ANALYSIS OF THE EFFECTS OF TRADE LIBERALIZATION ON POVERTY IN DEVELOPING COUNTRIES

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1. Introduction

Both neoclassical and structuralist economists recognize that trade is and has always been important for growth in developing countries. As far as exports are concerned, the neoclassical theory underlying liberalization suggests that they should grow and diversify rapidly under new incentives in a regime in which exports are profitable, domestic markets are unprotected and imports, which are essential for investment and growth, and foreign technologies are readily available.

The neoclassical doctrine appears to have governed the negotiations and the final conclusion of the Uruguay Round, as it did in earlier GATT rounds, resulting in global trade liberalization. The Uruguay Round rules restrict import protection and export subsidies, and in general, market-friendly policies in developing countries are favoured over protectionist ones in the new global economic climate. Those rules have given rise to vivid interest among economists and policy-makers concerned with the nature and the magnitude of the Uruguay Round's likely impact on the world economy, on the developed and developing countries, on different groups of developing countries, and on individual countries, sectors and products.

Consequently, a number of econometric studies have attempted to estimate the impact of the Uruguay Round. These estimates have focused mainly on the reduction of tariffs and in some cases of non-tariff barriers. The underlying assumption behind estimates has been the view that each participant in the Uruguay Round should benefit from the successful conclusion of trade liberalization. These benefits should arise, first because it is assumed that more efficient use of domestic resources will be achieved when domestic distortions, such as trade barriers, are reduced or removed, and second, from increased access of developing countries to the growth of markets in developed countries, enhanced by increased demand for, and increased competitiveness of their exports.

The major effects which have been estimated, in a varying degree of detail, by different groups of economists include trade effects, revenue effects, welfare effects and employment effects due to reallocation of internal resources among various sectors of the economy. These effects may have a significant effect on the incidence of poverty.

This study attempts to analyse the effects of trade liberalization on the level of poverty in developing countries, and the extent to which econometric analysis and detailed country-specific analysis may be used to estimate these effects. To this end, the findings of the most important economic studies are reviewed in section 2. In section 3 some cross-country economic analysis is introduced to examine the link between income and poverty, and this link is used in sections 4 and 5, along with the information presented in section 2, to estimate the effects of trade liberalization on poverty in developing countries in general and in selected particular developing countries. Section 6 considers the limits on the use of such inference on effects on poverty, whilst section 7 attempts to avoid some of the constraints imposed by such limits by looking at the implications of some country-specific poverty studies. Some conclusions are presented in section 8.

2. Existing studies and econometric work

The correspondence between growth rates and export expansion in developing countries is well documented. Cross-country econometric analysis has established the fact for the period since the Second World War (see Michaely,1977; Balassa,1978; Krueger,1978; Tyler,1981; Ram,1985).

Some critiques, however, have emphasized the part played in growth by factors other than trade. With respect to the factors behind industrial growth in the 1970s and 1980s, Helleiner (1994) certainly stresses different factors, observing that trade policy, narrowly defined, did not generally play a major role in growth and development, even if exports, alongside expanding domestic demand, did drive such growth. In these macroeconomically turbulent times, external shocks, debt crises and internal imbalances necessitated macroeconomic policy response. These phenomena and policies are seen to have dominated other determinants of economic performance. Industrial productivity growth was typically associated strongly with output growth. Its relationship with the trade policy regime or trade orientation of individual industries, however, was unclear to Helleiner. Real currency devaluation, associated real wage reduction and aggregate demand restraint, together with the perceived stability of the resulting incentives, contributed importantly to the rapid growth of manufactured exports in many coun-

tries, as did special encouragements to industrial exporting, in the form of significant direct and indirect export subsidies. Protectionist import regimes were frequently somewhat liberalized, but such import liberalizations were usually selective, slow and of limited impact on the overall degree of anti-export bias, relative to the impact of export subsidies. Selective exemptions from import duties were of great and continuing importance. Non-trade industrial policies and policies on foreign direct investment and technology were also of major significance. Helleiner thus suggests that there is no universal trade policy prescription to generate improved economic performance.

Nevertheless, if the relationship between growth and export expansion is accepted, and the direction of causation is assumed to run from the latter to the former (an assumption which has been disputed), analysis can turn to effects on poverty.

However, no direct relationship has been established between the above estimated effects of the Uruguay Round and levels of poverty. Therefore, the basic approach of this study is to examine the impact of the Uruguay Round on the economic growth of different categories of developing countries as estimated by existing studies, and from that growth determine the impact on the incidence of poverty in those countries, in accordance with their existing incidence of poverty and general patterns of income distribution.[1]

In order to choose which existing models to use in this study a number of econometric studies were examined. In addition to the ***Nguyen, Perroni and Wigle*** (1993,1994) and ***OECD/World Bank*** (1993) studies finally used, these included an UNCTAD (1994) study which covered post-Uruguay Round tariff concessions, a GATT (1993) report accounting for tariffs in the form of market access offers, and an OECD (1993) work considering a reduction in tariffs along the lines of the Draft Final Act. Other reports examined include an ODI (1994) report dealing with Uruguay Round effects on ACP countries, studies by Trela and Whalley (1990,1993-4) considering trade liberalization for textiles and clothing, and more general works by Petersen (1992), DRI/McGraw Hill (1993) and Stoeckel et al. (1990) making general estimations from various assumptions about trade liberalization measures. The studies finally used proved to be the most useful and suitable for this study, and their details are outlined below.

The ***Nguyen, Perroni and Wigle*** 1994 long-run estimates of the effects of the Final Draft Agreement and the ***OECD/World Bank*** 1993 estimates, presuming trade reform is implemented in both agricultural and manufacturing sectors (multisectoral trade reform), were chosen because they serve the purpose of this study better than the other econometric studies on two grounds. First, they assess

effects by looking at both tariffs and non-tariff barriers (NTBs), unlike other estimates. Secondly, and importantly, they disaggregate the estimated effects for different regions of developing countries and individual countries, as well as for various sectors.

Nguyen, Perroni and Wigle (1993,1994) use an empirically calibrated real trade model employing the Armington assumption that goods from different countries are treated as qualitatively different goods. Perfect competition and constant returns to scale are assumed throughout the model. Such assumptions may in reality be too strong, and thus should be taken into account when considering the results of the study. Tariffs and non-tariff barriers (producer subsidy equivalents for agriculture and bilateral import quotas for textiles) are applied to imports, with revenues redistributed to the domestic consumer. Some barriers to trade in services are also present, though in the form of rough estimates in the tariff equivalent form (NTBs reduced by 20% in all regions). 1993 estimates are based on the Draft Final Act and 1994 estimates are based on 'real' trade liberalization measures contained in the Final Act. This constitutes a reduction in tariffs for goods, NTBs for textiles and clothing and agriculture, and NTBs for services. The world is considered as 10 regions/countries: middle-income agricultural exporters, middle income agricultural importers, formerly centrally planned economies, EU, other Western European economies, USA, Canada, Japan, Australia and New Zealand, and the rest of the world. All goods and services are divided into 9 categories: agriculture and food, basic intermediate, mining and resource extraction, light industries, forestry and fishing products, finished capital goods, high-tech manufactures, intermediate manufactures, and non-factor services.

Nguyen, Perroni and Wigle make a 1993 estimate of a 20% increase in world trade, and an overall income effect of US$212 billion, and a 1994 estimate of an overall income effect of US$70 billion, the key impact being in agriculture and textiles. They also estimate a benefit to middle income developing countries of US$5.1 billion and to other developing countries of US$2.7 billion. The sectoral and income-based breakdown that follows overleaf make this study especially important and useful for the purpose of the present paper.

Sectoral breakdown of income impacts for developing countries
in US$billion under 1994 estimate:
Middle-income agricultural exporters
(Brazil, Argentina, Indonesia, Thailand, Malaysia, Philippines.)
Overall: 2.8 (0.2% of GDP)
Agriculture: 1.2
Textiles & clothing: 0.9

Services: 0.3
Middle-income agricultural importers
(South Korea, Taiwan, Hong Kong, Singapore.)
Overall: 2.3 (0.6% of GDP)
Agriculture: 1.5
Textiles & clothing: 0.4
Services: 0.2
Rest of the world
(All other developing countries.)
Overall: 2.7 (0.1% of GDP)
Agriculture: -0.6
Textiles & clothing: 1.1
Services: 0.1

The ***OECD/World Bank (Goldin et al., 1993)*** study employs the Rural/Urban North/South (RUNS) model, a global equilibrium model capable of capturing both the national and international dimensions of trade liberalization measures. It assumes constant returns to scale in production. (Once again such an assumption should be taken into account.) Major trade policy instruments are reflected by the model are NTBs in the case of agricultural trade and tariffs and/or tariffied NTBs for manufactures. The study assumes tariffs and NTBs for manufactures, and NTBs in agriculture to be reduced by one-third (i.e. partial trade reform as an approximation of the results of the Uruguay Round). The world is considered as 22 regions (6 OECD, 5 Asia, 6 Africa and the Middle East, 3 Latin America, and 2 formerly centrally planned economies). The analysis contains 20 sectors, 15 of which are agricultural, and the other 5 of which are non-agricultural.

The ***OECD/World Bank*** study predicts overall income gains of US$213 billion by 2002. Almost all regions would gain in real income. Net losers are concentrated in sub-Saharan Africa and the Mediterranean. The OECD countries would reap 64% of the gains. The estimated changes in real income in developing countries are presented below.

Estimated changes in real income in developing regions/countries under multi-sectoral trade reform (%):

Low income Asia	0.6
China	2.5
India	0.5
Upper income Asia	2.6
Indonesia	-0.7
Other Africa	-0.2

Nigeria	-0.4
South Africa	0.6
Maghreb	-0.5
Mediterranean	-0.4
Gulf region	0.5
Other Latin America	0.6
Brazil	0.3
Mexico	0.0

Evidently, the results obtained by these two studies are different. Rather than choose between the two, which already appear to be the most relevant of existing studies, this paper continues to refer to and consider both studies, in order to obtain an idea of the possible range of the effects of the Uruguay Round.

3. Cross-country econometric analysis

In order to ascertain the quantitative effect of income growth on poverty a cross-country econometric analysis was undertaken. (Relevant time-series data for developing countries is largely unavailable.) For this regression of poverty levels on income a sample of 53 developing countries for which relevant data were available was used. It must be noted that the specification used in this study for the regression of poverty on income is very minimal and may not constitute a full theoretical model for poverty, but has been used to allow simple and clear standard results to be obtained. (A variable denoting the equality of income distribution, such as the Gini coefficient might have been an obvious choice for inclusion in this model. However, such an inclusion might have blurred any inference to be made from income to poverty, beside the fact that such data is not as available as commonly as data for income and poverty.)

The variables used were as follows: -

P: % of the population living in absolute poverty 1992

LP: ln(P)

Y: real income (GDP) per capita in PPP$ 1991

LY: ln(Y)

D: dummy variable (takes value of 1 for low-income economies 0 otherwise)

DLY: D x LY

Data source : UNDP (see References).

Before moving on to perform regressions, the correlation coefficient, r, between P and Y can be examined to investigate the relationship between poverty and in-

come. In this particular case r = -0.679, which is significant at the 99% level. Evidently income and poverty levels are correlated.

Two regressions were run using this data, both using the logarithms of the variables for poverty and income (LP and LY). Such variables then enable the identification of the effect in percentage terms on poverty of a one percent change in income by looking at the coefficient on the income variable. One regression includes only LP, LY and a constant, and one also includes the dummy variables D and DLY. The results and relevant statistics are given below. The test for heteroscedastic errors and the general test of functional form are both based on White (1980).

Without dummies:

LP = 7.199 - 0.465 LY
(12.416**)(-6.179**)
N=53 R2=0.428 Regression F(1,51)=38.18**[.00]
(t-statistics in brackets)
Test for heteroscedastic errors: F(2,48)=4.78*[.01]
General test of functional form: F(2,47)=4.68*[.01]

With dummies:

LP = 10.256 - 0.824 LY - 2.330 D + 0.239 DLY
(6.871**)(-4.574**)(-1.282) (1.023)
N=53 R2=0.499 Regression F(3,49)=16.26**[.00]
(t-statistics in brackets)
Test for heteroscedastic errors : F(5,43)=2.32[.06]
General test of functional form : F(5,42)=2.26[.07]

(and ** represent significance at 95% and 99% levels respectively)*
(probability of non-significance in square brackets)

It is clear from the F-statistics that both regressions are highly significant. In both regressions the coefficient for the logarithm of real GDP per capita (PPP$) is significant at the 99% confidence level. However, in terms of tests for heteroscedasticity and functional form mis-specification the first regression does not perform well, as the result of each test rejects homoscedasticity. Thus the dummy variables are added, and subsequently the test performs well. When tested the addition of the set of dummies proved significant at the 95% level of significance (even though the dummies are not individually significant).

Looking at the coefficients for LY, an effect of income growth on poverty is suggested (although not strictly concluded). If the above estimates are used as a rough guide, the results from the regression without dummies estimate that a one

per cent positive change in income reduces poverty by 0.47%. This estimate is almost equal to the average of the World Bank estimate, i.e. that a 1% positive change in income leads to between a 0.3 to 0.7 per cent reduction (an average of 0.5%) in poverty. However, these estimates refer to both middle-income and low-income developing countries. To be more precise, and to overcome heteroscedasticity and functional form problems, the additional econometric analysis using dummies was undertaken and estimates separately the effect of income growth on poverty in low-income developing countries and the effect of income growth on poverty in middle-income developing countries. The results are statistically reliable at a 95% level of significance and show that income growth has a significant effect on poverty levels. A one per cent (1%) increase in real GDP per capita (PPP$) is suggested to lead to a 0.82 per cent decrease in the population living in absolute poverty in middle-income developing countries and a 0.58 decrease in the population living in absolute poverty in low-income developing countries (as the 0.82 per cent decrease is offset by a 0.24 per cent increase in poverty in low-income economies).

Moreover, some inference can be made by looking at the observations which lie furthest from the fitted regression line relating poverty to income. For example, imagining income to be measured on the x-axis and poverty to be measured on the y-axis, a country lying above the line is experiencing above average poverty given its level of income. In such a country the benefits of income might not find themselves being passed on to the poor. On the other hand, a country lying below the line is experiencing below average poverty given its income. In such a country the benefits of income might find themselves being more equally distributed than in the average case and thus reaching the poor.

Such results are now used in the review of estimated effects of trade liberalization of the econometric models of Nguyen, Perroni and Wigle (1994) and OECD/World Bank (1993) in order to make approximate quantitative estimates of effects on poverty in the LDCs as a whole and as groups according to their classification (e.g. income group, sector, etc.) by various models.

4. Estimated effects on poverty

Nguyen, Perroni and Wigle estimate a benefit to middle-income developing countries of US$5.1 billion. The estimated US$2.8 billion benefit to middle-income developing agricultural exporters (Brazil, Argentina, Indonesia, Thailand, Malaysia and the Philippines) represents a 0.2 per cent increase in income and thus a 0.16 per cent reduction in poverty according to inference from the esti-

mates of the effect of income on poverty made by this study. The benefit to middle-income agricultural importers (South Korea, Taiwan, Hong Kong and Singapore) of US$2.3 billion, meanwhile, represents a 0.6 per cent increase in income and therefore a 0.49 per cent reduction in poverty. The contribution to the remaining developing countries, including a number of poor countries, is expected to be modest (US$2.7 billion). This is an approximate 0.1 per cent increase in GDP which might lead to a 0.05 per cent reduction in poverty.

With respect to the ***OECD/World Bank study***, the predicted overall income gains of US$77 billion for non-OECD countries would approximately constitute an increase of 2.5 per cent of GDP for the developing countries, which would lead to a 1.75 per cent reduction in poverty, making inference from this study's estimates. Using the disaggregated estimated effects upon certain developing countries and regions in terms of changes in real income as shown above, the inferred estimated impacts on poverty levels are found and shown overleaf.

Country/region	Suggested estimated reduction in poverty
Low income Asia	0.35
China	1.45 (1.5 million people)
India	0.29 (1.0 million people)
Upper income Asia	2.13
Indonesia	-0.41 (-0.2 million people)
Nigeria	-0.23 (-0.1 million people)
South Africa	0.49
Maghreb	-0.40
Other Africa	0.11
Mediterranean	-0.32
Gulf region	0.41
Brazil	0.25 (0.2 million people)
Mexico	0.00
Other Latin America	0.49

The results and the analysis of the two scenarios suggest with some degree of difference that countries ranked highly in terms of poverty will benefit least from the agreement in terms of income growth and consequently in terms of poverty alleviation. For some of them poverty might even worsen. It should be borne in mind, however, that there are limits to the validity of such inference as discussed in Section 6.

5. Estimated effects for selected countries

Given the nature of the estimates made earlier, it appears that a more specific view might be the best way to investigate the effects of trade liberalization on poverty. Thus, a sample of seven developing countries was chosen in order to allow these effects to be examined by looking at a representative group. The seven countries are Kenya, Ghana, India, Indonesia, Brazil, Mexico and Jamaica. They were chosen by economic and geographic criteria, which included the consideration of poverty, income distribution, and exported and imported goods. Some data on these countries with respect to poverty is given in Table 1.

Table 1

REGION/ COUNTRY	REAL GDP PER CAPITA PPP$ (1990)	TOTAL POPULATION IN ABSOLUTE POVERTY 1992 million (%)	URBAN POPULATION IN ABSOLUTE POVERTY 1992 million (%)	RURAL POPULATION IN ABSOLUTE POVERTY 1992 million (%)	GINI COEFF. OF INCOME 1975-1988
KENYA	1350	13.2 (52)	2.8 (10)	10.8 (55)	---
GHANA	930	6.7 (42)	1.1 (20)	5.6 (54)	---
INDIA	1150	350.0 (40)	80.0 (33)	270.0 (42)	0.42
INDONESIA	2730	47.8 (25)	11.9 (20)	35.9 (27)	0.31
BRAZIL	5240	72.4 (47)	46.5 (38)	25.9 (73)	0.57
MEXICO	7170	26.4 (30)	14.7 (23)	11.7 (51)	0.50
JAMAICA	3670	---- (--)	---- (--)	0.9 (80)	0.66

Source: UNDP (see References).

The effects of existing studies were considered to estimate poverty changes in the seven countries using the estimated effects of income changes on poverty obtained in Section 3. The existing models estimate different effects for the seven countries selected by this study, given interpretation of the classification of each country by the models[2]. These effects were used to consider the potential effects of trade liberalization on poverty in the selected countries.

The OECD/World Bank study includes Kenya and Ghana in the 'Other Africa' group which is expected to lose 0.2 per cent of income. By this study's esti-

mates, this would lead to an increase in poverty of 0.12 per cent, equivalent to putting in poverty around 16,000 people in Kenya and 8,000 in Ghana. Nguyen, Perroni and Wigle also expect that Kenya and Ghana will be net losers as "Other developing countries" predominantly exporting agricultural products, and will subsequently experience poverty increases.

India, however, stands to make gains varying from relatively large (Nguyen, Perroni and Wigle) to 0.5 per cent of income (OECD/World Bank). The first study predicts fairly large gains for India as an "Other developing country" exporting predominantly manufactures, and thus a reduction in poverty, whilst the second estimate would lead to a 0.29 per cent reduction in poverty, equal to poverty alleviation for around 1 million people. Indonesia, on the other hand, is expected to lose 0.7 per cent of income according to the OECD/World Bank study. This would cause an estimated 0.41 per cent increase in poverty, equivalent to impoverishing around 200,000 of the population. Nguyen, Perroni and Wigle make no predictions for countries exporting predominantly fuel such as Indonesia.

Turning to Latin America, the OECD/World Bank study predicts a gain of 0.5 per cent of income for Brazil. According to the figures estimated by this study, this would lead to a reduction in poverty of 0.25 per cent, equivalent to affecting approximately 200,000 people. Nguyen, Perroni and Wigle, meanwhile, predict small gains for Brazil as a middle-income agricultural exporter exporting predominantly manufactures, and thus a small reduction in poverty. Income in Mexico is expected to remain unchanged by the OECD/World Bank study. Thus poverty might remain unchanged. Nguyen, Perroni and Wigle again make no predictions for countries exporting predominantly fuel such as Mexico.

Nguyen, Perroni and Wigle and the OECD/World Bank study predict very small overall gains for Jamaica due to trade liberalization. The former, given its sectoral breakdown and Jamaica's position as an exporter of predominantly services, predicts very small income gains, and thus a very small reduction in poverty. The latter predicts for Jamaica, as part of "Other Latin America", a 0.6 per cent rise in income which would lead to a 0.49 per cent reduction in poverty.

Evidently, such analysis serves to reinforce the conclusion that the effect of trade liberalization in the Uruguay Round on poverty will be positive for some countries and negative for others. Moreover, it indicates that the potential effects will be relatively modest. Once again, however, the caveats presented in Section 6 should be taken into account.

6. Limits to the use and validity of inference from econometric analysis

The extent to which the results of the cross-country regression can be used to further quantitative analysis of the effect of trade liberalization on poverty is subject to a number of caveats, in addition to the fact that it takes no account of the effect of income distribution.

Firstly, the possibility of the existence of factors which determine both poverty and income should be taken into account. Secondly, much of the analysis assumes a direction of causality associated with the relationship between poverty and income growth (i.e. growth leads to a change in poverty) which cannot be validly inferred from the regression analysis.

Thirdly, and most importantly, the nature of the cross-sectional analysis presented here does not enable inference over time. That is to say that given the information from the regression on the coefficient for income on poverty, it cannot be inferred that if the income of a particular country changes by a certain amount, then the poverty in that country changes by a certain amount. This is because the coefficients are formed from cross-country data, and thus each observation reflects a different country-specific situation. Therefore, whilst it might seem obvious to make inferences about the effects of changes in income on poverty in a given country from the regression coefficients, the results of such inference may be dubious.

Fourthly, further correlation and regression analysis relating changes in poverty to changes in income provides no significant evidence for a relationship between the two variables. Considering the change in the number of people living in absolute poverty between 1990 and 1992, and the change in real income (GDP) per capita in PPP$ between 1989 and 1991, for 36 developing countries, analysis provides an insignificant correlation coefficient of 0.048. Regression analysis gives no more significant a result; even with the introduction of dummy variables to distinguish between low-income and middle-income developing countries, the coefficient of determination (R2) only reaches 0.089 (insignificant in this case). Nevertheless, it should be noted that this observed insignificance of the relationship between changes in poverty and changes in income is likely to be due to the short-time span covered by the data, which is unfortunately a limitation of the data available. Fifthly, the effect of income on poverty might well differ depending on the starting level of poverty in question.

These shortcomings of the simple inference from the cross-country regression are highlighted when the seven selected countries are investigated. It appears that the effects of trade liberalization might not reach the poor in some sectors in some developing countries.

Various data3 on the seven countries was used to examine effects in those countries given the general effects of trade liberalization in the Uruguay Round.

Kenya and Ghana face great problems. They are particularly dependent on exports (17 per cent and 15 per cent of GDP in 1991 respectively), and the exports of food items in particular. Within these exports Kenya is especially dependent on tea (22.2 per cent of exports 1989-90) and coffee (19.3 per cent of exports 1989-90). Of those tea exports 54.6 per cent (1989) are exported to the EU and of the coffee exports 64.1 (1991) per cent are exported to the EU. Ghana, meanwhile is particularly dependent on cocoa (39.4 per cent of exports in 1989-90) of which 55 per cent is exported to the EU (1990). Given the erosion of previous preferences for these exports to the EU, due to trade liberalization in the Uruguay Round, these two countries will suffer large export earnings losses. Moreover these losses will be most felt in the agricultural sector in which 81 per cent in Kenya and 59 per cent in Ghana are employed (1990-92). Given that a high percentage of the rural population already live in absolute poverty (55 per cent in Kenya and 54 per cent in Ghana in 1992), the effect on the livelihood of the poor could be highly disadvantageous. More people will be likely to fall into absolute poverty as real incomes are likely to drop further. In the case of Ghana, at least its dependence on the export of aluminium (22 per cent of exports in 1989-90) provides alternative significant export earnings which are unlikely to be much affected by the Uruguay Round, and which might also provide income for the 11 per cent of the labour force employed in industry (in 1990-92), who may constitute some of the 20 per cent of the urban and 54 per cent of the rural population living in absolute poverty (in 1992).

Turning to Asia, India and is far less dependent on exports than Kenya, Ghana or Jamaica. Exports constituted 8 per cent of 1991 GDP. Moreover, India is not particularly dependent on agricultural commodity exports. The predominant export for both is textiles (29.2 per cent of 1991 exports). India is also largely dependent on the exports of pearl, precious and semi-precious stones (17.7 per cent of all exports in 1989-90). Specialising in manufactures, India might make small gains from trade liberalization in the Uruguay Round. However, a large proportion of the population is still employed in agriculture (62 per cent in 1990-92). In India 42 per cent of the rural population lives in absolute poverty (1992). The livelihood of these poor people is likely to be unaffected by trade liberalization. However, the 33 per cent of the urban population living in absolute poverty in India (in 1992) might experience some small income in real income.

With respect to Indonesia, there exists a relatively high dependence on exports and imports (25 per cent of GDP in 1991). The predominant exports are fu-

els and manufactures. Crude petroleum and natural and manufactured gas constitute 23.8 per cent and 13.2 per cent of 1989-90 exports respectively. Therefore, Indonesian export earnings will probably remain largely unaffected by trade liberalization, although the manufacturing sector might make some small gains. This might be to the benefit of the livelihood of the 14 per cent of the labour force working in industry (1990-92) and thus some of the 20 per cent of the urban population who live in absolute poverty (1992), but in static terms would be unlikely to affect the livelihood of the 56 per cent of the labour force working in agriculture (1990-92) and therefore the 27 per cent of the rural population living in absolute poverty (1992).

For Brazil, however, the picture is very different. Brazil has a fairly diversified export base and is not too reliant on any one export, or on exports as a share of GDP (8 per cent in 1991). An equal amount of the labour force is employed in agriculture and industry. The major export category is manufactured goods, and this sector might make some export earning gains from trade liberalization in the Uruguay Round. However, although such gains might alleviate some urban poverty (38 per cent living in absolute poverty in 1992), it will leave the livelihood of the 73 per cent of the rural population living in absolute poverty (1992) largely unaffected in static terms. Considering Mexico, there is not a huge dependence on exports (10 per cent of GDP in 1991). The predominant export of Mexico is crude petroleum (32.4 per cent of all exports in 1989-90). Thus the export earnings of Mexico are unlikely to be significantly affected by trade liberalization, and the livelihood of the 30 per cent of the Mexican population who live in absolute poverty (1992), especially the 51 per cent of the rural population who do so (1992), will probably also remain unaffected by trade liberalization.

Jamaica, meanwhile, is even more dependent on exports as a part of GDP (31 per cent in 1991) than Kenya or Ghana. Its major exported goods are base metal ores and concentrated ores (63.5 per cent in 1989-90), and sugar (6.7 per cent in 1989-90). Of these sugar exports, 88.3 per cent go to the EU and 11.7 per cent to the USA (1990). Although the export of ores might remain largely unaffected by the Uruguay Round, the dependence on sugar exports will lead to a loss in export earnings as preferential treatment is eroded. The 26 per cent of the labour force employed in the agricultural sector (1990-92) will suffer losses. These people constitute the 80 per cent of the rural population in absolute poverty (1992). Thus the livelihood of the poor in Jamaica is likely to suffer. However, due to the export of ores and a large service sector much of the rest of the population will not endure such losses. The overall net effect may be ambiguous, though would probably constitute an adverse effect on poverty levels.

Such examination also illustrates the need for a general analysis of the mechanisms which might or might not allow increases in income to 'trickle-down' and thus provide benefits for the poor. There exists an extensive literature on this subject, particularly with respect to Sri Lanka, India and Brazil. These examples, therefore, along with that of Kenya are examined in the next section, which provides good examples of the shortcomings of the simple growth to poverty approach. It appears to be highly arguable whether the benefits of income growth reach the poor, and whether growth alone is in fact enough to alleviate poverty. Clearly, the effects estimated earlier in this study can only be considered as suggestive and potential in nature, and might not actually provide a great deal of information on the effects of trade liberalization in the Uruguay Round on poverty.

7. Detailed country-specific analysis based on poverty studies.

Thus, it has become apparent that an alternative and supplementary method of analysing the effects of the Uruguay Round on poverty may be necessary. Such an analysis is provided here by a non-econometric analysis investigating the linkages between growth and poverty in greater detail for Sri Lanka in addition to three of the seven countries selected earlier : Kenya, India and Brazil. This might provide a more accurate insight into the effects on poverty at least in certain countries.

From the work of Bhalla and Glewwe (1986), the general picture emerges that, in Sri Lanka, during a period of indirect growth-promoting policies (1977-84), growth in national income was at least not accompanied by a decline in the consumption of either the overall population or of the bottom 40 per cent with respect to income. It is suggested that most sectors of the economy shared in the economic growth that occurred after reforms leading to more indirect (economic growth) measures of promoting welfare which followed a period of more direct (basic needs) policy measures. However, it is possible that there was a greater under-reporting of expenditures (such as on durables) on the part of the rich than the poor, and allowance for this would increase levels of inequality in shares in growth. On the other hand, if the data are substantially correct, they imply that growth effects did indeed trickle down (food subsidies were replaced by labour income). The growth was of a labour-intensive kind, and thus positive results were produced. Food consumption was maintained, per capita expenditures increased, strong economic growth was initiated and maintained, and it was indicated that living standards improved.

However, Pyatt's (1987) study urges circumspection about the conclusions of

Bhalla and Glewwe. It refers to surveys in which income inequality data show a deteriorating situation. Although it agrees that the condition of the poorest may not have deteriorated, it points to a lack of evidence to support the view that all shared in an accelerated and sustainable growth in living standards after 1977.

Isenman's (1987) interpretation is that the most important and robust statistical result to be obtained from Sri Lankan data is that countries that wish to achieve rapid progress on social indicators should not count on growth to do the job automatically. Although growth is clearly important due to its effect on the incomes of the poor and on government revenues for social programmes, it might not be enough. It is also important to encourage a pattern of growth that increases the productivity of the poor and that pays attention to programmes that can efficiently improve social indicators.

Anand and Kanbur (1991) also consider Sri Lanka's record of growth, intervention and achievement in some areas of basic needs provision. Whilst their discussion suggests that purposive and directed intervention has had remarkable effects on health and education standards, their econometric analysis (using data from the 1952-1981 period) also suggests that income growth alone would not have achieved for Sri Lanka its enviable basic needs record and its effects on poverty. The role of direct intervention seems to have been significant.

In the calculations of Anand and Ravallion (1993) both real average income and public health expenditure have significant effects. They suggest again that public assistance did promote human development, independently of what was happening to incomes. However, it is noted that due to a lack of annual time-series data for Sri Lanka on poverty, it cannot be determined whether the significance of average income really reflects negative correlation with absolute poverty or whether it is an independent effect. Nevertheless, it does not appear that growth promoted human development in Sri Lanka through any indirect effect on public provisioning.

Thus the literature illustrates that it is highly arguable whether the benefits of income growth reach the poor in Sri Lanka, and whether growth alone is in fact enough to alleviate poverty.

With respect to Kenya, poverty is overwhelmingly a rural phenomenon (82% of all poverty was in rural areas in 1992). Its eradication is dependent upon equitable growth within the smallholder sector. Collier and Lal (1986) tentatively conclude that (in the 1963-74 period) all income groups gained from growth, though the benefits were perhaps disproportionately skewed towards the middle-income group of households. It should be noted that this skew is contentious, and in conflict with consumption and wage rate data suggesting growth to be distributionally neutral.

The conventional views on the consequences of growth in Kenya, such as that of Kitching (1980) who proposed an erosion of a group of middle-income smallholders, suggest, given that assets including human capital are unequally distributed, and that various structural rigidities weaken inter-sectoral links, that the proportion of fast growth in the private formal sector and capitalist smallholder farming would increase concentration of income and wealth in both rural and urban areas. The non-formal urban labour force would become more impoverished, and the weakest groups in the rural countryside would become increasingly proletarianized. Inadequate adjustments would lead to rural-urban migration which would flood the low-income informal sector employment market or create vast reservoirs of unemployed urban labour. The benefits of growth would not spread evenly or fast enough among most segments of the population.

However, other work, such as that by Collier and Lal (1986), suggests that the above view is false, and that very substantial adjustments have taken place in real wages. As a result, marked increases in urban employment and low-income wage employment have failed to materialize. Moreover, the reverse links between urban and rural areas in Kenya have been seen to be just as important as the one-way rural-urban links that have been emphasized previously. Thus any urban bias need not be at the expense of any other part of the economy. In fact, it is the close two-way linkage between rural smallholders and formal sector employees that may have largely determined the pace and the extent of rural development in Kenya. Such linkages imply that the growth of the urban sector may have improved the rural sector's dynamic production possibilities.

However, a concentration of land has still taken place and has hurt the rural poor by lowering overall demand for their labour. The cause may well have been the proliferation of a particular type of "rent-seeking" urban income, which fosters landlessness, out-migration to the drylands, and conflict for meagre and dwindling supplies of marginal land between out-migrants and pastoralists.

Moreover, there has also been some evidence that differences in landholding among smallholders may not have been the major determinant of poverty. Rather, it may have been the historically determined distribution of education which affected different smallholder households' ability to obtain the necessary urban-based off-farm income needed to finance innovation. As household income and education become increasingly correlated, future benefits of past accidents in the distribution of today's assets are likely to become attenuated. Such links with education have been investigated in detail by Knight and Sabot (1990).

Overall, it is highly evident, whichever theory is correct, that the notion of the "trickling down" effects of growth is a limited and highly misleading concept.

Rural innovation has in no sense "trickled down" in Kenya; it has been a direct function of the growth of urban formal unskilled wage employment.

Whatever the case, it seems clear that growth may have inequitable effects on the Kenyan population. Whilst smallholders might gain income from any growth as land concentrates, and might do so in an equitable manner between smallholders, the landless might not make any gains. Therefore, a large section of the poor population might remain unaffected.

Given the losses in income predicted for the agricultural sector in "the rest of the world" by Nguyen, Perroni and Wigle, and for "Other Africa" by the OECD/World Bank study, the prospects for poverty alleviation from trade liberalization in the Uruguay Round in Kenya look bleak. Considering the mechanisms outlined above, it could be the case that the effects of trade liberalization in Kenya will be to increase landlessness and thus increase poverty.

Turning to India, it appears that real rural wages did rise in the 1970s and 1980s despite large population growth, so there has been some trickle-down effect. Ahluwalia (1978) postulates that an important determinant of the extent of rural poverty is the level of agricultural production relative to the size of the rural population. Whilst agriculture is not the only source of income in rural areas, it is the dominant source, and the scale of non-agricultural income-generating activity in rural areas almost certainly depends upon the level of agricultural production. Any trickle-down mechanism at work in the rural economy would cause increases in agricultural production per head to reduce the incidence of absolute poverty. At an all-India level, clear evidence is provided of an inverse relationship between rural poverty and agricultural performance, and fluctuations in poverty incidence are seen to mirror movements in agricultural production per head. At face value, this correlation suggests that faster agricultural growth, by raising agricultural product per person, might have led to a reduced incidence of poverty.

At a state level, the significant inverse relationship holds in states accounting for three-quarters of the rural poor. However, state-level analysis also shows that there may be processes at work in the rural economy which tend to increase poverty over time. Nevertheless, these results are open to the interpretation that agricultural growth offsets the adverse impact of other factors, which rests on the assumption that increased agricultural output can be obtained without exacerbating the unidentified factors which tend to increase rural poverty. Thus, overall, there is evidence of some trickle-down associated with agricultural growth.

Narain (1979) draws attention to the behaviour of prices as an important factor determining the extent of poverty in rural India. It is found that rural poverty is not only inversely related to the level of output per head of the rural pop-

ulation, as established by Ahluwalia (1978), but also positively related to the level of prices.

Sen's (1981) model of a rural economy illustrates the plight of wage earners when there is a sharp rise in food prices. Such a rise could take place without any change in production per head in the rural economy because of a general inflation in which food prices move up with other commodity prices. Food prices could also rise owing to developments outside the rural economy, such as a rise in export demand or reduced imports of food. In either case, if rural money wages do not rise sufficiently to offset the increase in prices, the real incomes of the poor decline. Moreover, such real wage effects are not the only mechanism through which price changes may affect rural poverty. Even if the rural poor are self-employed peasant producers who produce goods other than those they consume, a rise in food prices could accentuate rural poverty if it is not matched by a rise in the prices they receive.

Ahluwalia (1986) reasserts his proposition that trickle-down mechanisms exist, stating again that the rural economy works in such a way that a rise in agricultural production and income levels per head would lead to some decline in rural poverty. However, it should be noted that this indication of a limited potential for trickle-down has been questioned. Some critiques have argued that growth in India in the 1970s was mainly the result of higher yields (although Lipton (1989), acknowledging that modern varieties have alleviated poverty through the provision of extra food and income, also suggests that it is too optimistic to state that they will reduce the prices of poor people's food relative to their incomes over time). Higher yields resulted from new technology, which was associated with changes in the rural economy (such as greater dependence upon intermediates inputs and higher credit requirements) that limited the downward flow of benefits. Still, Ahluwalia (1986) concludes that growth certainly makes a difference, even if it should be conceded that, even with optimistic assumptions, the process would be slow if it relied on growth alone. It is observed that there is no evidence that this relationship has weakened since the green revolution, even if the effect of rising agricultural production on rural poverty does depend upon a very wide variety of factors.

With respect to Narain's (1979) inquiry, Ahluwalia (1986) notes that price inflation might affect landless labourers and marginal farmers (the two groups that constitute the bulk of the rural poor) somewhat differently. Landless labourers might be hard-hit by inflation because money wages lag behind price rises, but small farmers might not be similarly affected, since they consume what they produce, so that with given production levels, they are not adversely affected if the

rate of inflation is higher. Indeed, where there is a small surplus, they might even benefit from inflation if it turns the terms of trade in their favour. Whatever the case, there still seems to be evidence for at least a limited trickle-down of benefits to the rural poor given agricultural growth.

Further, considering the effects of trade liberalization on poverty in India, Hanson and Lieberman's World Bank study of 1990 suggests that the positive effect of income growth depends on the extent to which it is translated into employment and real wage increases.

In agriculture, there are technological, product market and other factors which may slow productive labour absorption. It is thus important that productive employment generation proceeds rapidly in industry and services. However, recent high rates of industrial value-added growth have not been reflected in more rapid employment creation, especially in the organized sector. Nevertheless, evidence cited in Repetto (1994) shows that real rural wages did rise all over India in the period approximately covering 1970-1985, mainly due to off-farm employment. Thus there must have been some translation of income growth into employment and real wage increases, and thus some reduction in poverty. According to 1988 National Sample Survey data, the proportion in poverty did decline in these years. If demand for the off-farm employment is generated by agriculture (as Ahluwalia seems to believe) income growth from trade might have little effect on the poor. However, if demand arises from urban or export sector growth, then any trade effect might lead benefits to trickle down.

Taking these factors into account, and considering the gains in income predicted for the textiles and clothing sector in 'the rest of the world' by Nguyen, Perroni and Wigle, and the increase in real income predicted for India by the OECD/World Bank study, it becomes clear that income growth as a result of trade liberalization might not have the effect on poverty that it would have if the benefits of that growth were equally distributed. There are certain evident factors which prevent income growth from leading to its full poverty alleviation potential despite the existence of some trickle-down effect in certain sectors. In order for it to do so, specific government policies would be required. The livelihood of the poor in India might not be improved by the Uruguay Round as much as first suggested. Furthermore, given that it has been observed that rural poverty might be dependent on agricultural growth, and taking into account the losses predicted for the agricultural sector by Nguyen, Perroni and Wigle, large numbers of the poor in India will, it seems, might certainly reap no benefit from trade liberalization (via growth).

With respect, in turn, to Brazil, Fishlow (1972) notes the differentiating characteristics of poverty which emerged in the 1960s. These include low levels of ed-

ucation, concentration in agricultural activities, location in and non-migration from rural areas, limited number of workers per family, residence in the Northeast, larger than average family size and number of children, and relatively smaller opportunities for education of those children. Thus the Brazilian problem appears to be largely one of low levels of productivity within the mainstream of the rural economy. It was found that age, sectoral, regional and educational differences succeeded in explaining more than half the observed income inequality. Moreover, these variables also define the most important discriminants of productivity. Variation in individual abilities, inherited wealth and status, and other elements then contribute to further variability within these categories.

However, the growth that took place in Brazil in the 1960s is also noted. The leading sectors in the industrial revival were consumer durables, automobiles especially, rather than foodstuffs or textiles. The differential was more than would have been expected on the basis of income elasticities of demand, or perhaps even the greater facilities for credit, and was presumably not unassociated with some reallocation of income shares. In fact, inequality increased in the Brazilian economy. It was observed that such structural factors as the distribution of educational opportunities and the sectoral allocation of the labour force tended to favour inequality. Evidently, there was relatively little trickle-down of benefits from growth to the poor.

Fields' (1977) study also observes that in the 1960s the absolute rate of growth was high, particularly in the latter part of the period, and that income distribution worsened. However, it is also noted that the poor in Brazil clearly did share in economic development. some poor were lifted out of poverty. For those left behind, incomes grew at least as rapidly as those of the non-poor. At the same time, though, the very rich also got richer than before, in both absolute and relative terms. Relative inequality did become greater by most measures. Changes in the structure of production and employment in the Brazilian economy shifted in favour of the relatively advanced and high-paying sectors: urban areas, the industrial sector, and relatively high-level occupations. These factors presumably accounted for a considerable part of the observed income distribution changes.

Given that for three-quarters of Brazil's economically active population, wages were the only source of income, and that the income received by wage earners was almost three-quarters of the total, it follows that the changing income distribution might have had its primary origin in a changing labour market.

Earnings in Brazil are higher in urban than in rural areas, and higher in industry than in agriculture. The shift in income distribution and reduction in absolute poverty resulted from the transfer of the population from rural agriculture to

urban areas and the industrial sector in particular. This was due to substantial rural-urban migration. Rates of growth of output and employment in the industrial sector were higher than in agriculture. The changing sectoral distribution of the labour force was also reflected in the occupational distribution, the number of jobs at the lowest occupational levels increasing by just two per cent in the 1960s, the number of jobs at higher levels doubling. Such changes in labour market conditions were probably the result of economic growth itself or of government policy, particularly in the areas of industrialization and stabilization, international trade, wage policy, and education.

Thus a more optimistic picture can be painted for Brazil, in which although relative income inequality increased, the numbers in absolute poverty were reduced as benefits were passed down.

However, it has been noted more recently (Sachs, 1991) that the growth process in Brazil has a built-in bias towards social inequality. Stabilization plans put a brake on workers' demands whilst guaranteeing price stability. In practice, some upward adjustments of wages have occurred, but as yet they have not significantly affected the extremely skewed income distribution pattern.

Under these circumstances, the middle and upper classes account for the bulk of consumption expenditure. Accordingly, the Brazilian industrial structure is biased towards the production of durables, motor-cars and middle and upper class housing (i.e. luxuries) rather than essentials or necessities (e.g. goods and housing for low-income people). The luxuries sector competes successfully with the necessities sector for capital and intermediate goods, foreign exchange, skills, technical know-how, and public savings. The urban upper class absorbs most of the public resources spent on maintenance, upgrading and expansion of urban infrastructure.

The imbalance between the luxuries sector and the necessities sector is further accentuated by the situation prevailing in agriculture. Large land-owners get all the incentives to produce commodities for export, and sugar-cane alcohol used as a substitute for gasoline. Food production for the internal market, however, lags behind and staple food availability per capita dwindles. Food prices have pushed up inflation, and the low-income people have been the hardest hit because food takes a larger proportion of their earnings.

Growth in Brazil, based on the dominance of the luxuries sector, had in the past been interpreted as "perverse". Furthermore, it was thought that given the shallowness of the market for luxury goods, in the absence of a land reform opening a market for mass production of consumer goods, industry would soon be faced by a saturated demand and the growth process would be arrested.

However, such a prediction has been proved wrong. Three factors were underestimated. First, the possibility of deepening the domestic market for luxuries by further degrading the income distribution and encouraging extravagant consumption patterns. Second, the role played by the opening of the economic frontier and the incorporation of new natural resources into GNP, and third, the capacity to expand industrial exports. This was due to the speed at which Brazil absorbed modern technologies, the competitiveness of its products thanks to the availability of cheap natural resources, underpaid labour, and aggressive trade policies on the part of the government, and finally the expansion of world trade.

Bardhan (1985), therefore is correct to state that a home market concentrated in the upper income segments of the population is not necessarily a constraint on the rate of industrial growth. If exports expand sufficiently, or if the rich get richer at a sufficiently rapid rate, spend their booming income on luxury consumption and reinvest their profits, industrial growth may not be broad-based, but can be fast. Of course, this implies the exclusion of the poor majority from the benefits of such growth.

Considering this situation, and referring to the gains in income predicted for middle-income agricultural exporters by Nguyen, Perroni and Wigle, and the increase in real income predicted for Brazil by the OECD/World Bank study, it becomes clear that income growth as a result of trade liberalization might not have a great effect on poverty in Brazil. As discussed above, the benefits of growth are unlikely to be equally distributed, and due to the persistent prevalence of the luxuries sector, much of the benefit of income growth might not reach the poor.

Clearly, in reality the effects of trade liberalization in the Uruguay Round on poverty in Kenya, India and Brazil will be much different from, and largely of less significance than those indicated by this study's previous superficial estimates. It is highly evident that in order to estimate accurately and fully the effects of trade liberalization on poverty in different developing countries, the economic mechanisms in those countries must also be examined in detail. It is difficult therefore to make any general statements about these effects. As shown in this section it is country-specific analysis which might enable better predictions of the actual effect of trade liberalization in the Uruguay Round on the livelihood of the poor.

8. Concluding analysis

With respect to the elimination of trade barriers many of the existing studies predict an increase in world trade, income or welfare. Moreover, the studies broadly agree that most of the gains, in absolute terms, will be made by the developed

countries. In addition there is also broad agreement that the dynamic long-run effects of trade liberalization would be potentially beneficial to most countries. Considering the estimated effects under the different models on the developing countries in particular, however, provides a different picture. It appears from the existing studies that among the developing countries, some stand to gain, whilst others stand to lose from trade liberalization in the Uruguay Round, whilst the results of cross-section regression indicate also that some will gain and some will lose in terms of poverty.

In general, among developing countries, it is the middle-income economies which will experience the largest reductions in poverty. Although such economies have relatively little poverty compared to the low-income economies, the poor in those countries still number 175 million. Meanwhile, some low-income economies might undergo a reduction in poverty, particularly those predominantly exporting manufactures such as textiles. These include the countries with the largest numbers of poor people: China and India.

Other developing countries, however, especially those predominantly exporting agricultural products, might face no change or even increases in poverty. Many low-income countries, largely in sub-Saharan Africa, and mainly exporters of primary products, would not profit much from liberalization in the short-run. Any existing tariffs on such goods are low already, demand in the importing countries is often insensitive to price, and existing preferences would be eroded. Moreover, net food importers would suffer losses as the liberalization of trade in agricultural products would be likely to raise world food prices (by up to 8 per cent in the short-run according to Anderson and Tyers).

In the long-run, dynamic effects might prove beneficial to any developing country, and affect poverty. In reality, however, dynamic effects will differ between developing countries depending on whether policies are adopted that would encourage a supply response, facilitating diversification away from primary commodities. The diversification necessary to make gains in many countries cannot take place immediately, often due to a lack of investment in the sectors which might enable gains to be made and due to skill shortages (as implied by Wood's framework). In the short-run the developing economies will still face such problems as those presented by some non-tariff barriers, and tariff escalation which discourages them from exporting manufactures. Nevertheless, in the long-run they might be able to create niche markets for basic manufactures. However, the low-income countries suffer from structural problems that retard the adoption of new patterns of production and exports. Policy and institutional reforms will be required and will necessitate significant investment, which might prove difficult.

Thus, developing countries, especially the poorer ones, will only be marginal gainers, due to the low-income elasticities for the goods that they export, and the difficulties they will experience in diversification.

However whilst it is important to note that it is estimated that some developing countries will gain from trade liberalization whilst others will lose, both in terms of economic growth and in changes in poverty levels, the suggestive estimates of potential effects obtained from cross-section regression presented in this study imply that the effects of such liberalization are relatively small and limited in terms of resulting changes in growth and poverty in most cases. Looking in detail at seven developing countries, the varied and limited nature of the effects of trade liberalization on poverty become clear.

This study, however, observes the limitations and applicability of inferences from econometric work, particularly cross-country analysis. It should be noted that such analysis can really imply little in definitive terms about the effect of trade liberalization on poverty. Thus, this study furthers the analysis by examining mechanisms in four specific countries linking income growth to poverty. In doing so it identifies the extent to which, in reality, the poor might be affected by income changes due to liberalization. In other words, it examines the extent to which the benefits of growth might trickle down to reach the poor, or do so otherwise. It can be concluded that even in cases where trade liberalization might lead to income growth, there are certain countries in which the effects of such growth will not fully reach the poor, and will not fulfil their potential in terms of changing the incidence of poverty. Furthermore, it becomes evident that income growth alone might not be relied upon to reduce poverty levels. In such a way this country-specific analysis bears out the dangers of inferences from cross-section regression, and provides more important information with respect to the effects of trade liberalization on poverty.

Thus the final conclusions to be drawn about the effects of trade liberalization in the Uruguay Round on poverty appear to be twofold. Firstly, it is suggested that whilst some LDCs will experience reductions, and others increases in poverty, the potential effects will in reality be relatively small in magnitude. Secondly, it is to be concluded that the full extent of the income effects of trade liberalization might well not reach the poor, and thus will not fulfil even limited potential effects on poverty. Therefore, in general the overall effects will be limited even within the scope of income changes, and might have relatively little influence on the livelihood of the poor.

NOTES

1 Note that data on existing levels of poverty is taken from UNDP sources (see References). If data from Chen, Datt and Ravallion (see References), for example, had been used then the quantitative estimates might be very different, though largely due to the use of a different poverty standard.

2 Information on the classification of countries by predominant export type is taken from the IMF World Economic Outlook, May 1994 edition (see References).

3 Data from UNDP and United Nations sources (see References).

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