified. The removal of the Corn Laws would lower the cost of bread, thus removing an immediate cause for discontent amongst the working class. It would smash the landed gentry as a serious challenge to the power of industrial capital, releasing labour for employment in manufacturing. In short free-trade would provide a basis for the expansion of industrial capital without the shackles of the law of diminishing returns from land and the long-run redistribution of income to the landed classes.

Ricardo's demonstration of the gains from free-trade, as indeed almost every presentation of his argument since then, abstracts from the dynamics of his theory of distribution discussed above. He assumed that resources were mobile nationally but completely immobile internationally and that labour was the only factor of production considered explicitly, being employed in two branches of production exhibiting constant return to scale. Significantly Ricardo claimed that free-trade would lead to a gain for everybody in the society; in fact one can demonstrate that there will be some gains and losses with only a net potential gain for everybody. Given the supply of labour in each country once machines and natural resources are explicitly rather than implicitly included, the exchange prices are proportional to relative labour inputs in internal trade. Once the possibility of internal trade is introduced, then profitable trade can take place between the limits set by the internal price ratios, which are fundamentally determined by the technical conditions governing labour inputs in each economy. These technical

conditions are, in turn, influenced by the availability of machines and natural resources which are only implicitly included in the formal model considered by Ricardo, the famous England-Portugal example. There is nothing in Ricardo's analysis to determine international values which are unhinged from the labour theory of value and are left indeterminate.

Before dealing with the classical mechanisms for the determination of international prices, several points should be noted. First, the opening of trade implies the possibility of complete specialization in the production in each country. Whilst it is easy to think of many reasons why complete specialization will not take place, the assumption of costless labour mobility to an alternative branch of industry, even when complete specialization does not take place, hides behind it a wealth of evidence of the direct costs of trade to those thrown out of work by foreign competition — handicraft workers, small scale producers, and so on — and indirect losses via the less dynamic external economies in such industries. The converse of this is that those engaged in the production of the exported good gain from the increased demand for their product. It is around this issue that much debate is generated, for the cost to those thrown out of work by trade may be, at best, unskilled wage work and, at worst, permanent underemployment. This consideration leads directly to the second point, that the argument so far shows only potential gain for all from trade and not, as Ricardo claimed, actual gain for all. For the latter to be achieved, it is necessary not for those workers who gain actually to compensate those who lose, but for the capitalists and landowners in the declining industry also to be bought off. Thirdly, the assumption made so far is that the gains from trade will all be paid out in terms of higher wages to workers. However, there is no reason why some of this should not go to profits and into accumulation, as in the more dynamic analysis of distribution.

The classical solution to the determination of international values was found in Mills' law of reciprocal demand. The introduction of demand as the determinant of the equilibrium terms of trade in the Ricardian model emphasizes the break from the labour theory of value as the determinant of international values. However, there are important considerations which modify this proposition, having profound implications for the analysis of the distribution of the gains

from trade between countries within the framework of analysis as developed so far. If one retains a two-country split of the world, then there is a presumption that all of the gains from trade will go to the small country and that international values are 'determined' by the relative labour costs of the large country.

The happy proposition that the big, rich countries of the world do not gain as much from international trade as the poor, small and the weak has been challenged within the context of the Ricardian theory. Once many commodities and many countries are introduced there would no longer be a presumption that the international values will be determined by the cost conditions of the largest country (see Graham, 1948). Rather, prices would be determined by the ratio of labour costs on one of the many pairs of commodities produced in any one of many countries. Thus, it will no longer be so likely that all of the gains from trade will go to the smallest country, though the practical importance of this has been played down.

A final note on modern day extensions of the classical trade model. Modern linear programming can be used to solve the Ricardian trade model (see Whitin, 1953, and McKenzie, 1954). This has led to the development of a very large number of planning models in which international trade has been incorporated, and a smaller number of models designed to simulate the workings of a capitalist economy. The spirit of all those models, which have been designed and developed for the analysis of policy alternatives facing either central planners in socialist countries or policy makers in capitalist economies, remains essentially Ricardian.<sup>4</sup>

The differences between the Ricardian and Neo-classical (Heckscher-Ohlin-Samuelson) theories of comparative advantage, at the level of comparative static analysis, lie mainly in the substitution of the role of factor proportions as the primary determinant of comparative advantage as distinct from differences in techniques of production. In its most essential form, the neo-classical theory begins by

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<sup>4</sup>Chenery (1961) discussed the philosophy behind many of these models as applied to the so-called developing economies. Evans (1972) uses this type of model for the analysis of trade problems in a small rich capitalist country. For a survey of these models, see Taylor (1973).

demonstrating the possibility of gainful trade when the techniques of production are identical in all countries but the endowment of productive factors differ. Naturally, if techniques of production between two countries were in fact different, as in the Ricardian case, then there will be additional reason for differing pre-trade price ratios and the possibility of gain from trade. In addition, differences in demand patterns will also give rise to differences in pre-trade price ratios even if techniques and factor endowments are the same.

Whilst there is an elaboration of the types of factors which can lead to the possibility of profitable international trade, the conclusions reached with the aid of the static neo-classical model are very similar to those reached with a static Ricardian model. The extension of the international division of labour leads to the potential gain of all members of society, with the given technical conditions of production and preferences of consumers. Further, it can readily be shown that if the neo-classical assumptions hold together with certain empirically plausible restrictions on the production conditions, the income of the owners of the factor used intensively in the exporting industry will increase both absolutely and relatively with the opening of trade, with the converse holding for the owners of the factor used relatively intensively in the import competing sector. The Ricardian propositions concerning the distribution of the gains from trade between a large rich and small poor country will tend to hold. This arises because it is more likely that the small poor country will end up with a very high degree of specialization in production, since its factor endowments will be very different from those in the rich large country, leading to larger potential gain. Finally, there are two elaborations of the neo-classical model of special importance for later discussion.

Firstly, factor immobility plays a crucial role in the Ricardian system, but this is not true for the neo-classical system. In fact, within the comparative static neo-classical world it has been shown that factor movements can substitute for commodity movements in achieving the potential gains from international interaction (see Mundell, 1957). This proposition is of enormous importance when it is realised that there are serious barriers to trade and labour movements, and natural resources are not easily transportable. What



better argument for the free-flow of international capital? The importance of this proposition for those who identify with the interests of American and other rich country capital is quite similar to Ricardo's demonstration of the gains from free-trade for manufacturing capital in 19th century Britain (see for example, Johnson, 1967). In the 'ideal' neo-classical case, the international capital flow leaves the workers with the same income as with free-trade, the domestic capitalists with the same returns, and the rest of the income is paid out to the foreign capitalists. Thus, the domestic factors in the country have the same relative (and absolute) income either with free trade or with no trade and an inflow of foreign capital. The same point applies to the international movements of labour, and lies behind much of the discussion of the 'brain drain' by neo-classical economists.

Secondly, there are some important neo-classical propositions which arise from the consideration of economic growth and technical change. Perhaps the most important proposition for consideration here is the concept of immiserizing growth of factors of production, or growth which leaves a country with both a relative and an absolute lowering of income after growth (see for example Bhagwati, 1958, 1968, 1973). This phenomenon can occur for a wide variety of reasons.

Consider first the effects of either technical progress or balanced factor accumulation. At constant international terms of trade, relative factor prices are unchanged by growth and consumption will increase by the same percentage as production. Now if the rate of balanced growth is higher than in the rest of the world (for the sake of argument, the rest of the world does not grow), then some of the benefit of growth must be lost via a deterioration in the terms of trade. If the rest of the world is not growing, then the only way in which the international markets will be cleared is for the price of exports of the growing country to fall and the price of imports to rise. The extent to which the terms of trade deteriorate will depend (amongst other things) on the elasticity of demand for the growing countries' exports and the ease with which production is shifted from the export to the import competing industry. The more inelastic the demand for exports and the possibilities of substitution

into import competing production, the greater will be the decline in the terms of trade. Further, if the growth is biased towards the export sector (for example from more rapid growth of the factor used intensively in the export sector), then the greater will be the decline in the terms of trade. In essence this is the neo-classical analysis of the problem of the tendency over some periods of the terms of trade to move against poor primary produce exporting countries, whose export industries tend to be labour intensive, and to experience relatively rapid technical change. Further, these countries often have a very rapid population growth, and demand for their products in export markets tends to be inelastic.

It is a short step from the above analysis to establish the conditions under which growth will lead to such a deterioration of the terms of trade that the country is worse off than before growth. For example, accumulation of the factor used intensively in export production (say labour, the problem arising from a population explosion) will lead to an absolute decline in importable production at constant factor and commodity prices since some of the factor used intensively in the importable sector must move into exportable production. Of course, the converse of this is that a lack of growth in such export industries will lead to a rapid improvement in the terms of trade, as has occurred over recent years in a number of countries exporting primary commodities.

A summary of the conditions for immiserizing growth (where growth is defined in terms of the physical expansion of inputs rather than income derived from production) is as follows:

1. the rest of the world's offer curve must be inelastic;
2. growth must be biased towards export production.  
In addition, the following factors make immiserizing growth more likely:
3. the ratio of total domestic production to imports is small;
4. the price elasticity of demand for imports is low;
5. the elasticity of supply of importables to a change in the price of importables is small.

The list of circumstances under which immiserizing growth can occur has been considerably lengthened. Distortions in factor markets, tariffs and tariff-induced capital flows can all lead to immiserizing

growth (see Bhagwati, 1968, 1973). However, lest one despair that this destroys the basic argument of the neo-classicists, that free-trade is best, it is important to note that in all cases, immiserizing growth can be overcome by some 'optimal' policy intervention. Further, the only case which requires 'deviation' from free trade is that discussed in detail above, where the consequences of immiserizing growth can be removed by an optimal tariff in conjunction with such measures as population control (if that is exacerbating the problem).<sup>5</sup>

A great deal of work has been done in recent years on fully dynamic extensions of the Heckscher-Ohlin-Samuelson model. There is little point in discussing these contributions, since the essential flavour of the neo-classical approach has been established well enough for our purposes and, as will now be shown, one of the crucial building blocks of the neo-classical approach is valid only on the most stringent assumptions about the nature of capital.

#### The Capital Theory Route to a Neo-Ricardian Critique

In all of the discussion of the neo-classical model so far, it has been implicitly assumed that in principle, a unique measure can be found for capital endowments. Unfortunately for the neo-classical trade model, it is not possible to define capital as a part of 'factor endowment', unless it is assumed that capital goods are homogeneous (which obviously they are not — see Garegnani, 1970). With heterogeneous capital goods, it is necessary to use some set of weights to construct an index to measure the sum of all types of capital endowments. An obvious set of weights is to use the labour required directly and indirectly to produce capital goods, but then one would no longer be dealing with capital as an independent 'factor' of production as is done under the neo-classical paradigm. An alternative which would enable one to aggregate different types of capital goods would be to use prices of capital goods. However, to be useful to the neo-classical trade model (which predicts the direction of trade on the basis of some measure of factor endowments), the index of capital must be invariant with respect to changes in factor prices. Otherwise, comparative advantage will be dependent on the

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<sup>5</sup> For an excellent summary of the neo-classical position see Sodersten (1970, ch. 12).

distribution of income as well as factor endowments, the technical determinants of production techniques and preferences in consumption. An invariant measure of capital using price weights can be made only in the case in which the capital/labour ratios are the same in every industry, a restriction that attacks the very core of a theory which sets out to predict the patterns of trade in the simplest case where each industry throughout the world produces with identical techniques of production (but techniques of production differ between industries) and the only difference between countries is factor endowments (see Metcalfe and Steedman, 1973a). It is ironic that the neo-classical theory should fall apart on the very point for which Marx was so heavily criticised – the assumption of a constant organic composition of capital (constant capital/labour ratio) made in some parts of *Capital*.

A corollary of the demonstration that there is no measure of capital which is invariant with respect to factor prices (or the distribution of income) is the demystifying of the income distribution theory behind the neo-classical model. That is, it is no longer possible to identify a relationship between the marginal productivity of capital or labour and to call it either the rate of profit or wages. Capitalists as recipients of a reward for their contribution to production and abstinence from consumption are decisively relegated to the realm of ideology without an independent 'scientific' validity. As a result of the capital theory point, the distribution of income becomes a central determinant of the possibility of gainful international trade and specialization. Thus the quest for squaring the observed reality of a worsening distribution of income in the post war era with the neo-classical model by the elaboration and extension of the model to cover more complicated 'real world' factors is fundamentally mistaken, for the capital theory point attacks at the very core of a factor-proportions theory of international trade, which includes capital as an 'independent' factor.

The theoretical literature on the neo-Ricardian theory of international trade developing out of the Cambridge (England) side of the capital theory debate has grown rapidly over the last two or three years (also referred to as the 'English' neo-Ricardians for convenience in later comparisons with 'Unequal Exchange' or 'French' neo-

Ricardians). Theories of income distribution considered by the 'English' neo-Ricardians include a 'classical' theory of the determination of wages by subsistence or historically/socially/institutionally given norms, or a neo-Keynesian theory based on capitalist savings behaviour and the rate of growth<sup>6</sup>. Whilst some of the conclusions of the neo-classical theory carry over to the neo-Ricardian theory when capital is relegated to the role of a produced input, some of the most important propositions do not. For example, the neo-classical theory predicts that trade will raise the income of the factor intensively used in export production. Whilst there are qualifications to the neo-classical theory which will make this result less likely, there remains a presumption that this will be the case. The neo-Ricardian theory entirely removes this presumption: the more realistic world of heterogeneous capital goods is more complex than the neo-classical homogeneous capital world. More specifically, in the work of Singer *et. al.* (1973), and Singer's article in this bulletin, it is suggested that lowering protective barriers in agricultural products in rich countries will improve employment and possibly even income distribution in poor countries via the expansion of relatively labour intensive agricultural production. Whilst such a prediction is not inconsistent with the 'English' neo-Ricardian model, such a trade strategy may move the poorer countries away from a superior trading pattern. This possibility arises since the converse can be shown: that opening trade between capitalist countries will lead to a loss of both worker and capitalist consumption. This result can be explained as follows:

In the neo-classical analysis, losses of economic welfare arise when there are imperfections in the competitive market mechanism, such as in the markets for capital and labour. Under these circumstances, it is quite possible for free-trade to lead to specialization away from 'true' comparative advantage, leaving economic welfare lower after trade than with no trade. This special case in the neo-classical model is the general case in the neo-Ricardian model because of the differences in the specification of capital. In the neo-classical model, capital is a recipient of its 'marginal product' with no pure surplus or profit paid to capital over and above its 'reward'. On the other hand,

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<sup>6</sup> See, for example, Metcalfe and Steedman, (1973a,b,c, 1974) and Mainwaring (1973).

in the neo-Ricardian model, capital receives only a pure surplus or profit, there being no relationship between 'marginal product' and the rate of profit. As a consequence of the different specification of capital, there exists in the neo-Ricardian model a rate of profit which plays a similar role in the market mechanism to the factor market distortions in the neo-classical case, opening the possibility of loss from trade. Thus, whereas for 'pure' capitalism in the neo-classical case, free-trade must lead to a gain in economic welfare, capitalism in the paradigm case is fundamentally flawed in the neo-Ricardian model and is unable to guarantee gains from trade without the intervention of the state to correct the 'wrong' price signals. Only under an economically 'rational' socialism can the presumption of gainful international trade be restored.

### The 'Unequal Exchange' Route to a Neo-Ricardian Critique of the Theory of Comparative Advantage

Under the general title of the theory of 'Unequal Exchange' (a term introduced by the French economist Emmanuel), a critique has been mounted of the accepted theory of international values which attempts to place economic, social, political and historical forces and their interaction as central determinants of the terms of trade and the distribution of gains or losses from trade.<sup>7</sup> In time, the 'Unequal Exchange' theory appeared several years in advance of the neo-Ricardian trade theory discussed in the previous section, and as far as the present author is aware, the work by the 'English' neo-Ricardians has been quite independent of the Unequal Exchange literature. The theory of Unequal Exchange has been presented by Emmanuel as a Marxist theory, using Marxist reproduction schemes in the theoretical exposition and Marxist terminology in the discussion. However, as argued particularly cogently by Bettelheim (1972) and Pilling (1973), Emmanuel's theory is essentially Ricardian and will be treated as such here.

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<sup>7</sup>See Emmanuel (1972). Other main contributors to the development of the Theory of Unequal Exchange are Amin (1973), Saigal (1973) and Braun (1971). Amin's contribution is Marxian rather than neo-Ricardian, and will be dealt with more fully in a paper on the Marxist critique of the theory of comparative advantage.

Emmanuel's attack on the theory of comparative advantage challenges first the assumptions about factor mobility made by Ricardo. (As already noted in Section 2, altering the assumptions about factor mobility is of no real consequence to the neo-classical model). Whilst retaining the assumption of labour immobility internationally, Emmanuel argues forcefully for the treatment of capital as internationally mobile, with the rate of profit tending towards equality in all countries. In this respect, Emmanuel's model is but a special case of the 'English' neo-Ricardian model discussed in the previous section, which encompasses the case of both mobile and immobile capital. Secondly, he rejects the lack of explicit treatment of capital in the Ricardian model, and its treatment as having a marginal product equal to its profit, as in the neo-classical case. He treats capital as a produced input as in the tableaux of Marx and the 'English' neo-Ricardian system discussed in the previous section. Thirdly, he adopts a specific theory of income distribution, namely that wages are determined independently by historical and moral forces. In addition, unlike the 'English' neo-Ricardian theory presented in Section 3, Emmanuel assumes that relative prices play no role in the determination of the composition of the bundle of commodities consumed. From this model, Emmanuel establishes the direct relationship between the international terms of trade and the cost of labour power, as measured by the bundle of commodities required to maintain labour. Thus, in a world of identical techniques of production, and internationally mobile capital but different wages, a situation which in the Ricardian model leads to no differences in the pre-trade price ratios with no possibility of gainful trade, generates in both the 'English' neo-Ricardian and 'Unequal Exchange' models the possibility of gainful trade. (In the neo-classical case, identical techniques of production and preferences in consumption will only lead to identical pre-trade price ratios when factor endowments are identical). Abstracting from the question of capitalist consumption, the introduction of trade under these circumstances will lead to a rise in the rate of profit for the high-wage country and a fall in the rate of profit for the low-wage country. The reader is referred to the Appendix for a more detailed exposition. The trading relationship results in 'Unequal Exchange' in the sense that there is a transfer of reinvestible surplus (surplus value) from the low-wage to the high-wage country via the terms of trade. It can also

be established that the interests of workers in the high-wage country are diametrically opposed to the interests of workers in the low-wage country since, for a given international rate of profit, a rise in wages in the high-wage country requires a lowering of wages in the low-wage country to restore equality of prices of commodities internationally (see Amin, 1973, and Saigal, 1973). It can also be shown that the theory still holds when there are international differences in productivity of some constant amount, provided that international wage differentials do not exceed the productivity differentials. Naturally, if productivity differentials differ in a non-constant manner between countries in different industries, an additional basis for trade (as in the original Ricardian model) is established.

There are several problems with Emmanuel's 'Unequal Exchange' model. First, there is the question of the choice of wages as the independent variable, justified with his own analysis and with quotations from Marx. Not only can it be argued that this approach is a mis-reading of Marx, but Emmanuel has offered no convincing theory as to how wages are determined over time.<sup>8</sup> The choice of wages as the independent variable leads directly to a second problem. That is the suggestion that haemorrhage of 'Unequal Exchange' (adverse terms of trade) can be removed by low-wage countries simply by raising real wages. However correct this might be in the abstract mathematical model, as a prescription for action it not only abstracts from crucial economic and political factors but it relies on a linear causal chain which is rather tendentious. That causal chain suggests among other things, that higher wages will lead not only to an improvement in the terms of trade but also to a round of technical advance, which is only partially offsetting. Third, since the 'Unequal Exchange' model assumes a fixed technical coefficient model of production and consumption, it is only by chance that the two-country examples used will yield full employment of labour in both countries. Nowhere is this problem discussed. In this respect, the 'English' neo-Ricardian model described in the previous section has been set out with far more technical care, with demand conditions assumed to be sufficiently price-responsive to guarantee

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<sup>8</sup> For discussion of this see Bettelheim (1972), Amin (1973), Pilling (1973).



full employment. This does not mean that implicit assumptions in the 'Unequal Exchange' model regarding price substitutability and therefore employment are incorrect, for it is quite plausible to argue that price substitutability is quite insufficient to guarantee full employment in a capitalist economy. Fourth, by definition, when the possibility of unequal exchange exists the low-wage country will have a pre-trade profit rate which is higher than after-trade regardless of which commodities it trades. Yet with the exception of Amin (1973) there is no analysis as to why capitalists in the low-wage country will accept this result or what will determine the actual pattern of specialization. Furthermore, the mere existence of 'Unequal Exchange' defined in this sense means that there is a ready made argument for a sharp move towards autarky for the low-wage country to raise the rate of economic growth. Whilst it may be true that such a possibility will exist under some circumstances (e.g. Japan), the argument is not only simplistic but the model (unlike the neo-Ricardian model first discussed), has not been developed to encompass trading relationships when the exchange is not unequal in the sense that productivity differentials exceed wage differentials. Such an omission might be justified if there was strong, systematically compiled empirical evidence put forward to show that trading relationships between rich and poor countries were in fact characterized by unequal exchange in this sense, but this has not been done. A related criticism is that the trading relationship between countries of similar levels of development cannot be analysed within the unequal exchange model as developed.

#### A Generalization of the Lewis and Prebisch-Singer Terms of Trade Models

The Emmanuel Unequal Exchange model can be regarded as a generalization of both the Lewis surplus labour model and of the Prebisch-Singer terms of trade model (see Lewis, 1954, Prebisch, 1951 and Singer, 1949). In the former, wages are determined by the subsistence sector so that gains from trade in plantation sectors using surplus labour from the subsistence sector are transmitted to the richer high-wage country either via the terms of trade or through profits derived from the ownership of plantations. In the Prebisch-Singer model, institutional factors in the wage bargaining process lead to a transfer of the benefits of technical progress in low-wage

countries to the high-wage countries via a deterioration of the terms of trade of poor countries. (It is note-worthy that neo-classicists, unable to deal with institutional factors in the wage bargaining process, dismiss this part of the Prebisch-Singer terms of trade argument, using demand and factor augmentation arguments to explain shifts in the terms of trade for poor countries as described in Section 2. See, for example, Sodersten (1970)). In terms of the 'Unequal Exchange' model, technical change in the export sector of the poor country leads to a deterioration of the terms of trade of the poor country and a rise in the international rate of profit. If the capitalists of the rich country face strong unions, but no institutional pressure to increase wages in the poor country, then at a constant rate of profit the gains from technical change in the poor country can be used to increase wages in the rich country. The point is not without policy consequences. For example, Singer himself in a later piece already mentioned (Singer *et al.* 1973) and the article by Singer in this bulletin argues for trade liberalization in agricultural products as an employment creating device with favourable income redistribution consequences in poor countries. Taking into account Singer's own simple bargaining model, made more plausible by more recent theoretical development, this opens the possibility for any short-run gains from such freer-trade to be 'bargained' away by the richer countries. Thus, not only might such a freer-trade policy move poor countries away from better trading positions but it may open them to greater possibilities of having the short-run gains bid away. If such a policy were intended for the main benefit of the stronger Third World countries, one might be able to counter this by showing that, in fact, the 'bargain' might go against the rich countries and in favour of the poor. However, this is not the case here since it is precisely because it is believed that freer-trade in agriculture will benefit the poorest Third World countries (and presumably the weakest) that the policy is advocated. (For a more technical exposition of these points, the reader is referred to the appendix).

### **Concluding Remarks**

The essential thrust of this paper has been to suggest that recent developments in the theory of comparative advantage have deep consequences not only for future directions in the development of the theory of international value, but also for questions of policy and

action in the concrete world. The neo-Ricardian critiques of the theory of comparative advantage have their main strength in providing a sharp critique of both the Ricardian and neo-classical view. It is not intended to suggest here that, as a consequence of the neo-Ricardian critique, all previous empirical and policy oriented research has been misleading. Rather the intention has been to raise some new questions which urgently require answers. Much theoretical and empirical work remains to be done to develop a fully-fledged neo-Ricardian view.

There are at least three major problems with the neo-Ricardian critiques of the theory of comparative advantage as developed so far. First, although the issue of income distribution is dealt with in a more satisfactory manner than in the neo-classical model, it remains determined by 'technical' factors which are not the subject of systematic analysis. In Marxist terms, the neo-Ricardian theory is located in the sphere of circulation rather than production. Second, the theory remains essentially static with no attempt to move beyond comparative statics to a more dynamic view. Third, there has been little analysis of concrete situations to establish likely tendencies or patterns in the movement of a more dynamic system. The neo-Ricardian theory, still in its infancy, has so far performed only a debunking function. Fourth, there has been little or no attempt to relate the economic with political, social and historical factors to build a unified theory of international trade and value. These considerations will be taken up in more detail in a forthcoming paper surveying recent Marxist critiques of the theory of comparative advantage.

#### *appendix*

##### *A diagrammatic exposition of the 'Unequal Exchange' model*

Assume that there are two countries and two commodities produced with identical techniques of production in each country under constant returns to scale. The organic composition of capital differs between sectors and there are no joint products or externalities. For convenience it is assumed that capitalist consumption is zero. Then for given but different (up to a scalar multiple) bundles of commodities which enter the worker's consumption basket, the level of wages being expressed by the scalars  $W_1$  and  $W_2$ , it is possible to

show the relationship between the long-run steady state rates of profit and growth ( $r$  and  $g$ ) and the terms of trade ( $P_1/P_2$ ) as follows:

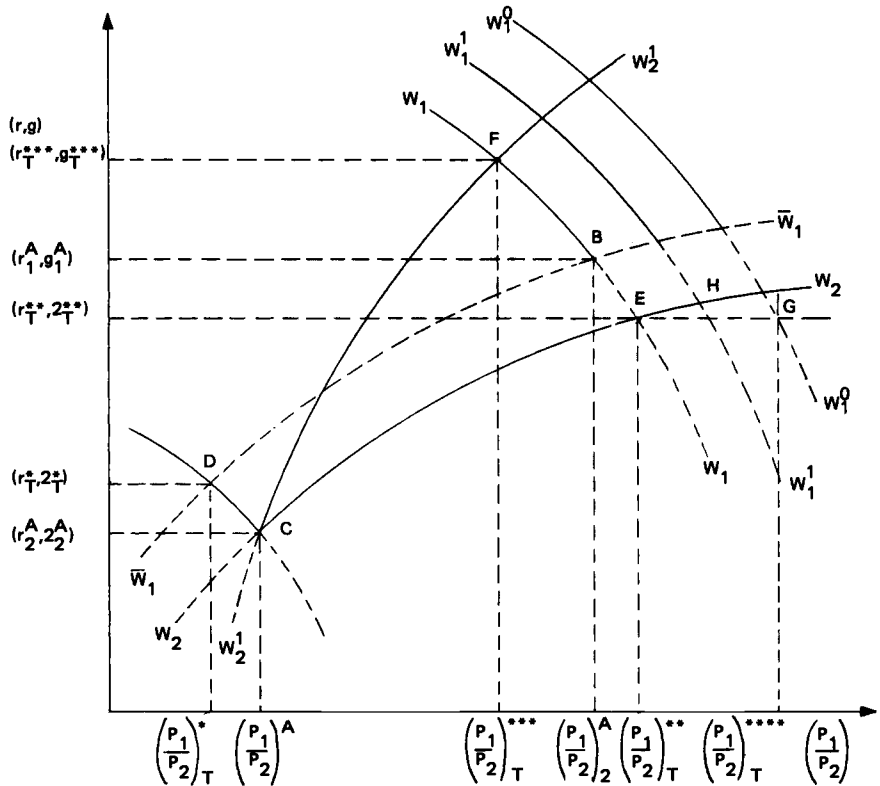
It is assumed that country 2 is the high-wage country, so that  $W_2 > W_1$ . Assuming that sector 1 has the higher organic composition of capital, it follows that under autarky (A) in each country,

$$(P_1/P_2)_1^A > (P_1/P_2)_2^A$$

and

$$r_1^A = g_1^A > r_2^A = g_2^A$$

diagram 1



Now if country 2 specializes in the production of commodity 1, then the relationship between the terms of trade and the rate of profit (growth) will be given by  $W_2 W_2$ ; as the terms of trade improve, the rate of profit (growth) will rise. The  $W_2 W_2$  curve to the left of  $(P_1/P_2)_2^A$  is shown with a dashed line to indicate that specialization is taking place in the 'wrong' direction with profits and growth rates less than under autarky. Similarly, the  $\bar{W}_2 \bar{W}_2$  curve shows the relationship between the rate of profit (growth) and the terms of trade when country 2 specializes in producing commodity 2. The  $W_1 W_1$  and  $\bar{W}_1 \bar{W}_1$  functions are for country 1 when specializing in commodity 2 and 1 respectively.

Given the above assumptions, there are two possible equilibrium terms of trade denoted by  $(P_1/P_2)_T^*$  and  $(P_1/P_2)_T^{**}$ , with associated rates of profit (growth) of  $r_T^*$  ( $g_T^*$ ) and  $r_T^{**}$  ( $g_T^{**}$ ). In both cases, the equilibrium terms of trade lie outside of the Ricardian limbo region,  $(P_1/P_2)_1^A$  and  $(P_1/P_2)_2^A$ . Further, the equilibrium rate of profit (growth) is higher with trade for the high-wage country and lower for the low-wage country.

If there are both different techniques of production and different wage rates, so that the second country profits (growth) and terms of trade locus is characterized by  $W_2^1 W_2^1$  then equilibrium terms of trade  $(P_1/P_2)_T^{***}$  inside the limbo region are possible. Note that in this case, both countries have a higher profit (growth) rate after trade.

Note that nothing has been said about the relationship between the implied rates of growth of output and employment in each country and the actual rates of growth of the workforce, or the initial distribution of the workforce between the two economies. In the absence of price substitution in consumption or production, there will be full employment in either economy under autarky only by accident. With trade and the international equalization of the rate of profit, there will only be full employment in both economies in the unlikely event that the international rate of profit will equal the rate of growth of the workforce in both economies.

To see how the ‘Unequal Exchange’ model can be used to show the generalized Lewis model, or the Prebisch-Singer model of inequality of transmission of the benefits of technical change, it should be noted that:

1. An improvement in the productivity of labour in economy I will shift the  $W_1 W_1$  function upwards in the long run say to  $W_1^0 W_1^0$  in diagram 1.
2. An increase in wages in country 2 will shift the function downwards in the long run say to  $W_2^0 W_2^0$  in diagram 1.

The same relationships will hold for country 2. Hence when there is an improvement in productivity in country 1 at unchanged wages, the terms of trade worsen in the long run for country 1 and there is a rise in the rate of profit (growth). If there is a subsequent rise in wages in country 2 to restore profits (growth) to the previous levels, there is a further deterioration in the terms of trade for the low wage country. Thus, if there is a difference in the bargaining power of workers between the rich and poor countries operating over a long period, the poor country will tend to be pushed further and further into ‘Unequal Exchange’. Note also that this dynamic effect of the hypothesized redistribution of the benefits of growth towards the rich country is not dependent on the exchange relationship being initially ‘unequal’ in the Emmanuel sense.

Finally, diagram 1 can be used to illustrate the point made by the ‘English’ neo-Ricardian model that trade can lower both wages and profits in a country. This can be seen by noting that just as a technical improvement will shift the  $W_1 W_1$  function upwards to  $W_1^0 W_1^0$ , so will a fall in wages shift the function to, say,  $W_1^1 W_1^1$ . Thus the point H characterizes a free trade point for country 1 which has both a lower rate of profit and lower wages than under autarky, represented by the point B.

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