

## ASSESSING THE IMPACT OF TRADE ON POVERTY: IS THERE A CASE FOR A "BEST" SINGLE APPROACH?

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### Abstract

Trade negotiators, developing country governments, international development agencies, NGOs, researchers and civil society at large have a common concern with the potential effects of international trade and trade policy reform on poverty. This paper reviews the general methodological approach that the impact assessment community, and the economic discipline have adopted in assessing the impact of trade liberalisation and greater engagement with the global economy on poverty alleviation. It aims to answer the question whether there is a case for a "best" single approach in analysing trade-poverty interactions when performing impact assessments. Three levels of poverty assessment, i.e. the micro, meso and macro levels are briefly discussed. The paper critically assesses the meso level analysis particularly provided through the use of Computable General Equilibrium (CGE) economic modelling techniques, which have gained continuously in popularity as a method for assessing the *ex ante* impact of trade policy reforms. It introduces a strong "health warning" about drawing strong policy conclusions from the CGE body of analysis. This paper concludes that an integrated or an open approach to impact assessment methodology is required, which draws on a range of source of evidence – case studies, economic modelling, econometric analysis, expert opinion, stakeholder consultation – should be used in attempting to assess the poverty impact of trade policy.

**Keywords:** trade, poverty, impact assessment, computable general equilibrium modelling

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## 1. Introduction

A key issue today is the effect of international trade on poverty. The growth in globalisation and the increased importance of trade liberalisation have together led to a heightened interest in the relationship between trade and development. At the same time, the international community's commitment to the Millennium Development Goals, and particularly the goal of halving the proportion of the world's population living in poverty by 2015 has focused attention on the reduction of poverty, particularly in developing countries. Sustainable development is also the end goal of the WTO, and is enshrined in the first paragraph of the Agreement that establishes the WTO. The Ministerial Declaration of the Fourth Session of the WTO Ministerial Conference in Doha, 2001, restated the commitment of the WTO to the goal of sustainable development, and in the Doha Development Agenda acknowledged the contribution that international trade can make to economic development and the alleviation of global poverty. The Hong Kong WTO Ministerial Meeting in December 2005 reaffirmed the decisions adopted at Doha, emphasised the central importance of the development dimension in every aspect of the Doha Work Programme, and gave a recommitment 'to making it a meaningful reality, in terms both of the results of the negotiations on market access and rule-making and of the specific development – related issues' WTO (2005).

Trade negotiators, developing country governments, international development agencies, NGOs, researchers and civil society at large have a common concern with the potential impact of trade on poverty. What impact will trade liberalisation and greater engagement with the global economy have on the goal of poverty reduction? This paper reviews the general methodological approach that the impact assessment community, and the economic discipline have adopted in assessing the impact of trade liberalisation and greater engagement with the global economy on poverty alleviation.

## 2. Assessing Poverty Impact

At the risk of distortion or caricature, we can say that the assessment of poverty impact has traditionally been regarded as being within the domain of social impact assessment. The assessment of *ex ante* and *ex post* poverty impacts of interventions has been mainly at the level of project interventions, and has often used qualitative data gathered at the household or local

community level to assess the effect of specific interventions on household livelihoods.<sup>3</sup> But this approach raises a number of fundamental difficulties, particularly in the context of assessing the impact of trade policy on poverty. Firstly, there is the standard question of how case specific the results are. Can the findings from individual case studies be generalised? If so, to what level can they be grossed up: regional, national or international? Secondly, the intervention being assessed is typically at the project level, whereas trade-related measures are taken at the strategic or policy level. It is not the task of this paper to enter into the 'project' versus 'policy, plans and programmes' (PPP) debate; we simply note that it is generally accepted that the PPP level impact assessment requires a different methodological approach and set of analytical tools to those that have been used in project-level impact assessment.

In contrast to the 'micro' level social assessment approach to poverty assessment, economists have often adopted a 'macro' level approach to assessing the poverty impact of policy interventions. Typically, this has involved the application of econometric techniques to aggregate cross-country data (sometimes combined with time-series data), in an attempt to establish a common 'pattern' in the relationship between trade policy and poverty reduction.<sup>4</sup> The popularity of this approach has grown exponentially, as researchers exploit the growing availability of large cross-country time series data sets and access to increasingly powerful computing capacity. Nevertheless, the limitations of the econometric approach to poverty assessment need to be acknowledged. Firstly, there is a standard problem of demonstrating causality. It is relatively simple to show a statistically robust correlation between a change in trade policy and a change in poverty levels: it is more difficult however to 'prove' that the change in trade policy is the cause of the change in poverty.<sup>5</sup> Secondly, the econometric approach lacks precisely the micro detail that characterises the social assessment approach. Typically, it uses broad aggregate measures of poverty for the macro economy, such as the number of households with an absolute income below the specified poverty line.<sup>6</sup> Thirdly, there are major concerns about the quality of the data and the econometric specifications in this literature (including weak

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<sup>3</sup> Vanclay (2002), Becker and Vanclay (2003).

<sup>4</sup> For a recent example of this approach, see Dollar and Kraay (2004)

<sup>5</sup> A common mistake that is often made in the econometric literature claiming causality between trade liberalisation and poverty is the use of policy outcomes (e.g. changes in trade volumes) instead of policy variables (e.g. average tariffs) in the regression analysis to proxy changes in trade policy that might affect poverty levels. Hence, no inference can be generally made on the impact of policy on any variable since outcomes may be attributed to various other shocks than policy variables or tools (see, for example, Rodrik, 2000).

<sup>6</sup> Where poverty is defined in relative terms, measures of income distribution, such as the Gini coefficient are used.

theoretical underpinnings), with considerable differences in the results and in the policy conclusions drawn from the findings.<sup>7</sup>

Can the 'micro – macro' gap in assessment techniques be bridged? Economic modelling techniques have gained in popularity as a method for assessing the *ex ante* impact of policy interventions. Computable general equilibrium (CGE) models have been widely used to assess the impact of trade liberalisation on aggregate economic welfare, particularly in the context of the WTO trade negotiations.<sup>8</sup> Constructed using sector level data for the entire economy under investigation, the standard CGE model provides a 'meso' level analysis, midway between the macro and micro levels. In recent years, there have been attempts to extend the scope of CGE trade models to poverty analysis, by linking the productive sector component of the model to poverty indicators. The results are being increasingly used in the Doha Development Agenda dialogue in the effects to reach an acceptable 'development agenda' outcome from the WTO trade negotiations that should be concluded by the end of 2006.<sup>9</sup>

In the next section of the paper we critically assess this recent literature that has attempted to model the impact of trade liberalisation on poverty.

### **3. Modelling the Impact of Trade on Poverty**

A number of recent CGE models attempt to provide estimates of the impact of trade liberalisation on poverty and equity. These models may be classified into two categories: global standard CGE models and single-country augmented CGE models (also referred to in some studies as first generation and, respectively, second generation models). Global CGE models by design are not particularly well suited for poverty analysis due to their lack of disaggregated information at the household level and their inability to distinguish between poor and non-poor individual households. Augmented CGE models are generally focused on a specific country and depart from their standard counterpart in that they link the CGE model with a micro-simulation model based on household survey data. These models are richer in household level detail and are thus relatively better suited to investigate poverty and equity impacts.

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<sup>7</sup> See Ravallion (2004) for a discussion of these issues.

<sup>8</sup> For example, recent CGE studies assessing the economic implications of trade liberalisation include Francois, van Meijl and van Tongeren (2005), Hertel and Keeney (2006), Anderson, Martin and van der Mensbrugghe (2006a), and Polaski (2006).

<sup>9</sup> Modelling results are being used in the increasingly acrimonious debate between the EU and the United States over the impact of agricultural liberalisation on developing countries.

Global conventional CGE models are not able to assess poverty impacts at the individual household level as they work at high aggregated levels. Instead they tend to distinguish between various types of “representative agents” or, in other words, categories of households or workers (e.g. unskilled and skilled labour; rural and urban labour). They provide estimates mostly related to aggregate impacts on poverty and on changes in real income at the poverty line. Several global CGE models assess the impact of further trade liberalisation on poverty by differentiating between skilled and unskilled labour, and calculating the number of people that may be lifted above the \$1 or \$2 a day poverty line (Anderson, Martin and van der Mensbrugghe, 2006b, Cline, 2004).<sup>10</sup> The number of people lifted out of poverty appears to be, as in the case of welfare impacts, dependent on the depth of trade liberalisation: the greater the trade reforms, the greater the increase in the number of people lifted out of poverty. This results from the fact that poverty impacts are mainly explained in CGE models by changes in real rewards to factors. Since the returns to unskilled labour are estimated overall to increase with trade liberalisation more than the returns to skilled labour, and most of the poor are unskilled workers, greater trade reform is expected to contribute to more poverty alleviation. The CGE models reviewed in this section are summarised in table 1.

Overall, global CGE models estimate modest poverty impacts stemming from trade liberalisation, and much smaller poverty alleviation effects for developing countries under a Doha round of partial trade reforms.<sup>11</sup> As in the case of welfare impacts, poverty impacts in more recent studies seem to be significantly lower than previous estimates. The regional distribution of poverty impacts appears to indicate that Asian (particularly South Asian) and Sub-Saharan African countries tend to experience the largest drops in the number of poor people.

Poverty estimates are based on a number of critical assumptions. First, it is assumed that changes in unskilled wages are fully passed through to households and are the most relevant to the poor. However, some unskilled workers may not necessarily be poverty-stricken or may

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<sup>10</sup> For example, Anderson et al (2006b) employ a fairly conventional global CGE model that they modify to account for changes in the real average wage of unskilled workers (assuming that these are the most relevant for the poor) and to which they attach pre-determined (World Bank) poverty elasticities in order to compute poverty impacts.

<sup>11</sup> Ackerman (2005) reviews a number of CGE models estimating poverty impacts and derives very small gains of the Doha round for developing countries, ranging from as little as one quarter of a penny to a penny per person per day.

belong to multi-earner households resulting in higher per capita incomes (Ackerman, 2005). Second, it is assumed that economic growth leads to poverty reduction (i.e. growth is an engine for poverty alleviation), and depends therefore, on the magnitude of the growth elasticity of poverty that could be inserted into economic models (Ackerman, 2005). In other words, CGE trade liberalisation models are inherently pro-poor. Hence, the impact of the DDA on productivity and growth represents the key factor for achieving poverty reductions (Hertel and Winters, 2006).

A more modest approach when assessing poverty impacts using global (multi-country) CGE models is adopted in Polaski (2006). The study argues that the data used in global CGE models underpinning the linkages between trade, growth, and poverty are highly contested and tend to depend on the region and on the historical period under consideration. Polaski (2006) does not provide any quantitative poverty estimates of further trade reforms as other global CGE modeling studies do (Anderson et al, 2006b, Cline, 2004), but undertakes a discussion on the likely poverty impacts by combining the income gains or losses estimated by the CGE (Carnegie) model in the Hong Kong scenario case with the data on the current distribution of poverty in the developing world. The author argues that because some developing countries are expected to experience negative effects from agricultural liberalisation under any plausible Doha agreement, and because most of the poor depend on agricultural income, poverty is likely to deepen and spread in rural areas, though displaced farmers may be absorbed, in some cases, by expanding manufacturing exports. Nevertheless, the net effect would depend on the details of the outcome of the Doha Round and several country characteristics, such as the relative size of the agricultural and manufacturing sectors, the rates of growth or contraction likely to be experienced by each sector, and their relative productivity levels. The author gives the example of China that may experience a net poverty reduction effect, as the country is expected to reap the greatest gains from the Doha Round, particularly from manufacturing liberalisation, which seems to significantly surpass any potential losses from agricultural liberalisation. Uncertain poverty effects are envisaged for other countries (e.g. India), because they display a higher share of population engaged in agriculture. Finally, adverse poverty impacts are predicted for countries that are expected to lose from a Doha Round in terms of decreased shares of world export markets for both agriculture and manufactures (e.g. Bangladesh, and several Sub-Saharan African countries).

**Table 1: CGE Modelling of the Poverty Impacts of Further Trade liberalisation**

		Anderson et al (2006b)	Cline (2004)	Polaski (2006)
Model specification	Global (standard) CGE models with a representative household	√	√	√
	Single-country (augmented) CGE models using disaggregated household data			
Liberalisation scenarios		<ul style="list-style-type: none"> <li>• Full merchandise trade liberalisation</li> <li>• Several possible Doha scenarios with a focus on a Core Doha scenario (see Anderson et al, 2006a in table 1).</li> </ul>	<ul style="list-style-type: none"> <li>• Full merchandise trade liberalisation</li> </ul>	<ul style="list-style-type: none"> <li>• Poverty effects are only discussed for the Doha scenario case labelled the "Hong Kong scenario":                             <ul style="list-style-type: none"> <li>○ A modest ambitious market access expansion for both manufactures and agriculture, i.e. a reduction in the applied rates of tariffs and other border protection rates by 36 percent and 24 percent for developed, and respectively, developing countries;</li> <li>○ Agricultural domestic support is reduced by one third by all countries, except LDCs;</li> <li>○ All agricultural export subsidies are eliminated</li> </ul> </li> </ul>
Impacts on poverty		<p>Full liberalisation scenario</p> <ul style="list-style-type: none"> <li>• Using the \$2 per day poverty line: poverty drops by 3.6% of the global total (65.6 mln people of whom 20.4 mln in SSA and 9.6 mln in South Asia)</li> <li>• Using the \$1 per day poverty line: poverty drops by 5% of the global total (31.9 mln, of whom 21.1 mln in Sub-Saharan Africa &amp; 5.6 mln in South Asia)</li> </ul> <p>Core Doha scenario</p> <ul style="list-style-type: none"> <li>• Using the \$2 per day poverty line: poverty drops by 0.3% of global poverty (6 mln people of whom 2.3 mln in South Asia &amp; 0.5 mln in SSA)</li> <li>• Using the \$1 per day poverty line: poverty drops by 0.4% of global poverty (2.5 mln of whom 1.4 mln in South Asia &amp; 0.5 mln in SSA)</li> </ul>	<ul style="list-style-type: none"> <li>• 440 million people are estimated to be lifted out of poverty using the \$2 per day poverty line</li> <li>• The capital growth effect contributes the most to overall poverty reduction: 184 mln people (42%); followed by the productivity effect: 156 mln people (35%); and the remaining 98 mln people is attributed to the standard CGE model forecast.</li> <li>• Substantial poverty reductions are estimated for Asia (almost 360 mln people), particularly for India (150 mln), Pakistan (70 mln), China (around 60 mln) and Bangladesh (almost 30 mln), whereas more modest estimates are provided for SSA (46 mln).</li> </ul>	<ul style="list-style-type: none"> <li>• No numerical poverty estimates due to DDA trade liberalisation are provided, but a modest discussion is pursued;</li> <li>• Poverty is likely to deepen and spread in rural areas in many developing countries, because these are expected to experience negative effects from agricultural liberalisation under any plausible Doha agreement, and because most of the poor depend on agricultural income.</li> <li>• The net poverty effect would depend on the details of the outcome of the Doha Round and several country characteristics, such as the relative size of the agricultural and manufacturing sectors, the rates of growth or contraction likely to be experienced by each sector, and their relative productivity levels.</li> <li>• Country examples: under the Hong Kong scenario, China may experience poverty reduction effects, India may witness ambiguous poverty impacts depending on the details of the Doha Round outcome, whereas Bangladesh and several Sub-Saharan African countries are likely to face adverse poverty impacts.</li> </ul>

**Table 1 (continued): CGE Modelling of the Poverty Impacts of Further Trade liberalisation**

		Ferreira-Filho and Horridge (2006)	Khan (2005)	Zhai and Hertel (2006)
Model specification	Global (standard) CGE models with a representative household			
	Single-country (augmented) CGE models using disaggregated household data	√ Brazil	√ India	√ China
Liberalisation scenarios		<ul style="list-style-type: none"> <li>• Full merchandise trade liberalisation</li> <li>• Central Doha scenario involving a tiered formula with: <ul style="list-style-type: none"> <li>◦ Agricultural market access: Inflexion points at 15% and 90% and marginal tariff cuts of 45%, 70% and 75% in developed countries; and inflexion points at 20%, 60% and 120% and marginal tariff cuts of 35, 40, 50 and 60 percent in developing countries</li> <li>◦ Agricultural market support: marginal rates are cut by 60, and 75 percent for developed countries; for developing countries, 40 percent marginal rate; zero cuts for LDCs</li> <li>◦ Export subsidies are abolished</li> <li>◦ NAMA: 50%, 33%, &amp; 0% tariff cuts for developed, developing &amp; LDCs.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Trade reform experiment consists of cuts in tariffs from 87 percent to below 20 percent</li> </ul>	<ul style="list-style-type: none"> <li>• Full merchandise trade liberalisation</li> <li>• Central Doha scenario (same as in Ferreira and Horridge, 2006 in table 4.2)</li> </ul>
Impacts on poverty		<ul style="list-style-type: none"> <li>• Positive but very small effects: decline in national poverty by less than 1 percent</li> <li>• Poverty declines by around 236,000 persons in the Doha scenario and 482,000 persons in the full trade liberalisation scenario</li> <li>• Largest gainers are household relying on low-skill labour, as declines in poverty are fuelled by trade liberalisation induced agricultural growth</li> </ul>	<ul style="list-style-type: none"> <li>• Positive but limited poverty impacts</li> <li>• The largest headcount drop is recorded for the rural unskilled labour</li> <li>• Trade liberalisation tends to initially benefit the poor close to the poverty line</li> <li>• Tariff reduction will ultimately benefit the poor(est), but the trickling down process is uneven and requires time</li> <li>• Gradual approach to trade liberalisation with special sensitivity to agriculture and the rural poor</li> <li>• Other growth-enhancing policies need pursuing simultaneously</li> </ul>	<ul style="list-style-type: none"> <li>• Positive but relatively modest poverty impacts: decline in national poverty by 2.7 percent (11.2 mln) and 1.3 percent (5.4 mln), in the case of full trade liberalisation, and respectively, the Doha scenario (\$2 per day poverty line).</li> <li>• Aggregate urban poverty headcount decreases by 2.1 and 1.2 percent, in the case of full trade liberalisation, and respectively, Doha scenario</li> <li>• Aggregate rural poverty headcount falls by 2.7 and 1.3 percent, in the case of full trade liberalisation, and respectively, Doha scenario</li> <li>• The biggest poverty reductions occur in China's rural areas (due to higher agricultural prices)</li> <li>• The number of poor people falls even more when rural education reforms are combined with full trade liberalisation, i.e. 55 million people (though there is no interaction between the 2 reforms)</li> </ul>

**Table 1 (continued): CGE Modelling of the Poverty Impacts of Further Trade liberalisation**

		Cororaton, Cockburn and Corong (2006)	Annabi et al (2006)
Model specification	Global (standard) CGE models with a representative household		
	Single-country (augmented) CGE models using disaggregated household data	√ Philippines	√ Bangladesh
Liberalisation scenarios		<ul style="list-style-type: none"> <li>• Central Doha scenario (same as in Ferreira and Horridge, 2006 in table 4.2), with indirect tax for tariff revenue replacement</li> <li>• Rest of the world free trade, full domestic liberalisation and indirect tax as replacement tax</li> <li>• Rest of the world free trade, full domestic liberalisation and income tax as replacement tax</li> <li>• Rest of the world free trade, no domestic liberalisation and indirect tax as replacement tax</li> <li>• Full domestic liberalisation, no ROW trade reform, and indirect tax as replacement tax</li> </ul>	<ul style="list-style-type: none"> <li>• Central Doha scenario (same as in Ferreira and Horridge, 2006 in table 4.2), with indirect tax for tariff revenue replacement</li> <li>• Rest of the World free trade</li> <li>• Unilateral (domestic) trade liberalisation</li> <li>• Full liberalisation of domestic and world trade</li> </ul>
Impacts on poverty		<ul style="list-style-type: none"> <li>• Slightly negative poverty impacts in the Doha scenario (with a compensatory indirect tax), particularly amongst the rural unemployed, self-employed and low-skilled poor. This is because consumer prices rise more than household incomes.</li> <li>• Full trade liberalisation (with a compensatory indirect tax) generally further increases poverty, particularly in rural areas compared to the Doha agreement (the poverty gap and severity increase significantly, whereas the incidence of poverty is marginally reduced). This is due to lower priced imports and adverse rural impacts.</li> <li>• Poverty increases even more when an income tax replaces the indirect tax that compensates for the lost tariff revenue.</li> <li>• Rest of the world free trade is poverty reducing and favours rural households, who benefit from increasing agricultural demand.</li> <li>• Domestic reforms favour urban households and poverty increasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Minor negative poverty impacts in the Doha scenario, particularly in the short run (consumer, particularly food prices increase more than nominal incomes)</li> <li>• Large farmers emerge as winners from the Doha scenario</li> <li>• Rest of the world trade liberalisation has also negative but slightly larger poverty impacts. Overall poverty increases by 1% in the short run and 0.5% in the long run.</li> <li>• Domestic trade liberalisation: short-term adverse effects on poverty and long-term beneficial poverty impacts. Rises in unskilled wages, with the poorest households reaping most of the gains.</li> <li>• Favourable domestic trade liberalisation poverty effects outweigh rest of the world free trade adverse poverty impacts (large farmers benefit mostly from global trade liberalisation)</li> <li>• Remittances represent a powerful poverty-alleviating tool</li> </ul>

Nevertheless, CGE modelling techniques have also been recently refined to provide more reliable numerical estimates of trade liberalisation induced poverty effects across countries and regions. These typically refer to CGE models that focus on a specific country (single-country CGE models) and that are linked to micro-simulation models drawing on more detailed household level data. The DDA trade liberalisation is hypothesised to result, for example, in positive but very small poverty impacts in Brazil (Ferreira-Filho and Horridge, 2006 - see table 1). This is largely attributed to the growth in the Brazilian agro-food output and exports predicted to be triggered by greater trade liberalisation, which creates a greater demand for unskilled labour, and, assuming operational factor markets results in a reduction of the number of people below the poverty line. Similar figures are estimated for the case in China in Zhai and Hertel (2006), who estimate that multilateral trade reforms alone may bring modest poverty alleviation (table 1). The authors argue that if trade reforms were complemented by investments in education, then the poverty impacts would be greater. However, it is debatable to what extent funds will be realistically available to provide additional significant investments in education, particularly that part of the tariff revenue may be lost with import liberalisation.

Trade liberalisation resulting in further poverty reduction both at the national level and at the level of various household groups is also found in the case of the South Asian countries with large populations, such as India (Khan, 2005). In contrast, some country studies have found that further trade reforms may result in increased poverty. The Philippines is estimated to experience a slight increase in poverty incidence under a Doha scenario with indirect tax for tariff revenue replacement, particularly in rural areas and among the unemployed, self-employed and rural low-educated (Cororaton, Cockburn and Corong, 2006).<sup>12</sup> Furthermore, full trade liberalisation (with a compensatory indirect tax) appears to increase poverty in the Philippines even more than the Doha agreement. DDA trade liberalisation also seems to increase poverty in Bangladesh, which is a net agricultural importer, though this is mostly associated with short-run effects (Annabi et al, 2006).<sup>13</sup> In the longer run, when factors are able to adjust (particularly, capital through

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<sup>12</sup> This is explained under a Doha scenario by a worsening of the competitiveness of the Philippines agricultural exports (which already enjoy tariff-free access into the EU), a loss of export shares, a reorientation of agro-producers towards domestic markets and of industrial producers towards export markets, and a reallocation of production, worsening the income situation of particular poor households (Cororaton et al, 2006).

<sup>13</sup> In the case of Bangladesh, the rise in poverty in the short run due to trade reforms is mainly attributed to the net agricultural-importing situation of the country combined with the deterioration in the terms of trade, higher trade reform-induced world agricultural prices and the increase in consumer prices at a faster pace than nominal incomes, particularly for the poorest households (Annabi et al, 2006). The negative effects on poverty of global free trade are found to be stronger than those associated with the July Framework Agreement.

investment), trade liberalisation is found to alleviate poverty. In addition, the liberalisation of services, particularly improved mobility of service providers (labour) may contribute to poverty alleviation through greater remittances.<sup>14</sup>

In addition, the poverty impacts across countries appear to be influenced by the probability and type of tax used to replace the forgone revenue. For instance, the negative poverty impacts of free trade on the Philippines case is assumed to be exacerbated if a uniform income tax is applied (Cororaton et al, 2006). Significant consequences of tax replacement for poverty impacts are also identified in the case of Cameroon, illustrating that tax replacement may represent a key issue for some countries when evaluating the poverty effects of trade reforms (Emini, Cockburn and Decaluwé, 2006).

Hence, national poverty impacts of further trade liberalisation vary across countries and are dependent on factor mobility, the effectiveness of price transmission channels, and the incidence of tax replacement, as well as the extent to which complementary reforms, and mitigating and enhancing measures are implemented (Hertel and Winters, 2006). On balance, trade liberalisation may contribute to poverty alleviation, but there is no guarantee that the poor will always stand to benefit.

#### **4. Summary and Conclusions**

What conclusions can we draw from the economic modelling literature for assessing the impact of trade on poverty? The first is that there is no single, unambiguous answer provided to the question 'does trade liberalisation reduce poverty?'. The poverty impacts of trade reforms across developing countries and regions are mixed, and tend to largely depend on country and model characteristics. This allows us to introduce a strong 'health warning' about drawing strong policy conclusions from this body of analysis. The need for caution is reinforced by the theoretical caveats that need to be applied to the simplifying assumptions that are made in the construction of CGE models.<sup>15</sup> Secondly, the level of micro level analysis that can be achieved in CGE models falls well short of the detailed impact on individual household incomes and livelihoods. Third, and related to the previous point, the analysis disguises important implications for other

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<sup>14</sup> Countries that are major suppliers of migrant labour (e.g. Philippines, Bangladesh) are argued to benefit from greater movement of service providers, and are hence interested in pushing the services liberalisation agenda.

<sup>15</sup> See Scricciu (2006) for a detailed discussion of the limitations of CGE models for sustainability impact assessment.

areas of policy.<sup>16</sup> The poverty impact of trade has implications for social protection and broader mitigation measures, in conjunction with trade reform, which the macro and meso level analysis favoured by economists gives little guidance on.<sup>17</sup>

Finally, we conclude that an integrated or 'open' approach to impact assessment methodology is required, which draws on a range of sources of evidence – case studies, economic modelling, econometric analysis, expert opinion, stakeholder consultation – should be used in attempting to assess the poverty impact of trade policy. This is always open to the charge of eclecticism and lack of intellectual rigour. But the pursuit of a single approach to impact assessment is likely to be as unsuccessful, if popular, as the search for the holy grail.

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<sup>16</sup> This point is made by Ravallion (2004)

<sup>17</sup> See the current debate on aid-for-trade. This is summarised in Kirkpatrick, George and Scricciu (2006).

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