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NORTH-SOUTH INTERDEPENDENCE, DEVELOPMENT AND TRADE

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Abstract: This paper discusses issues arising from development centred on the satisfaction of basic needs, and more generally, questions of distribution and of North-South relations. A critical review is made of prevalent approaches to development and trade, which are based on economic theories that disregard some of the most important aspects of interdependence at present. An economic model of trade and distribution for another development is discussed, which emerges from recent work. It questions the role of the international market as an "engine of growth" and reevaluates some of the more wide-spread economic notions on the role of this market in shaping distribution of wealth among the regions and within them. The results may explain the persistence of certain patterns of inequality and of international division of labour which support them. Policy conclusions for more equal distribution, and more efficient and self-sustaining development patterns are briefly discussed.

INTERDÉPENDANCE, DÉVELOPPEMENT ET COMMERCE

Résumé: Cet article examine certains problèmes posés par un développement axé sur la satisfaction des besoins fondamentaux et, plus généralement, les questions de la distribution et des relations Nord-Sud. L'article passe en revue d'une manière critique les démarches prédominantes en matière de développement et de commerce, qui sont fondées sur des théories économiques négligeant certains aspects fondamentaux de l'interdépendance Nord-Sud. L'auteur discute également un modèle économique de distribution et de commerce qui favoriserait un autre développement. Ce modèle résulte de travaux récents. Il met en doute le rôle du marché international en tant que "moteur de la croissance" et reconsidère certaines des notions, largement répandues, sur le rôle de ce marché dans la distribution des ressources entre les régions comme à l'intérieur de celles-ci. Les conclusions que l'on en tire pourraient expliquer la persistance de certaines structures d'inégalité et la division internationale du travail sur laquelle elles reposent. Finalement, l'article offre quelques brèves conclusions pour l'action en faveur d'un autre développement, fondé sur une distribution plus égalitaire, plus efficace et susceptible de s'autoentretenir.

INTERDEPENDENCIA NORTE-SUR, DESARROLLO Y COMERCIO

Resumen: Este documento examina los temas resultantes de un desarrollo centrado en la satisfacción de las necesidades básicas y más en general asuntos de

(cont. en la página 16(74)).

Graciela Chichilnisky ^{1/}NORTH-SOUTH INTERDEPENDENCE, DEVELOPMENT AND TRADE ^{2/}1. Introduction

This paper will discuss issues arising from development centered on the satisfaction of basic needs and, more generally, questions of distribution and of North-South interdependence. This paper is a condensed version of another, with the same title, that serves as a background and provides technical support as well as data documentation of the work reported here. ^{3/}

The paper is divided into two parts. The first attempts to provide a succinct critical review of prevalent views on interdependence and basic needs that derive from major formalized approaches to development and trade in general equilibrium theory. The second part is intended as an analysis of basic needs and interdependence in the context of a different approach to development and trade theory that emerges from recent work (8) (10), also in a general equilibrium approach. Our work is also contrasted, in terms of assumptions and results, to that of some critics of the neoclassical development and trade general equilibrium literature, in the background paper. An appendix prepared by Ellen Evans at Columbia University is also provided.

Neither a positive nor a negative verdict is reached here on the effects of North-South interdependence. I argue, instead, that interdependence must be critically examined and evaluated anew. This is because our present understanding of interdependence is based on theories of economic growth, development and trade that fail to consider some of the most important current aspects of interdependence. For instance, most economic models of development do not consider the issues of scarce resources, do not regard the fact that different patterns of population growth and migration exist in the North and in the South; that different technologies are used (and should be used) in these two regions, and that labour market characteristics are also sharply different.

Current theories tend to regard the international market as an "engine of growth", in the sense that more international trade activity is believed to be beneficial for overall growth, and also to increase rates of growth of the

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- ^{3/} This paper, as well as a two-page bibliography (references in brackets), is available from the author or IFDA on request.

Third World, through its effect of more employment and increased output in the exporting regions. This latter effect is usually referred to as "gains from trade". More international trade is seen also as promoting more equality in the regions concerned, since it sees the prices of factors (labour, capital) as tending to equalize through the flow of international trade among the regions. However, we shall argue here that certain forms of interdependence may have less benign consequences than generally thought. In particular, the role of the international markets as an "engine of growth" and in shaping the distribution of the economic product, both at the national and international levels, requires careful re-evaluation.

We shall show that the liberalization of international markets, even under perfect market regimes, affects domestic markets and the domestic distribution of income within the trading countries in the South in ways that may conflict under quite general conditions with goals of satisfaction of basic needs. In particular contrary to existing notions of gains from trade, an increase in North-South trade caused for example by an expansion of the Northern economies may lead under the present trade patterns to a decrease in growth in the South. This is because under present trade patterns, the South is specializing in the exports of goods whose increased production and sale does not necessarily favour the economies of the South. Furthermore, this increased specialization of the Southern consumption (raw materials, agricultural by-products, certain manufactures) may reduce overall employment, and real wages in the South, as well as produce a mix of economic output that is not conducive to sustainable efficient development paths. Therefore such an expansion of the Northern economies and of North-South trade may also lead to a worsening of the distribution of income in the South. Because of this it is impossible to view the question of basic needs in the South as a purely domestic issue, independent from existing relations with the North. It is, instead, an issue that has to be placed firmly within the context of North-South relations.

It is not possible, therefore, to reject Northern concerns with basic needs in the South as unwarranted intervention in domestic affairs, as is often argued by spokespeople for the South within the North-South debate. Indeed, a reversal of this view may be more appropriate. It has to be recognised that the North has always historically exercised some form of intervention, first through colonialism and, later on, through market relations based on the specialization of the South on the exports of raw materials (these comprise 90% of all exports from the South at present), and an almost complete domination on all other markets of exports from countries in the North, with a high degree of market concentration (32). These forms of intervention make the North one of the partners responsible for the present dramatic failure to meet the basic needs of the majority of people in the South. The role to be re-evaluated and discussed with these facts in mind.

2. Basic needs and interdependence: a review of prevalent development and trade approaches.

The concept of basic needs was brought to the attention of the international

development community in its present form by the work of the Bariloche model 1/ (1971-75). On the basis of this work, the International Labour Office (ILO) World Employment Conference of 1976 subsequently endorsed the satisfaction of basic needs as a central goal of development. Since then the concept of basic needs has won many adherents and increased attention, and has been adopted by many international agencies as a cornerstone of efforts to rethink development policy.

Paradoxically, while the concept of basic needs stemmed from the work of the Third World scientists of Bariloche who were dissatisfied with existing patterns of development and ways of thinking about development in the North, it appears at present to be a concept more congenial to Northern oriented institutions and interests. Furthermore, within the United Nations and other international organizations, Third World spokespeople often oppose the introduction of basic needs issues in the agenda. The reason presented is that they represent an unwarranted intrusion on domestic affairs. More informally, it is felt that by focusing on the issue of distribution within the South, the North evades focusing on the issue of North-South inequalities instead. This is because the moral legitimacy of claims of the South for more North-South equality is felt to be undermined when the inequalities within the South are focused on. As we shall discuss next, this is also used as a tool for questioning the legitimacy of the pricing policies and general market behaviour of exporters of raw material and of natural resources in the South, a source of great concern to the Northern economies at present. For instance, the market behaviour of the exporters of oil is often seen as (at least partly) responsible, for the existing and continuing recession in Northern economies. When the growth of the North is seen as a precondition for the growth of the South, as is often the case in conventional development and trade theories 2/, then the market behaviour of the oil exporting countries is perceived as damaging to the South's growth as well. Therefore, as seen in the above, if overall growth is necessary for the satisfaction of basic needs then the focus on the problem of satisfaction of basic needs in the South appears to be an argument against the market power policies of the oil exporters. 3/ This, of course, applies to the market behaviour of other resource and raw material exporters as well. It is, therefore, not surprising that basic needs arguments are rejected by Southern representatives in a period when the South has finally achieved a certain amount of international market power, if very limited, and a certain attention of the international development community for its claims towards more North-South equality.

It follows that the issue of basic needs cannot be posed in isolation. It is already part of a wider debate on international growth and trade relations,

1/ See (7) (18).

2/ See, e.g. "An International Order for Everyone's Gain", R. Cooper (13).

3/ Of course, this does not follow if the oil exporters were to offer different prices to the poor and to the rich nations, a so-called 'discriminating monopolist' behaviour that is presently being discussed.

and therefore, on North-South interdependence. However, the chain that connects basic needs with interdependence issues is a long one, and several of its links depend largely on underlying development and trade theory, and require critical examination.

As our results will show, it may not be in general the case that the growth of the North is necessary for or even favourable to the growth of the South. It is also not true that the international market has in general a positive effect in the transmission of growth, at least with historically given and present trade patterns. Finally, it is not true that growth is in general favourable to the satisfaction of basic needs. It is by now an accepted and well documented fact that overall indices of growth are not connected with the betterment of distributions of income that are necessary for satisfaction of basic needs. In effect, certain patterns of growth emphasize production and/or consumption of certain luxury goods or the use of technologies that are inadequate in terms of use of local resources, or dilapidate energy use. Such patterns of growth may not only lead to maldistribution, but also to decreased future growth as well. 1/ For a more detailed discussion of these issues, see the background paper (9).

One question that begs clarification, over and above what is available in formalized development and trade theory, is the relationship between the distribution of income and wealth between Third World and Industrialized regions, and the distribution of income and wealth within these regions. In the UNITAR study reported in (12) we have concentrated on this question. The development and trade model we shall now discuss does not consider the distribution question as an after thought, a variable whose behaviour is to be deduced from others (and, as a result, appears more difficult to formalize or to measure) but rather as a central characteristic, which not only is determined by but also determines other main economic variables. In order to formalize the distribution question in a manner which is sufficiently simple to allow the use of economic analysis (and not just computer manipulation) and yet respects the complexities of the subjects and data analysis, we chose to concentrate on three income groups. These are characterized by their endowments of factors of production, labour and capital, and by their patterns of consumption. Two types of labour are distinguished: skilled and unskilled. The low income group owns proportionately more unskilled labour; a middle income group owns proportionately more skilled labour and some capital; and the high income group proportionately more capital. In addition, the three groups consume (demand) different proportions of different goods. In order to focus on the pattern of goods and on their distribution (as opposed to an aggregate GNP measure) while keeping a simplified framework of analysis, we distinguish three types of goods: basic consumption goods, luxury goods, and capital goods. The low, middle and high income groups consume different proportions of these goods.

1/ See for instance the work of the Bariloche Model (18); and "Development Patterns and the International Order", G. Chichilnisky, Journal of International Affairs, 1977.

At the regional level, the first version of the model considered two regions: the North and the South. 1/ At present, six regions are being considered. 2/ Each region trades with all others, and all groups in each region produce and trade all goods, so as to obtain a total general equilibrium system. Changes in one income group, therefore, affect all others and their effect can be analytically traced. The way this system differs from conventional neoclassical general equilibrium models and from other development and trade theories is discussed in detail in the background paper.

The usefulness of an economic model, i.e. its ability to explain and predict, can only be tested as it is developed and applied, sometimes over a period of years. Yet, we have already found the explanatory power of the North-South model sufficient to produce theory that can answer some of the questions mentioned above. Furthermore, and perhaps more important, it has raised other theoretical and policy questions that can be well formulated within our model structure, and thus analysed in detail. For example, in the North-South debate trade policies in the international market (such as the by now almost defunct Lima target, protectionism measures) and of North-South transfers (such as in the United Nations World Model) are usually presented together in a more or less confused manner with questions of distribution. Some of these questions were already discussed above, with respect to interdependence and basic needs, and will be discussed further in the next section.

In the following we shall focus on the role of the international market, both in existing theories and in our work. The importance of international markets and North-South trade on the domestic economies of the North has been acknowledged only recently within certain Northern economies (notably the United States) and this is mostly due to the present energy and resource crisis. In the South, instead, the international market has always been considered important because of the traditional reliance that many of those economies have on international trade.

For the last thirty-years a consistent body of formalized theory has been developed in the North on the effect of trade on domestic economies. This theory has two main pillars: the Heckscher-Ohlin result on gains from trade and the Stolper-Samuelson result on factor price equalization. Both these results have been generalized, expanded and applied to an extent that their conclusions have trickled down to the non-economist and become "common knowledge" with the North. These results substantiate claims that more trade is better for all, especially when relative advantages in the trading regions

1/ This first version, called also the North-South model, was estimated with data of the United Kingdom and Brazil by Sam Cole and John Cole of the S.P.R.U., University of Sussex.

2/ They are the technologically advanced industrial countries which have a significant role in world trade, all other industrialized countries, newly industrialized countries, resource exporting Third World countries, all other Third World countries and socialist countries.

are exercised. 1/ The assumptions and results of these theories are elaborated in detail in the background paper, to which the reader is referred.

We now discuss briefly the effect that different technologies in the two regions have on the results of the Heckscher-Ohlin model. The fact that the regions have different technologies is formalized in our model simply by assuming that the difference between labour/capital intensities in the production of goods of different sectors of the economy is much larger in the South. We have emphasized the similarity of our model to the Heckscher-Ohlin model in order to exhibit how the duality and elasticity of labour supply conditions make a crucial difference in the results. We assume different overall capital/labour intensities in production in the two regions, a readily observable characteristic. We also assume, as is usual, that the basic good A is proportionately more labour intensive than B in both regions, and that the difference of intensities of factors is much more pronounced in the South. 2/

The fact that the differences in capital/labour intensities between the technologies of the two sectors in the South are larger than in the North is readily observable. Third World economies have significant differences in the production systems of different sectors. This is because the more traditional sectors use naturally different technologies than the more industrialized sectors. The goods produced and patterns of production used in the more industrialized sectors tend to reproduce those of the more industrialized countries. Subsistence sectors tend, instead, to be left out of these so-called 'modernization' and thus use different models of production. This has been pointed out in the theories of dualism which have been discussed for many years in economic development.

The Heckscher-Ohlin and Stolper-Samuelson theories failed to explain the fact that during the twenty-five-year post-war period (1945-1970) wealth differences and specialization between the North and the South significantly increased, while the volume of the international market increased in an historically unprecedented fashion. Furthermore, the North-South wealth differentials and the distribution of income within the South also did not improve during that period as these theories would predict. Neither the gains from trade nor the factor price equalization theories can be made consistent with these facts. Of course, exogenous explanations for those facts could be invoked, in which case the explanatory power of the theories is significantly reduced.

Alternative explanations to the neoclassical theories have been proposed in regard to the developments of the world economy during the 1945-1970 period. However, these have failed to produce a body of formalized theory with the

1/ In the conclusions and in (9) particular successful export-led policies (e.g. Korea, Taiwan) are discussed.

2/ It is well known that the factor price equalization result would not follow, for instance, if the production of capital goods was the more capital intensive activity in one region, and the more labour intensive activity in the other, see e.g. (30). We assume here, instead, that the same good is the more capital intensive one in both regions.

rigor (and therefore policy utility) and the conviction of the theories previously discussed, so that they did not provide a real alternative. The most significant representatives of these theories can be divided into three categories, according to the weight that they assign to market as opposed to the non-market factors in their analysis, explanations and predictions. Significant representatives of the more market focused analyses are R. Prebisch, W.A. Lewis, H. Singer, and J. Bhagwati; different levels of formalization were attained in their work. The dependencia theory in Latin America, some of whose representatives are F. Cardoso, P. Baran, G. Frank, T. dos Santos, O. Sunkel and M.C. Tavares, combined explanations of underdevelopment based on post-Marxist power relations, with consideration of market power relationships, and their implications. These theories had little or no formalization that would have allowed them to be used for instance for policy prescriptions. Finally, there are a number of authors who largely disregard the behaviour of the market as having significant explanatory power, and address themselves instead to the power structure of classes and certain historical developments of capitalism, such as accumulation of capital within and between the Industrial and Third World regions. Among these, most significant are the Marxist economists A. Emmanuel and S. Amin. Their works did not attempt formalization of their assumptions or results.

The formalization of economic theory is important, of course, because it allows for more accurate empirical testing, and also for development of policy. Furthermore, formalization is important because it allows for more adequate, consistent thinking through of ideas, if not always for the creation of new ideas. Formalized theories, therefore, grow, disperse and are applied better than non-formalized ones. 1/

In our particular case we found another relatively important advantage of formalization: it allowed us to compare in a precise manner our assumptions with those of previous theory, so that the discrepancies in the results could then be traced with precision, thereby improving the level of the analysis and criticism, and clarifying the validity of the results. In particular, we have produced very simplified versions of our model, so-called submodels, which are as close as possible to the previous general equilibrium trade models of Heckscher-Ohlin and Stolper-Samuelson (to the point of being at times almost indistinguishable unless one is very close to the subject) and yet which under the conditions discussed above, reverse the conventional results on gains from trade and factor price equalization.

It is of interest to discuss certain significant similarities and differences between our framework and those of some of the authors critical to the neo-classical theory mentioned above: we have done so in the background paper, and the reader is referred to it (9).

1/ With this understanding we decided to develop a body of formalized theory within our UNITAR project, see (12), that could be helpful in analysing certain stylized facts of development and trade that defied the analysis of the existing formalized theories.

3. A Model of Trade and Distribution for Another Development

In this section we present a simplified version of the UNITAR North-South model. It differs from the Heckscher-Ohlin model basically in two aspects, already discussed. One is the duality in the production system of the South and the other is a high responsiveness of labour supply to real wages in the South. This model was estimated with simulated data corresponding to Brazil and the United Kingdom trading with each other, and the estimation confirmed the results that we shall discuss next (see Table 1 in (9)). Brazil and the United Kingdom were chosen to estimate the parameters of the two trading regions, because labour is quite abundant in Brazil and more elastic in supply than in the United Kingdom, and the technology of these two regions corresponds roughly to the North-South stereotype.

The characteristics of the model that are shared with the Heckscher-Ohlin model are discussed in the background paper.

A summary of some of the results of our model follows. When the economies of the South have a very abundant labour supply and demonstrate significant dualism in the production of goods, if following an increase in demand by the North an increase in the exports of the basic consumption good by the South occurs, the price of the exportable good will decrease with respect to that of the importable good. Furthermore, the domestic purchasing power of wages will also decrease. This effect is accentuated with increases in domestic investment demand for further growth. We now briefly summarise the rationale for this result. For details, see the background paper.

In order that an increase in the exports of the basic goods occurs, when the North's demand expands the amount of output that exceeds domestic consumption of basic goods, it becomes necessary to consider the effects of increased employment and accompanying increased demand for the exportable good by the local population when production is increased. In fact, if increased output and employment in the basic good sector of the economy brings about a significant increase in the domestic demand of the good, then the "surplus" available for exports may actually decrease. Since wage income tends to be spent on basic goods, this implies that significant increases in the demand for these goods domestically will occur when production of basic goods is stepped up. The net result is that exportable supply of basic goods can only be obtained at the expense of domestic consumption under the conditions described here. Therefore, in particular, it is only by curtailing domestic demand that exportable supply can be increased. Also, if total exports of basic goods do increase in the new market equilibrium (and thus domestic demand and supply decrease) then the prices of these goods will necessarily be lower than previously. This is proven in (8) and (10).

Since wages and prices of the basic goods and in general are positively related, as exports increase and the price of the basic good decreases with respect to those of the investment goods, wages will also decrease. In addition, the purchasing power of wages in terms of the basic good is also shown to decrease, see (10).

The results discussed show that with an elastic labour supply in the South, and significant duality in technologies, factor price equalization theories no longer hold. More trade decreases rather than increases wages in the exporting region. If in a previous trade equilibrium factor prices were unequal in the North and in the South as trade is increased, factor prices are moved further apart. Therefore the relative advantage of the South, which depends on low labour costs as well as labour availability, is accentuated. In this case, as opposed to that of the neoclassical model, inequality and division of labour perpetuate themselves through the operation of the international market, even under perfect market conditions.

The above results seem consistent, then, with the overall international experience of the 1945-1970 period in which further specialization and increases in wealth differentials occurred between the Industrial and Third World countries.

We shall now briefly discuss the 'gains from trade' results in the context of our model. Since it is possible that further trade could bring further growth, even if maldistributed, then a rational policy prescription for the South could be in principle to increase trade and then redistribute the proceeds so as to prevent the negative effects discussed in the previous paragraph. For this purpose we examined in (8) (10) the effect on the economy of the South as a whole of an increase in its exports to the North. Since a shift that increases in exports are produced by an expansion of the demand from the North for exports of the South. This increase in demand for exports of the South was shown to occur in our model whenever the North's growth is increased. We have therefore the most optimistic scenario, the one envisioned in the liberal perspective: the North's growth is stepped up, and this increases the demand for exports of the South.

The increased growth of the North is generally assumed to produce an increase of growth of the South through expanded export markets. This is also seen as a "pull" for growth of the South produced by the "engine of growth" of the North. We found, instead, that under the export led policies studied here increases in the exports of the South may actually decrease the total revenues from trade of the South. Furthermore, they also decrease local consumption of basic goods in the South. In addition, more investment goods must be produced locally in the South in order to obtain the same level of growth as before the increase in trade took place, so that the growth of the South may actually decrease. These results indeed question the logic of gains from trade, at least under the general conditions specified here.

Our technological duality assumption can hardly be questioned. Such conditions obviously prevail in the South as a whole; yet it may be of interest to find if this assumption is necessary for the results. That labour supply is very abundant, however, may not be true in many cases. We are therefore led to re-examine our results without these conditions. It should be noted, however, that since our results are of an aggregate nature it is undisputable that institutional factors such as labour organization in the North, population increases and rural migration within the South, and, in general, relative lack of labour power in the post-colonial period, sustain the assumption that labour supply is quite abundant and thus very responsive to wage changes in the South

relative to the North. However, we have investigated conditions under which the results may still obtain when both the North and the South have similar labour market characteristics.

Both the economy of the North and of the South were then modelled with relatively homogeneous technologies and relatively inelastic labour supply. The South exports wage goods or substitutes, i.e. goods whose demand comes mostly from wage income. Under these conditions, even if labour is not very abundant in the South, when the South pursues an export led growth policy not only will the terms of trade deteriorate against the South, but also total revenues from the exports of the South decrease. Also, the purchasing power of wages within the South decreases. The market in which these effects take place may also be stable. Results from empirical testing in the two and five region model are included in (9).

4. Relationship of our assumptions and results with main theories of development and trade.

The relationship of the assumptions and results of our model with the works of R. Prebisch, H. Singer, W.A. Lewis and J. Bhagwati is given in detail in (9). A brief summary is given here. The Latin American *dependencia* theory and the works of the Marxist economists G. Frank, S. Amin and A. Emmanuel are obviously more difficult to compare with our work since basically no formalization for those works exists, and, also, market behaviour in those works is given a lesser role than in ours. A very brief comparison will nevertheless be attempted.

R. Prebisch (1950) and H. Singer (1950) developed the thesis that there is a systematic bias in the distribution of the gains from trade against Third World countries, see J. Flanders (16) and R. Findlay (15). This is revealed by the so-called secular deterioration of the terms of trade of the South, a tendency to decrease the prices of the goods exported by the South, and increase the price of goods exported by the North. While no formal model was presented, the economic basis of this process was given as follows. Firstly, the demand for imports from the South does not respond much to increases in income in the North, while the opposite is true of the demand for imports from the North. In the second place, technological progress in the North reduces the demand for imports from the South, while the opposite is true of technological progress in the South and imports from the North. Finally, the concentration of economic power in the North (large corporations and unions) was seen as causing a decline in the relative price of exportables in the South and a rise in income by the North. One of the significant effects of Prebisch's "terms of trade" thesis was the protectionist "import substitution" policies in Latin America in the late 50's and early 60's, in which tariffs were imposed so as to protect the 'infant' industrial sector in manufactures and capital goods.

Our approach is different from these both in assumptions and in results. First of all, there is no assumption in our model about the response of demand to income for the goods exported by the North and the South - rather, our assumptions are on the abundance of labour supply of the South. Thus our assumptions are quite different - they can in effect be called "dual" to the Prebisch-

Singer assumptions, in that instead of applying to goods, they apply to factors of production. Secondly, the hypothesis of technological progress is not used in our model - in effect, only the hypothesis of dualism in production is needed to produce our results. Finally, our model is consistent with perfectly competitive markets of goods and factors, and therefore differs from the Prebisch-Singer work in their third assumption also. With respect to policy implications, certainly "import substitution" of the form discussed just above is not a policy implication of our model, because "import substitution" deals only with the protection of production. In our work, instead, the whole structure of the markets, production as well as income distribution must both be considered. The protection of local demand seems at least as important as of the supply.

To discuss the work of W.A. Lewis, we shall refer to his celebrated model of economies with an unlimited supply of labour (1954), especially his last section in which he discusses development and trade. Lewis' model considers two regions trading with each other. One, the North, has the characteristics of a neoclassical economy. The other region, the South, is characterized by unlimited supplies of labour and a dual economy, a part of which is capitalistic labour and a dual economy, and another is traditional. This work, therefore, diverges from the neoclassical models in the treatment of labour markets as well as in the asymmetric treatment given to the economies of the North and the South.

Clearly, the assumption of a high elasticity of labour supply in our model is deeply linked with Lewis' assumptions. However, several major differences exist. Lewis' model assumes that the economy is divided into a 'capitalist' and a 'traditional' sector. In the capitalist sector the motive for employment is to generate profits, while in the traditional sector labour is considered as essentially self employed (as in the peasant family) or engaged in petty trade, or in service occupations. The real wage in the capitalist sector is exogenously given, and it exceeds earnings available in the traditional sector, so that employment in the formal sector is constrained by demand and not by supply. It is in this sense that he speaks of "unlimited supplies of labour". Each region produces two goods, one of which is common to both. The terms of trade between the two regions are determined purely by relative labour productivities in food, independently of demand conditions.

The fact that the real wage in Lewis is fixed in the Third World region (and is equal to the subsistence wage) is a major difference with our model, since we assume that both returns to factors of production (wages and profits) are determined by all markets interacting throughout. Furthermore, the endogenous determination of wages in our model (as opposed to the exogenous wages in Lewis) is of importance since it contributes to the understanding of the relationship between international market behaviour (terms of trade, volume of trade) and domestic output and distribution of income. Furthermore, in our model there are no unlimited supplies of labour (i.e. employment is not constrained by the demand side only) but rather supply and demand for labour both determine employment and wages. Our assumption about labour abundance implies that the supply side is very responsive to real wages, but not that employment is purely demand dependent. Also, in our model there is one integrated economy (as opposed to Lewis who considers different sectors; a capitalistic

and a traditional one). In our economy, market behaviour can be made consistent with the hypothesis of profit and utility maximization of the agents throughout. We also consider that each economy produces, consumes and trades two goods while Lewis considers three, only one of which is shared by both regions (food). These facts make Lewis' model difficult to compare directly with the two-region, two-food and two-factor Heckscher-Ohlin model, and thus his results, while critical in principle, do not necessarily contradict or support the neoclassical model. Since our results are posed in a manner completely analogous to that of the Heckscher-Ohlin model, a more thorough comparison of assumptions and result is possible, and thus criticism can be better formulated.

The model of "immiserizing growth" of J. Bhagwati (1958) was able to show in more general cases the results of Edgeworth (1894) that a country could be "damified" by a productivity increase. This damnification is in the sense that the consequent deterioration of the terms of trade after the productivity increase makes the country worse off than it was initially. The analytic framework is that of a two-factor -- two-good -- two country neoclassical trade model. While no secular patterns are derived from this model, the result emerges that when the offer of the North for exports from the South is not income responsive or else when growth actually reduces the domestic production of importables at constant relative commodity prices, then the possibility of immiserizing growth arises. Whether a country is made worse off or not depends on what happens to the quantity of imports supplied as the terms of trade are adjusted. The terms of trade may deteriorate acutely enough to impose a loss of real income outweighing the primary gain in real income due to the growth itself.

Several differences with our work can be pointed out. Firstly our results give sufficient conditions for a decrease in welfare after increased trade takes place, based on elasticity of supply factors of production and duality in the production technology. In this sense, our conditions are 'dual' to those of Bhagwati since instead of studying the effects of different elasticities of demand or supply for goods produced by the two regions, we study the effects of different elasticities of supply of factors in the two regions. Bhagwati's results therefore appear to be more akin to the Prebisch-Singer results on terms of trade which were not, however, formalized in a neoclassical model.

In terms of policy implications, moreover, the difference with Bhagwati's results are somewhat striking. While 'immiserizing growth' is more likely to occur when the South attempts to increase its growth, it is also less likely to occur when the North's growth is increased instead. In this sense, Bhagwati's results would agree with a neoclassical view of the "engine of growth" for the South being outside of the South, in the North, and therefore with the conventional view that the North's growth is necessary, or favourable to the South. As we discussed above, this latter point is in contradiction with our results under duality and elastic labour supply conditions in the South.

Finally, a very brief comparison with the Marxist economists and the dependencia theorists of Latin America is given. While both these groups give less importance to market behaviour than we do, yet a subset of their conclusions may be made consistent with a subset of ours.

G. Frank concentrates on the secular trends in the international accumulation of capital as determining terms of trade (17), while our work does not produce results that predict any secular trends in this sense. However, if the labour market behaviour that we study in our model could be related to the stages of the international accumulation of capital corresponding to the South, then the deterioration in terms of trade he predicts could be in part attributed to market forces. A. Emmanuel's unequal exchange work measures the terms of trade by the amount of unit's worth of Northern labour in exchange for a unit's worth of the South's labour. Trade between economies with different wage levels, in this conceptual scheme, must result in "exploitation" of the one with the lower wage. This view is in certain cases consistent with W.A. Lewis' terms of trade results, when productivity is related to wages, and in this sense, it relates also to our result that the terms of trade with the North deteriorates together with decreases in real wages in the South. However, in Emmanuel's work (as in Lewis') the real wages is exogenously determined in each country, while as we have just explained the determination of real wages in relation with terms of trade is a significant feature of our results.

With respect to the Latin American dependencia theorists, a certain amount of coincidence of outlook is evident. Firstly, as in Lewis', and in our work (and in contrast to the neoclassical model) the dependencia theory stresses fundamental asymmetries in the structures of the economies of the North and of the South. These asymmetries, and the existence of the other region, are seen to have a very large role in shaping the economies of each region. It is a matter of continued controversy within the dependencia theory to what extent these asymmetries are determinants of the economic development patterns in the South. Another related similarity with our outlook appears in our emphasis on dual techniques of production, and on the international sector as affecting the behaviour of the domestic economy. It should be noted however that the dependencia theory refers to a different type of duality, that produced by the existence of a traditional sector and another capitalistic sector closely related to the 'center' and through which dependencia is transmitted. However, at the level of assumptions and structure, as pointed out before and discussed by G. Palma (29), neither formalization nor consistency with competitive market behaviour can be found in the dependencia theory literature. At the level of results, or predictions, a particular case of the differences with our work are seen easily. For instance, as explained by Palma, dependencia theory never produced a clear answer to the problem of whether "dependencia" was either favourable to growth or conducive to stagnation instead. In fact, opposing outlooks on this matter were proposed in the last 20 years with the same dependencia theorist's work, see the discussion in M.C. Tavares (35).

Our model, instead, offers a clear resolution to this question: it indicates in what cases the growth of the North (and its effect through trade) will be favourable and when it will be unfavourable to the growth of the South. Furthermore, our work indicates precisely how these international effects work through, and affect, the domestic economy. Of course, our model does not correspond to the more sophisticated (and elusive) verbal descriptions of dependencia theory, as in Cardoso (5). However, no formalization of those theories, is available; thus comparison and criticism is not a simple task. It has been widely accepted, in fact, that this lack of formalization constitutes a major drawback of dependencia theory, that has restricted its

growth as a consistent body of thinking, and its policy utilizations.

5. Policy Conclusions

The results contained in the larger paper pose doubts about the general reliance on export led growth to help bring about equal development in the South, especially when relative advantages are emphasized. These results occur when labour is very abundant and there is a significant level of duality in the sectors of the production system of the economies. Therefore, careful appraisal of case by case studies about the advantages of increased trade, especially focused on the parameters studied here (labour markets, technologies, and structure of the demand), seems in order.

The results discussed here also show that the growth of the South cannot be, in general, based on the cheap labour provided by extreme mass poverty. Such conditions are consistent with very abundant (and elastic) labour supply and, therefore, will, in the long run, seriously adversely affect the terms of trade and export revenues of the exporter, even though in the short run total revenues for exports accruing to a small elite could be increased.

However, if better income distributions within the South are achieved that imply stronger, larger domestic markets and if this is accompanied by lower rates of population growth (for instance through the satisfaction of basic needs), then the results quoted above on deterioration of terms of trade may be reversed. This is, in a sense, the main point: the strengthening not only of local production (i.e. import substitution, infant industry protection) but also of local markets (demand) seems necessary in order to prevent deterioration of international terms of trade and export revenues in the long run. In this case, the required strengthening of local markets implies an overall improvement of the lot of the large majority of people. Since in market or semi-market economies the income of factors is related to their productivity, increase in productivity of the rural and other low income groups in the economy seems necessary. In general, a trade policy can be considered favourable only if it increases the consumption of the low income groups and improves their position in both the labour markets and the markets for goods: otherwise it can be considered self-defeating. 1/

The results discussed here also indicate a significant relationship between the North-South terms of trade and the distribution of income within the South.

1/ Examples such as Korea and Taiwan are used to support these claims. As it is discussed in (9) these are countries that do not have the overall characteristics of economies of the South, in particular, the elasticity of labour supply and dualism that characterizes many of these economies is not present in Korea where the labour intensity of the economy is more uniform, and labour is quite educated so that together with the Japanese induced land reform, labour supply is relatively more price inelastic than in most of the South. A further discussion of these issues is given later on.

Better terms of trade with the North are linked with the improvement of domestic distributions of income within the South. The international market is therefore an important actor in shaping domestic distribution within each region, and the interaction of domestic and international factors is clearly quite strong, even for variables considered usually purely domestic such as the distribution of income. Briefly put, a Third World country should avoid embarking on export policies in sectors which are very labour intensive with respect to the more industrialized sectors of the economy and in which labour supply is very abundant and/or very responsive to wages (due for instance to internal migration). Such export policies will be defeating in the medium or long run to the country as a whole.

A sound export policy should be coupled with a strengthening of the domestic market for the good in question; labour intensive goods that do not offer this possibility should not be in general exported. ^{1/} Capital goods exports may be exempt from this rule; our results do not apply to them. However at present almost all exports of capital goods are generated in the North, and almost all exports of the South consist of raw materials. To the extent that a country exports a good for which no adequate market structure exists at home (due, for instance, to a depressed economy, or maldistribution of income) its bargaining power in the international market is decreased. The general rule is to increase, rather than to worsen, this bargaining power. Stronger domestic markets, based on better distributions, and the corresponding adequate mix of economic output, and a subsistence economy which is productive enough to allow workers to allocate their labour in a more selective and efficient way, thereby decreasing the indiscriminate "labour abundance" appear to be necessary to back up export policies. Indeed, such economies would stand a better change of sustained growth, and a rapid eradication of extreme mass poverty, the most offensive crime that humanity is inflicting upon itself at present.

^{1/} Japan's export strategy of the last twenty years has been consistent with these prescriptions.

Resumen: (cont.)

distribución y de las relaciones Norte-Sur. Se hace un estudio crítico de los alcances prevaletentes del desarrollo y el comercio, basados en teorías económicas que no toman en cuenta algunos de los aspectos más importantes de la actual interdependencia Norte/Sur. Se examina un modelo económico de comercio y distribución para otro desarrollo el cual emerge de los trabajos recientes (8) (10) (12). Interroga el rol del mercado internacional como una "máquina de crecimiento" y reevalúa algunas de las nociones económicas más conocidas acerca del papel de este mercado en la forma de distribución de la riqueza entre las regiones y dentro de ellas. Nuestros resultados pueden explicar la persistencia de algunos modelos de desigualdades y de la división internacional del trabajo que los apoya. Las conclusiones de políticas para una distribución más equitativa y la promoción de modelos de desarrollo más eficientes y autónoma se discuten brevemente.