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**TRADE, INCOME DISTRIBUTION AND POVERTY
IN DEVELOPING COUNTRIES: A SURVEY**

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Amelia U. Santos-Paulino

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Contents

	<i>Page</i>
<i>Abstract</i>	1
I. INTRODUCTION	1
II. TRADE, POVERTY AND INEQUALITY	2
A. Global poverty and inequality: methodological and theoretical issues	3
B. Trade, growth and poverty	4
C. Trade and income distribution	6
D. Trade, poverty and inequality: empirical evidence	7
E. Trade and poverty	9
F. Trade and inequality.....	9
G. Trade and trade policy.....	11
III. PRICE TRANSMISSION MECHANISMS	12
A. Individuals and households.....	12
B. The employment-wage channel	12
C. Trade and the distribution of income: skill-biased technological change?	13
IV. TRADE, POVERTY, DISTRIBUTION AND THE POLICY CONTEXT	15
V. CONCLUSION	17
ANNEX	19
REFERENCES	24

List of tables

1 Population, income, poverty and employment profiles in developing countries	4
2 The characterization of the trade-poverty link	5
3 Trade openness, current account balance and barriers to trade in developing countries.....	10
A.1 Selected studies on trade, liberalization and poverty	21

List of figures

1 Poverty headcount ratio (per cent of population below \$2 a day) and inequality in developing and least developed countries, averages	3
2 Poverty incidences in LDCs and developing countries	8
A.1 Poverty rates and trade volumes in developing countries, 1980–2007	19
A.2 Incidence of poverty in least developed countries by export specialization	20

TRADE, INCOME DISTRIBUTION AND POVERTY IN DEVELOPING COUNTRIES: A SURVEY

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Abstract

The paper surveys the theoretical and empirical research on how trade and trade liberalization affect poverty and income distribution. The impact of globalization on poverty reduction has been uneven but the findings in the literature are sensitive to modelling choices. Trade liberalization improves aggregate welfare but the gains are small and unequally distributed. The welfare effects are measured basically through price changes, focusing on the effect on the relative demand for domestic factors of production and, in particular, the demand for skilled relative to unskilled labour. The literature shows that poverty constraints originate from various sources including infrastructure, skills, incomplete markets, and policy.

I. INTRODUCTION

Trade and financial liberalization are prominent features of globalization. International trade has increased dramatically in recent decades, and flows of goods and services are crucial for achieving sustained growth in developing countries. Alongside trade, growing flows of capital across national borders could significantly contribute to economic growth and poverty reduction. The international mobility and division of labour is also expected to generate important distributional changes in domestic economies (Goldberg and Pavnick, 2007b).

The paper surveys the theoretical and empirical research on how trade flows and trade openness affect poverty and inequality. The discussion focuses on developing countries, paying particular attention to the research and implications for least developed countries (LDCs) and sub-Saharan African (SSA) economies. The survey could help in understanding the winners and losers at the international and domestic levels. The issue involves establishing the links between trade, growth, poverty and inequality.

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Notwithstanding the potential role of globalization in accelerating economic growth through greater integration into the world economy, the impact of globalization on poverty reduction has been uneven. Despite significant liberalization efforts, the failure of some developing countries, notably LDCs, to diversify production and exports and undergo structural transformation has led to low growth and persistent poverty (UNCTAD, 2002; 2004; 2006). Moreover, regardless of the high growth rates and remarkable trade performance, a large proportion of the population in developing countries still live in extreme poverty. Some claim that full liberalization in trade and goods could have significant negative effect on LDCs and the countries of sub-Saharan Africa in terms of production and employment, and also exacerbate environmental problems. Complete liberalization of agriculture could lead to an increasing dependence on food imports and a rise in poverty in most places (George, 2010).

The insufficient development of exports and trade capacity in LDCs also reflects in the fact that poor households only receive a small portion of global trade revenues, and in most cases their share has been flat or declining since the global liberalization waves starting in the 1990s (International Trade Centre, 2010). Empirical results show that poor countries face higher barriers on their exports than advanced countries (Looi Kee et al., 2009). Thus, the consistency and sustainability of trade policy reforms should be carefully considered, especially when linking the outcomes of trade liberalization to poverty and income distribution.

In parallel with increasing global interconnections, progress towards eradicating world poverty is at the centre of global development policy and research. Despite the significant advancement in measuring poverty and income distribution there is limited discernment regarding the impact of different economic policies – both national and international – on poverty-outcomes. And a persistent concern is the impact of globalization, primarily the flows of trade and capital, on poverty and inequality (Winters et al., 2004; Harrison and McMillan, 2006; Goldberg and Pavnick 2007b; and Thirlwall and Pacheco-López, 2008). While the literature on trade and inequality is voluminous, the relationship between global interconnections and poverty is still under-researched, particularly for LDCs and other low income countries. Increased inequality seems more acceptable if it is accompanied by sustained growth so that – despite rising disparities – the poor do better in an absolute sense.

In addition to the impact on traditional measures of poverty and inequality (e.g. the gini coefficient), trade liberalization is expected to increase the relative wage of low-skilled workers. But liberalization might also worsen income distribution, for example by encouraging the adoption of skill-biased technical change in response to increased foreign competition, or to the increased globalization of production (Feenstra, 2008). Foreign Direct Investment (FDI) flows typically follow trade liberalization and that is why the skill differential widens.

The rest of the paper proceeds as follows. Section II reviews the studies on trade, poverty and inequality. Section III surveys the price transmission mechanisms. Section IV discusses the relationship between trade, poverty and distribution in a broader policy context. Section V concludes.

II. TRADE, POVERTY AND INEQUALITY

Research and factual evidence are at odds regarding the channels, transmission mechanism and welfare impacts of globalization. What follows reviews studies on trade, poverty and inequality with particular reference to developing countries. The trade policy literature has emphasized the positive impact of more outward-oriented policies on economic growth and development. But empirical evidence suggests that trade liberalization is unlikely to produce beneficial results across all countries or households. Winters et al. (2004) and Harrison and McMillan (2006) review the literatures on trade and poverty, and on globalization and poverty, respectively; Goldberg and Pavnick (2007b) survey the studies on trade and inequality. Concerns about the expected negative short-run effects of trade liberalization often stand in

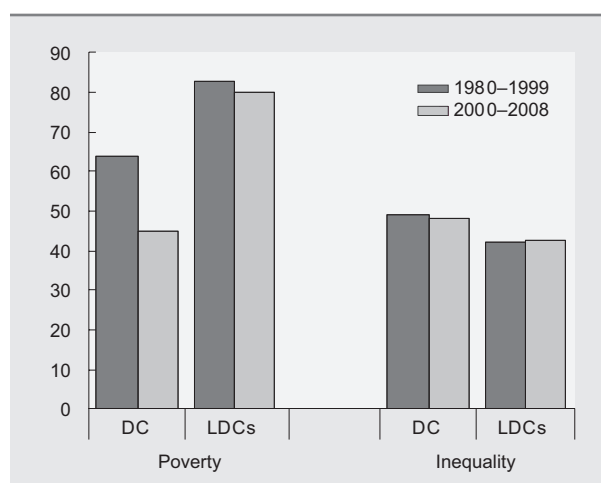
the way of broad acceptance of free trade among the public and policy makers (Goldberg and Pavnick, 2007b). What follows discusses the different branches of the literatures.

A. Global poverty and inequality: methodological and theoretical issues

Based on different data sources, methodological choices (e.g. consumption expenditure or income per head below a poverty line), and multiple poverty lines, some studies show a robust and steady decline in poverty rates over the past decade (Sala-i-Martin, 2006; Atkinson and Brandolini, 2010; Dhondge and Minoiu, 2011). Others show that the number of individuals living on less than \$2 a day has increased (e.g. Kanbur, 2001; 2004), or that the results are affected by the properties of the poverty estimates, sometimes undervaluing the number of the poor (Karshenas, 2010).¹

The studies looking at trends in income distribution are equally conflicting. Sala-i-Martin (2006) estimates various indices of income inequality, all showing reductions in global inequality during the 1980s and 1990s. Despite the relatively slow changing nature of income distribution, others observe that inequality remains excessive (Atkinson and Brandolini, 2010). Even though the debate on whether inequality has increased or decreased over time remains unsolved, inequality remains high (Basu, 2006: 1362). Figure 1 shows the average levels of poverty head count and inequality in developing and least developed countries. In LDCs, over 80 per cent of the population living at \$2 a day is poor (see also table 1). How much globalization contributes to the persistence of these numbers? UNCTAD's LDC Report 2004 further confirms that the incidence of poverty increased unambiguously in those LDCs with the most open and the most closed trade regimes. But in between these extremes, there was a tendency for poverty to be higher in those countries that had liberalized their trade regimes to a greater extent (for example, many commodity-exporting LDCs in sub-Saharan Africa) and lower in countries where trade liberalization had been taking place more slowly (for example, the manufactures- and/or services-exporting LDCs, notably Bangladesh).²

Figure 1
POVERTY HEADCOUNT RATIO (PER CENT OF POPULATION BELOW \$2 A DAY) AND INEQUALITY IN DEVELOPING AND LEAST DEVELOPED COUNTRIES, AVERAGES



Source: Author's elaboration, based on World Bank, *World Development Indicators*, 2011, online; and Karshenas, 2010.

Note: DC denotes developing countries, excluding LDCs.

Although poverty and inequality are generally studied separately, there are significant trade-offs between both issues (Kanbur, 2010; Nissanke and Thorbecke, 2010). Basu (2006) formalizes the concept of "poverty minimizing level of inequality" in trying to explain the relationship between globalization, inequality and marginalization, within and across nations, arguing that they are theoretically and empirically interconnected. Alternative policies to counter extreme poverty and inequality are needed, but the institutional framework to coordinate the policies are missing.

¹ Although key to understanding the issues at hand, the paper does not focus on explaining diverse poverty measures.

² Figures A.1 and A.2 in the annex display trends poverty rates in developing countries, as well as the incidence of poverty in developing countries according to exports sectors.

Table 1
POPULATION, INCOME, POVERTY AND EMPLOYMENT PROFILES IN DEVELOPING COUNTRIES

Country groups	Population		Real GDP per capita		Poverty				Employment (Participation rate, per cent)	
	1980	2007	1980	2007	1.25\$ a day		\$2 a day		1980	2007
Developing economies	3 290.9	5 356.1	1 112.8	2 353.1	52.0	21.9	77.1	45.0	68.2	65.9
Least developed countries	405.3	798.0	315.7	450.5	54.9	52.7	82.1	77.7	74.6	73.6
Middle-income developing countries	1 468.0	2 149.5	974.8	2 672.4	62.1	17.4	82.2	38.5	73.5	70.0
Low-income developing countries	1 528.8	2 730.6	371.4	762.3	46.1	27.7	76.8	52.8	70.5	67.6
China	963.3	1 306.2	228.6	2 282.2	81.3	22.4	87.1	16.0	79.5	74.0
India	692.6	1 164.7	284.9	859.0	46.4	16.2	72.6	40.3	60.6	57.8
Sub-Saharan Africa	389.2	802.0	869.4	930.3	48.9	49.0	70.8	69.5	68.5	69.3

Source: Elaborated, based on UNCTADstat, 2011; LABORSTAT, 2011. Poverty rates are from Karshenas, 2010.

Note: The labour participation rate is share of economically active population over 15 years old in total population over 15.

Changes in per capita income are the main determinants of changes in poverty. But maximizing per capita income in an era of fast global integration might not place sufficient weight on poverty and inequality reduction (Basu, 2006). The differences within and between countries inequality is a foremost issue in the arguments on the impact of globalization. Also, economic growth has consequences for between and within countries income distribution, as well as poverty. Thus it is important to relate both literatures in trying to understand the impact of trade and policy on poverty alleviation. Recent studies on the trade aspect of globalization and inequality mostly focus on the distributional consequences of globalization, and not necessarily on poverty impacts.

Developing countries' vulnerability is also relevant in the process of world integration. Greater openness tends to be associated with a higher volatility and vulnerability of poor households to economic and financial flows. Vulnerability might be seen as a result or side effect of the globalization process. More than a billion people live in extreme poverty, and many face the possibility of never escaping from it. Millions more may be at risk of falling into poverty (Naudé et al., 2010). The massive, widespread vulnerability to poverty has become one of the defining challenges of our times. Vulnerability, particularly the international channels that might increase the risks of poor countries and households, needs further research.³

B. Trade, growth and poverty

A key issue in the debate about globalization in general is the extent to which economic growth reduces poverty. The debate remains unsolved despite the significant development of survey and comparable data. If economic growth is to benefit everyone proportionally, the incomes of the poor would grow at the same rate as mean income. However, if economic growth is unequally distributed, the effects of growth on poverty reduction will be less (or more) depending on whether the incomes of the poor grow by less (more) than average (Deaton, 2005). That is, the impact of growth on poverty reduction depends on the position of the poverty line in the income distribution.

The studies focusing on trade and growth, as well as those on trade and poverty, suggest that current statistical procedures, particularly in poor countries, understate the rate of global poverty reduction and

³ The risks are exacerbated by natural hazards, ill-health, and macroeconomic volatility.

Table 2
THE CHARACTERIZATION OF THE TRADE-POVERTY LINK
(Selected frameworks)

Frame- work	Transmission channels / response					Welfare impacts			
	Mecha- nisms	Trade focus	Relative prices	Factors income	Government revenues and expenditures	Risk and vulnerability	Growth	In- equality	Poverty
McCulloch et al. (2001); Winters et al. (2004)	Trade policy		Changes in border prices – changes in prices faced by households	Impact on profits → employment → wages	Tax and spending		(+ , -)		(+ , -)
UNCTAD LDCs Report (2004)	Trade balance		Changes in relative prices and factor incomes	Impact on employment → wages. Impact on formal / infor- mal sectors. Capital accu- mulation and technological progress	Macro-micro policies, labour market focus	Development policies that link tradea and poverty and human development	(+ , -)		(+ , -)
Goldberg and Pavnick (2007b)	Exports		Short and medium term changes in factor income	Impact on employment → wages. Industry specific skill biased-tech change. Impact on formal / informal sectors	Broad based macroeco- nomic policies. Tariff and trade policy	Industry- specific policies	→ (+ , -)		
Thorbecke- Nissanke (2010, 2011)	Globaliza- tion: trade and capital openness, factor movement		Differential cross-border factor prices and mobility	Skill-biased technological change	Broad based macro- economic policies	Pro-poor institutions and policies	(+ , -)	→ (+ , -)	(+ , -)

Source: Author's elaboration, based on the cited studies.

overstate growth across the world.⁴ Most of the evidence of the trade-shocks impact on poverty is via changes in income (output), hence some authors argue that all that is required for poverty reduction is growth (Dollar and Kraay, 2002). However, others sustain that income distribution is equally important.⁵ Other than the direct growth impact, the trade effect on intra-country inequality is consequential. Is the assumption that growth is the central poverty reduction strategy well-substantiated? What is the role of trade and trade policy? Table 2 summarizes the main channels/mechanisms that characterize the trade-poverty link, according to various theoretical and empirical frameworks (see also table A.1 for a selection of empirical studies).

⁴ Although important, poverty and other well-being indicators are beyond the scope of this paper. The matter is well discussed by, for instance, Deaton (2005) and Karshenas (2010).

⁵ This is substantiated for the case of Africa by Ali and Thorbecke (2000) and Fosu (2010).

Winters et al. (2004) acknowledge that only the indirect evidence regarding the linkages between globalization and poverty can be verified (see also Ravallion, 2007; and Goldberg and Pavcnik 2007b). Harrison and McMillan (2006) focus on two measures of globalization: trade and international capital flows. As other studies, the evidence discussed in the paper suggests that globalization produces both winners and losers among the poor. They allude to the fact that some poor individuals are made worse off by trade or financial integration, and this underscores the need for carefully targeted safety nets, such as income support from the governments to corn farmers in Mexico, food aid in Ethiopia, and other appropriately design social safety nets to accompany trade reforms. The authors also cite the cases of India and Colombia, which suggest that globalization is more likely to benefit the poor if trade reforms are implemented in conjunction with reducing impediments to labour mobility. A National Bureau of Economic Research (NBER) edited volume by Harrison (2006) shows that the orthodox perspectives on the linkages between globalization and poverty are misleading, if not “downright wrong” (Harrison, 2006: 125). The findings from the 15 studies suggest that the gains from trade are highly unequal, and that the poor do not always benefit from globalization.

Nissanke and Thorbecke (2006; 2010) discuss the various channels and transmission mechanisms through which the process of globalization affects different aspects and dimensions of poverty in developing countries. In addition to the openness-growth link, the globalization channels – i.e. trade, financial and factor mobility – are:

- First order effects: changes in relative product and factor prices;
- Differential cross-border factor mobility and related changes in global markets and power structures;
- The nature of technical progress and the technological diffusion process;
- Impact on volatility and vulnerability, including export earnings, terms of trade, and other factors affecting both the demand for exports and supply capacity;
- Impact on the flow of information;
- Global disinflation (i.e. the decline in inflation across countries); and
- Institutions in developed and developing countries that mediate the effects and various channels and transmissions mechanisms linking globalization and income distribution-poverty.

The channels are interrelated and the net effect on poverty depends on the relative strength of the positive and negative forces. The findings in a series of cross-country and case studies in (Nissanke and Thorbecke, 2006) prove that the direction and causality of the link is debatable.

C. Trade and income distribution

Greater openness to world markets can affect income distribution between and within countries. As the growth literature reveals, in general, changes in poverty are mostly associated to changes in average incomes, and hence it is pertinent to evaluate both issues in a comprehensive framework. Is growth due to trade liberalization different from growth in general? Or, does trade liberalization led-growth is anti (pro) poor and thus have negative (positive) distributional impacts? However, if trade liberalization worsens the distribution of income it would not contribute to poverty reduction, despite the positive overall effect on growth.

The extensive body of evidence surveyed by Goldberg and Pavnick (2007b) reveals a contemporaneous increase in globalization and inequality in most developing countries. The mechanisms through which globalization affects income distribution are country, time, and case specific. Importantly, the impacts of trade liberalization need to be examined in conjunction with other concurrent policy reforms, and the implementation details of particular policies matter. For that reason, relying solely in pooled studies might not conduce to satisfactory policy prescriptions.

Early critics of free trade and the current popular debate suggest that income disparity is brought about by international trade between unequal countries.⁶ In the other side of the argument, some authors suggest that movement toward free trade may lead to a reduction in income inequality across countries (Ben-David, 1993). Particularly, the timing of trade reform seems to be associated with income convergence.

The changes in poverty are almost entirely attributable to growth itself as discussed in the previous section, not to changes in the distribution of income, although some studies suggest that changes in global distribution of income, particularly from the late 1980s, have been slightly pro-poor (Chen and Ravallion, 2001). Generally, there is no systematic relationship between growth and changes in income distribution. Thus the income of the poor tends to grow proportionally with mean per capita income (Dollar and Kraay, 2001). If faster growth were associated with worsening income distribution, then there would be a limit on how much improvement in poverty could be expected from growth alone.

O'Rourke (2001) and Bourguignon and Morrisson (2002), in their studies of historical trends in globalization and inequality, conclude that globalization has been a force for between-country convergence among participating countries since the 1820s. However, Dowrick and Golley (2004) reveal that while trade openness promoted convergence in the 1960s and 1970s, since 1980 the benefits of trade are mostly attributed to the richer economies, with modest benefits to the less developed economies. Most of the dynamic benefits of trade are obtained through productivity growth, with a small contribution coming through increased investment.⁷

Sala-i-Martin (2006) finds that overall global inequality has been falling since 1980, due to between-country convergence. However, other measures of inequality (e.g. the absolute difference of the Gini coefficient to the world's mean, as described by Atkinson and Brandolini, 2010), provide a more pessimistic perspective of the evolution of world income distribution, showing an increasing trend in inequality. The trends in income distribution also diverge within developing economies. Income inequality has declined through Latin America in the past decade, while it has been growing in countries such as China, India and South Africa (López Calva and Lustig, 2010). The leading factor that explains the decline in inequality, particularly in Latin America, is the narrowing of the earning gaps between skilled and low skilled workers (Arroyo-Abad and Santos-Paulino, 2009).⁸

D. Trade, poverty and inequality: empirical evidence

Theory and empirics are ultimately ambiguous about the relationship between openness and growth. Does trade openness matter for absolute poverty reduction beyond its effects on growth? Does trade-related growth have any effect on poverty? So far, the literature recognizes that the most important channel through which trade can affect poverty is growth. Empirical evidence shows no significant links between openness and the well-being of the poor beyond those associated with higher average per capita income growth (e.g. Edwards, 1998). Frankel and Romer (1999) address the problem of simultaneity bias or the likely endogeneity of trade with respect to income. However, the validity of the constructed instruments based on the geographical characteristics has been contended, because geography is likely to be a determinant of income through a variety of channels, of which trade is possibly only one (Rodriguez and Rodrik, 2000).

⁶ See for example, Emmanuel's (1969) discourse on 'unequal exchange' and Samuelson's (1975) critic on the subject.

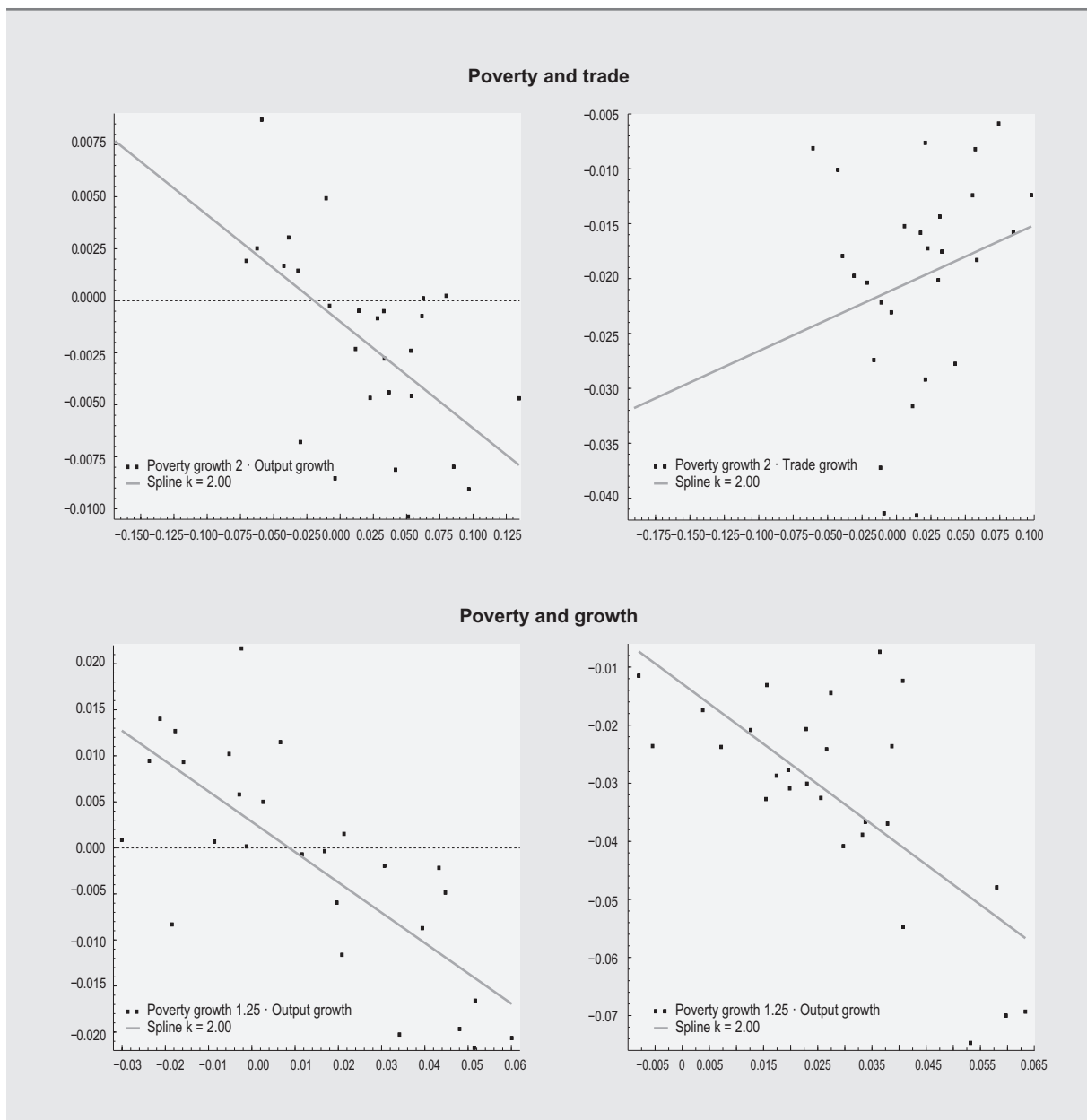
⁷ These results are mostly explained by the negative impact of specialization in primary exports on economic growth.

⁸ López Calva and Lustig (2010) further show that the increase in government transfers to the poor, and education upgrading (defined as the increase in average years of schooling and a decline in years of schooling inequality), are also considered as leading factors to the narrowing of the earning gaps. And democratization to the more equitable use of resources also generates positive egalitarian impacts.

Despite the well-founded relevance of the trade and growth relationship, we focus our attention on the direct link between openness and poverty or inequality. Figure 2 shows exploratory and preliminary evidence on the relationship between growth and trade, and growth and changes in poverty. For developing countries, the figure shows that trade and poverty seem to be positively related, that is, increases in trade might lead to increasing poverty (using the \$2 a day poverty line). But for the LDCs the data shows that trade is leading to extreme poverty reduction using the \$1.25 poverty measured. When looking at the relationship between output growth and poverty for developing countries, the evidence suggests that the faster countries growth, ceteris paribus, the faster poverty rates will fall. In the case of LDCs, higher growth also leads to lower poverty.

Figure 2

POVERTY INCIDENCES IN LDCs AND DEVELOPING COUNTRIES



Source: Author's estimation, based on Karshenas, 2010; and World Bank, *World Development Indicators*, 2011.

Note: Spline refers to a method for smoothing the scatter plots. The spline is evaluated at all the data points.

E. Trade and poverty

Trade liberalization also could lead to faster growth in average incomes, and that growth increases the incomes of the poor “proportionately”, thus leading to decreased absolute poverty (Dollar and Kraay, 2004). The paper suggests that one of the surest tactics for developing countries to alleviate poverty is to pursue policies of trade liberalization. However, the arguments and evidence presented are challenged by the record of the effects of trade on growth and poverty in some countries, particularly LDCs, where the evidence appears to be considerably more mixed than claimed by Dollar and Kraay.

Ravallion (2007), using both macro and micro modelling, questions the ‘robust’ link between globalization and poverty reduction. The paper argues that, under a set of specific conditions, trade openness could be effective in reducing poverty. Specifically, cross-country analysis, and a case studies of China and Morocco indicate that it is difficult to assert that trade liberalization is a powerful force for poverty reduction, and that the relationship cannot be generalized in both cases, at either side of the debate.

Other comparative studies find that growth reduces poverty but the estimated relationship varies widely. The effect ultimately is strongest in countries with less inequality in income and assets (Cashin et al., 2001). The evidence for the capital flows – poverty is scant, but Arestis and Caner (2010) suggest that a higher degree of capital account liberalization is associated with a lower income share for the poor.

The empirical assertion that openness – notably in poor countries – tends to increase growth and hence leads to poverty reduction is not empirically verified, or the evidence is not conclusive, for LDCs. Are LDCs and other structurally weak developing countries trading-out of poverty? It is against this backdrop that UNCTAD’s *LDC Report 2004* embarks to theoretically clarify and empirically examine the links between international trade and poverty. The *Report* argues that international trade can play a positive role in reducing poverty in the LDCs, but that has not been the case in reality. On closer inspection, there is no robust, systematic empirical evidence that trade liberalization is good for growth, poverty reduction, and human development. The outcome is attributed to poor trade performances, that is, to the weak linkages between trade and economic growth, and to other intrinsic socio-economic and political constraints. Importantly the relationship between openness, trade and poverty is conditioned by the ‘level of development of a country and the structure of its economy’ (UNCTAD, 2004: 77) and of its exports, in particular.⁹

F. Trade and inequality

Berg and Krueger (2003) put forward two central propositions: first, that increases of openness to trade contribute to growth; and, second, there is nothing special about trade-led growth that systematically worsens the income distribution, and thus would undercut the positive effect of openness on poverty reduction through faster growth. For instance, LDCs have undergone substantial structural adjustment programmes and progressive policy changes since the early 1990s, in spite of problems of implementation and disruptions. This has resulted in higher openness to trade and more streamlined trade policy structures, which in some cases, is not so far from that of advanced economies (see table 3). However, this has not translated in widespread poverty reduction or the achievement of MDGs.

⁹ Empirical findings demonstrate that the higher import growth has contrasted with a more modest export growth following trade liberalization Santos-Paulino and Thirlwall (2004b), affecting the trade balance of the balance of payments and growth, and indirectly affects the growth-poverty channel. Countries have been forced to adjust in order to reduce the size of payments deficits to a sustainable level which has reduced growth below what it might otherwise have been if balanced trade had been maintained. This conclusion has implications for the growth process as trade liberalization proceeds. This is also true for developing LDCs (Santos-Paulino, 2007).

Table 3
TRADE OPENNESS, CURRENT ACCOUNT BALANCE AND
BARRIERS TO TRADE IN DEVELOPING COUNTRIES

Country groups	Trade openness		Current account balance		Trade restrictiveness		TRI
	1980	2010	1980	2010	Average tariffs ^ξ		
					Industrial	Agriculture	
Developed countries	34.3	42.0	-0.9	-0.6	4.7	5.2	0.29
Developing economies	50.0	69.9	1.2	2.3	9.3	14.2	0.33
Least developed countries	43.2	70.7	-6.0	-4.3	11.3	14.2	0.32
Middle-income developing countries	35.0	51.9	-2.1	2.5	9.1	13.9	0.36
Low-income developing countries	43.4	58.0	-1.9	-1.5	3.7	13.8	0.30
China	13.3	54.5	0.1	5.2	10.0	8.4	0.34
India	15.3	45.5	-1.0	-3.2	3.7	29.4	0.47
Sub-Saharan Africa	56.0	70.7	0.1	-1.2	10.9	12.9	0.30

Source: Trade and current account balances (UNCTADstat, 2011); Tariffs (WTO, 2011); TRI (Looi Kee et al., 2009).

Note: Trade openness is the ratio of exports plus imports to GDP. ξ denotes weighted averages for 2007–2009. TRI = Trade restrictiveness index (of tariffs and non-tariff barriers).

Several studies look at the relationship between trade policy (i.e. policy more comprehensively than liberalization per se) and income distribution at an aggregate level. Edwards (1998) suggests that there is no evidence linking openness or trade liberalization to increases in inequality. However, the findings are subject to the usual caveats about cross-country regression studies.

Dollar and Kraay (2002) consider a number of factors that might have direct impacts on incomes of the poor through their effect on income distribution. Openness to international trade, amongst a host of pro-poor macroeconomic policies, is found to raise average incomes with marginal systematic effect on income distribution. But, the finding might be biased by the empirical specification and the set of countries.

Lundberg and Squire (2003) show that inequality is significantly and positively related to the Sachs-Warner openness indicator, that is, liberalization worsens income distribution. Previously, Barro (2000) also showed a positive and long-term association between the levels of openness and inequality. However, even within a well defined empirical framework, it is not possible to identify the way that the level of development, measured by GDP per capita, affects the influence of openness on inequality. Thus, as in the poverty-trade debate, there is a long road to explore. The findings in Zhou et al. (2011) lend support to the premise that globalization helps to reduce within countries inequality.

Greater openness can impact domestic inequality by affecting the real incomes of credit-constrained groups, or relative factor returns. Also, openness can affect the income gap between regions, particularly the real income of immobile factors, by changing the spatial concentration of economic activity (Anderson, 2005). Greater openness might also affect inequality by limiting or reducing the ability of the government to redistribute income via taxes and transfers (Tanzi, 2001).

A selection of sector and country case studies in Hoekman and Olarreaga (2007) examine the poverty impacts of liberalization at a micro level. The various authors also provide detailed product-level analyses of the distributional implications of tariff changes combined with estimates of the impact of multilateral liberalization, to better understand the effects of trade liberalization on poverty in poor countries. The collection of country-case studies confirm that trade openness can be a powerful driver of economic growth, which in turn, is crucial to reducing poverty and fostering development. So, it seems that averages (as those provided by most cross-country studies) do not necessarily represent the reality of specific countries or regions, and thus could significantly bias the results upwards or downwards.

G. Trade and trade policy

Changes in the national policy environment and trade policy reforms have been a precondition to obtain financing through the structural adjustment programmes. But, the playing field is not always levelled. In assessing the global trading system, there are many who believe that plentiful aspects of trade liberalization are largely to the advantage of rich countries and to the disadvantage of the poor and developing nations. George (2010) critically assesses whether trade agreements are truly vital for eliminating world poverty and making development environmentally sustainable, or are in fact a major cause of continuing disparities. Trade comprises imports and exports, and the degree of prosperity granted by trading (i.e. more openness) depends on what and how much a country exports and imports. Thus, to achieve the ambiguous ‘level playing field’ is more difficult than is acknowledged by some on both sides of the trade agreement divide. “Could it be that countries are poor not because they trade too little but because they trade too much?” (George, 2010).

Looi Kee et al. (2009) show that high income countries tend to have a more restrictive trade regime, which explained by a higher tariff variance than developing economies. LDCs such as Ethiopia, Madagascar, Malawi, Uganda, Rwanda and Zambia portray low levels of trade restrictiveness (i.e. a composite measure of tariffs and non-tariff barriers – NTBs), which may be explained by reciprocity in bilateral and multilateral trade agreements.¹⁰ This further exposes the unbalance patterns of trade policies and liberalization between developed and developing countries, and the constraints that this biased might have on growth (and potentially on poverty reduction).

An important question in evaluating the impact of trade policy and trade liberalization on poverty and income distribution is if the structure of protection helps in redistributing income from rich to poor households. Nicita et al. (2011) study the bias of trade policies in SSA by using a set of indicators, which try to depict the differences in welfare changes associated with the elimination of SSA’s structure of protection and the trade protection of exports by the rest of the world. The results suggest that SSA’s own trade policy is biased in favour of poor households. On the contrary, the trade policies of the trading partners tend to be biased in favour of SSA’s rich households, especially when ad-valorem equivalents of non-tariff measures are taking into consideration. The findings imply that Africa’s own trade policy appears to redistribute income from rich to poor households and, thus, is pro-poor. This is mostly explained by agricultural protection, which is significantly high both in developing and developed countries. Thus, in this setting, liberalization could be bad for poverty.

This has implications for market access and the stalled Doha round of negotiations – both concerning direct agricultural taxes and non-tariff barriers. At the national level, it also concerns the use or elimination of tariff and non-tariff measures. That is, policy options, especially in poor and vulnerable countries, should reach an equilibrium between the reduction of trade costs against the preservation of local public goods or impact on welfare.

Thus, so far we have seen that while some of the studies have tried to rationalize the links between trade and growth, the empirical evidence on the transmission channels from trade, to growth and to poverty is more complex. Also, the findings regarding the trade-poverty link are rather mixed, especially from cross-section and panel studies. The overall conclusion is that there is no systematic relationship between openness and the income of the poorest, beyond the effect of trade openness on overall growth (Winters et al., 2004; Goldberg and Pavnic, 2007a; b).

There are persistent concerns in the literature about statistical problems, identification strategies, etc. Pooling different countries and liberalization episodes in a common framework raises criticisms. Also, the

¹⁰ Yet, the countries with the highest average ad-valorem of core NTBs are all low-income African countries (e.g. Algeria, Côte d’Ivoire, Morocco, Nigeria, the United Republic of Tanzania, and the Sudan).

various channels through individual countries and sectors can be affected, and how policy can influence the outcomes are key for making trade a central element of poverty reduction and distributional policies.

Given the rural-urban divide in developing countries, and the predominantly rural incidence of poverty, the poor are mostly affected by the liberalization of the agricultural sector. Trade protection generally induces an anti-agricultural bias, so liberalization should help in reducing sectoral distortions. The poorest among small farmers may not benefit from the reforms, despite the potential of agricultural liberalization to increase the relatively low rural incomes.

III. PRICE TRANSMISSION MECHANISMS

A. Individuals and households

Trade policy in general, and trade liberalization in particular, have diverse impact on individuals and households. Similarly to aggregate analysis, the impact on individuals (households) is related to the price transmission mechanisms, and will depend on the sources of income (Porto, 2006).

In general, the trade policy impact operates through two main channels:

First, trade policy impacts the domestic prices of goods and factors of productions, that is, wages, profits, returns to capital and land, and hence will affect poverty and income distribution. Depending on the regulatory framework prevailing, some economic sectors outside markets – i.e. subsistence sectors – might be protected from the impact of trade policy, whereas others are entirely exposed to international markets (particularly the tradable sectors) and thus to the consequences of trade policy (Winters et al., 2004).

Second, the impact would depend on the degree of individual's dependence to various goods and factors of production, and to the type of sectors they are employed at (e.g. exporting and import-competing sectors). In the case of many developing and least developed countries, the existence of large self-sufficient activity or informal sectors might not be subject to price shocks and thus are sheltered from trade policies. At the household level, the potential increases on food prices, alongside changes in wages (income) are the foremost concerns in relation to the trade-poverty relationship.

Economic shocks faced by households and national economies due to trade liberalization could be either negative or positive and case-specific. The outcome will depend on whether partial or general equilibrium analysis is conducted. McCulloch et al. (2001) argue that the poverty impact of trade liberalization is country specific, being pro-poor in some cases and anti-poor in others. There is also the argument that it is more effective to tackle poverty concerns directly, for instance, by safety nets and investments to facilitate structural reform, rather than through the continuation of protectionist policies.

B. The employment-wage channel

The employment-poverty channel, which has been discussed in the broader trade liberalization–growth–poverty debate (e.g. UNCTAD, 2004), poses a significant challenge to policy makers. Wuyts (2001) analyses the nature of the dynamism of the informal sector development in export oriented activities, under structural adjustment programmes, for the case of Tanzania. The paper shows an upsurge of the informal sector due to structural adjustment, but this did not result in higher productivity, mostly due to the lack of inter-sectoral linkages (i.e. between industry and agriculture). The study draws important welfare implications, particularly: (i) the relative cheapening of wage goods as a result of their importation, partly financed through foreign aid, thereby lowering the unit-labour cost in labour-intensive production; and

(ii) the processes of subsidizing real wages by other forms of economic security, as a result of diversified and spatially extended livelihood strategies. However, the long-run sustainability is questionable.¹¹

The complex and inter-dependent nature of trade openness-poverty relationship, is particularly difficult to unravel if we look at the channels through which openness to trade and capital affect the lives of specific groups, such as the rural poor, in the case of formal as well as self employment. Bardhan (2007) emphasizes that greater openness affects the rural poor in various capacities, namely: as workers (both self-employed and in formal markets), consumers, recipients of public services, and users of common resources. The study suggests that opening up the product markets without the required institutional and infrastructure adjustments, and without addressing the distorted factor markets may be a suboptimal policy for the poor. This is a reality affecting many LDCs.

Another challenge is creating employment in a globalized world economy with enduring labour mobility constraints (see for example Ghose et al., 2008 for a related discussion). In analysing the role of domestic policy in offsetting negative welfare implications through the employment-wages channel, the authors recognize that there are policy challenges that can only be dealt with at the global level. This reinforces the importance of governance issues in relation to freer trade and factor mobility, particularly for the case of structurally vulnerable countries.

The nexus between trade liberalization and gender is one of the direct channels through which globalization affects poverty and distribution, mostly through the employment impact. Nonetheless, as in the overall trade-poverty-link, the nexus between trade liberalization and gender is complex. In many cases, women's asymmetric access to resources and opportunities tend to be related more to the nature of the labour market and availability of public services rather than international trade. International trade might reinforce existing inequalities or it might create new opportunities for women to improve their socio-economic standing within their families, their communities, and their country (USAID, 2007). The empirical evidence focusing on the relation between trade liberalization and gender in developing countries is inconclusive.

A positive effect of trade liberalization is the increased female participation in the labour market. Also, higher value-added jobs may be created due to increased trade, providing an opportunity for women to access higher income jobs and improve their social status, thus reducing the wage gap. The positive gender effect is found to be largest in low-income countries and among unskilled female workers (Fontana and Wood, 2000). But, trade liberalization may also affect women's employment negatively.

Liberalization can also affect women disproportionately in terms of a decrease in the quantity and quality of jobs due to increased competition. Women may be displaced from work due to international trade depending on which sectors narrow or expand as a consequence of increased foreign investment (Baldwin, 1984). Gender equality could be a source of comparative advantage when a country integrates into the global economy. Yet, female empowerment – in an increasingly integrated world market – depends on a country's productive structure, in addition to its exposure to global markets, assuming that male and female labour are not perfect substitutes (see also Alesina et al., 2011).

C. Trade and the distribution of income: skill-biased technological change?

The classical trade theory predicts that the effect of greater openness on income distribution depends on factor endowments. That is, for countries that are relatively highly endowed in human and physical capital, an expansion of trade would tend to lower the relative wages of unskilled workers and, thus, lead

¹¹ Santos-Paulino (2007) also assesses the link between foreign aid and trade, particularly the financing of trade/current account deficits for LDCs.

to greater income inequality (Barro, 2000). Large part of the literature has focused on the impact of trade liberalization on inequality and labour markets, both at the household and firm level (see, for example, Revenga, 1997; Hanson and Harrison, 1999; Feliciano, 2001; Galiani and Sanguinetti, 2003; Robertson, 2004; Goldberg and Pavnick, 2005; Hanson, 2007; Nicita, 2009).

Studies looking at the impact of wage inequality post trade liberalization and integration in Mexico show that, contrary to Heschker-Ohlin/Stolper-Samuelson models the ratio of skilled to unskilled wages increased dramatically (Hanson and Harrison, 1999; Feenstra and Hanson, 1997; Robertson, 2004). Nicita (2009) analyses the distributive effects of tariff liberalization in Mexico, from the perspective of households both as consumers and factor owners, allowing for imperfect domestic price transmission. The results indicate that the overall positive effect of tariff liberalization on the distribution of gains is very heterogeneous, both across income levels and across geographic regions.

In addition to the role of trade reforms in fostering trade in final goods, work by Feenstra and Hanson (1996; 1997; 2003) emphasized the growing importance of trade in intermediate inputs (i.e. production sharing or outsourcing). They show that recent trade liberalizations, coupled with the removal of restrictions on capital flows and technological change, have enabled firms to “outsource” some stages of production to cost-minimizing locations abroad, either through arm’s length imports of intermediate inputs or by setting up their own production facilities in a host country. LDCs are yet to engage in more sophisticated channels of trade: trade intermediate inputs.

The theory and emerging empirical evidence about firms’ relocation, founded in the standard theory (i.e., Heckscher-Ohlin model), suggests that trade in tasks affects global income inequality, particularly in developing countries, due to skill differentials and relative return to skills. That is, rising inequality of skilled/unskilled wages, relative skill abundance, and the persistence of international differences in factor prices, results from the acceleration of globalization. Thus, services traded internationally at arms length generate gains from trade, and their effects on production, national income, and economic welfare (i.e. employment and wages) are not qualitatively different from those of the conventional exchange in goods (Feenstra, 1998).

Arbache et al. (2004) study the impact of trade liberalization on the level and structure of wages for the case of Brazil, and the difference in performance between the traded and non-traded goods sectors. This relates to the employment-poverty channel already discussed. Contrary to the predictions of the Heckscher-Ohlin theorem, several studies seem to show that the wages of unskilled workers have fallen relative to skilled workers through the process of what the authors describe as ‘skill-enhancing trade’ associated with greater inflows of foreign direct investment and modern technology.

This pattern is also observed in Brazil, where significant liberalization was introduced in 1990. For workers in the two top educational levels, the marginal returns to further education increased post-trade liberalization. The authors believe that this pattern of behaviour is likely to be general in fairly large developing countries that have liberalized. That is, standard international trade theory that predicts a narrowing of the wage distribution does not seem to be borne out in practice when developing countries liberalize their trade because it ignores the flow of international capital and technology transfer which increases the demand for skilled labour.

The recent literature shows that offshoring tasks generates gains from trade that might have the same effect as factor-augmenting technological progress, thus challenging the prevalent view that relocation might have a negative impact on welfare, particularly in the North (Feenstra, 2008). For instance, the evolution of developing countries, notably China and India, to more sophisticated trade and production systems also indicates that trade in services might not necessarily be harmful for economic performance. However, the structural shift might entail distributional consequences, particularly within countries, between successful and laggard regions (Santos-Paulino and Wan, 2010a; 2010b).

Studies at the industry and firm level highlight the effect of productivity on poverty and the distribution of income. That is, resources shift from less productive to more productive sectors. For instance, exports might induce productivity growth in individual firms and by allowing exporting plants to grow faster. Furthermore, trade liberalization, which characterizes the prime objective of commercial policy reforms, changes the relative prices and incentives through the economy. However, most of the empirical studies at the firm level rely on narrow measures of inequality, such as the skill premium or wage inequality. But the evidence suggests that the labour market effects of globalization dominate the impact on consumption through relative price changes, particularly labour income (Goldberg and Pavnick, 2007a; b).¹²

IV. TRADE, POVERTY, DISTRIBUTION AND THE POLICY CONTEXT

Trade is only an aspect of the wider development process. Macro and micro studies cast doubt about the generalizations on the trade and poverty debate, indicating considerable heterogeneity in the welfare impacts of trade and trade reforms, with both winners and losers in the process. Thus, it is crucial to combine trade reforms with well-designed public policies, notably social protection (Ravallion, 2007). It is thus important as a primary step to assess what is the impact of the existing trade policy on poverty. The nature and impacts of openness should be further seen in the context of a broader set of policy reforms. The relationship of trade liberalization to other reforms is important from a policy view point, particularly poverty reduction targets and general development policy. In this context, different types of reforms should be identified, and how they relate to the poverty-trade link, that is: macroeconomic stabilization; domestic prices liberalization; liberalization of the capital account; exchange rate liberalization; and developments of social safety net programmes. Openness has also been found to be correlated to other reform areas, particularly with the quality of institutions, that is: the rule of law; corruption; effective governments; and political instability (Rodrik, 2001).

The literature shows that trade liberalization tends to reduce constraints such as monopoly rents and inefficiencies related to bureaucratic and political power (Beger and Krueger, 2003). Structural adjustment and trade policy reform are expected to improve developing countries' ability to compete in international markets. This is important for developing countries, particularly low-income economies like LDCs. Earlier, for the case of Africa, Ng and Yeats (1997) argue that sub-Saharan Africa's declining importance in global trade is primarily due to its inability to become competitive in international markets, and that external protection (particularly in OECD markets) did not drive the marginalization of SSA exports.

Winters (2004) argues that trade liberalization by itself is unlikely to boost economic growth, unless openness improves the countries' institutional stances (i.e. reduces corruption and rent seeking) and is also accompanied by improved macroeconomic policy-making. He explains the difficulties in interpreting econometric studies which are supposed to find a strong causal link between trade liberalization and growth or total factor productivity. However, and in relation to the literature discussed in section II, there is no conclusive evidence that openness is bad for growth. Yet trade reforms may generate expectations that are unlikely to be met without complementary measures, and may delay other institutional reforms which would have a greater impact (Rodriguez and Rodrick, 2000). That is, trade policy reform cannot be regarded as a solution and a substitute for a comprehensive development strategy. Other growth-enhancing policies, which must be drawn in if trade liberalization is to confer benefits must be considered.

For instance, greater openness can be a safeguard against inflation and a stimulus to investment (Winters, 2004). But investment requires incentives, adequate financing mechanisms, a framework of property rights and, above all, political stability, which is a handicap in many fragile and vulnerable developing

¹² Broader concepts of inequality include measures based on consumption and general well-being. Atkinson and Brandolini (2010) discuss measurement of poverty and inequality, both in absolute and relative terms.

countries. Furthermore, it is now widely recognized that institutions play a key role in the growth and development process, particularly in the way that shocks are absorbed, which depends on the degree of internal social cohesion, the extent of democracy, the rule of law and public spending on social insurance, alongside other distributional concerns (Santos-Paulino and Thirwall, 2004a).

Does trade and trade policy matter for poverty reduction and income distribution? How much? Trade policy is only one of the main determinants of growth and poverty reduction. Trade openness also impacts on other aspects of economic reform, so that the correlation of trade with other reform policies underscores the potential advantages of making openness a crucial component of a reform package (Berg and Krueger, 2003). It has been predicted that global economic integration should help the poor since poor countries have a comparative advantage in producing goods intensive on unskilled labour. The new evidence suggests that the poor are more likely to distribute the gains from globalization when there are complementary policies in place. And, trade and foreign investment reforms have produced benefits for the poor in exporting sectors and sectors that receive foreign investment (Harrison and MacMillan, 2006).

Beyond the set of rules that set the overall trade policy structures, the broad macroeconomic environment plays a crucial role in explaining how globalization affects economic performance. The rules that allow or restrict the mobility of trade and capital, the choice of an exchange rate regime, and the institutional fundamentals of economic performance (i.e. governance), will all affect the different channels or mechanisms through which trade is expected to impact on welfare, that is, the effects on poverty within countries, as well as on the egalitarian effects at the national level and the convergence of incomes globally. World markets are a source of technology and capital; thus, all countries should in principle profit from higher international exchange, particularly developing and least developed nations.

But, a more effective link between international trade and poverty and distribution is needed to prevent the negative impact on vulnerable groups. Specifically, as *UNCTAD's LDC Report 2004* asserts (see also *LDC Report 2006*), effectual action is required on three fronts: (i) integrating trade and development concerns within national poverty reduction strategies; (ii) increasing international financial and technical assistance to enhance domestic production and trade capacities; and (iii) promoting a more favourable international trade regime. Furthermore, urgent development targets such as better health and education – and other social policies leading to poverty eradication, improve productivity and industrial capacity, are part of a host of priorities.

These actions are particularly needed for the case of the LDC set which, despite the significant liberalization and economic integration efforts, have not been able to diversify production and exports or to advance the expected structural transformation needed for sustained growth and poverty reduction. In this context, the role of official development assistance (ODA) in fostering trade and development, and achieving noticeable distributional outcomes and poverty reduction remains a critical issue for academic and policy discussions.

For instance, the Aid for Trade programme, launched at the 2005 World Trade Organization (WTO) Ministerial in Hong Kong (China), is an effort to coordinate the various assistance programmes related to trade capacity building, and to help countries in overcoming infrastructure limitations, potentially providing public goods to achieve sustained growth and poverty alleviation. The mechanism should also facilitate the integration of LDCs and other developing countries into the rule-based multilateral trading system. However, the multilateral trade system was not intended for addressing vulnerability issues, which impair productive capacity and development prospects (Di Caprio and Trommer, 2010). But increasingly trade capacity building and other assistance schemes coordinated by donors and multilateral agencies – notably Aid for Trade, try to take up issues concerning trade capacity fragility, such as market access, and more recently supply-side constraints related to infrastructure.

To assist the LDCs in these efforts, the Hong Kong Ministerial Declaration in 2005 called for making the Integrated Framework (which later became the Enhanced Integrated Framework) – a multi-donor

programme for trade-related technical assistance accessible for LDCs – more effective. The EIF aims at supporting LDCs to integrate trade into their national development strategies, improve the trade-related institutional arrangements and build their capacities to trade so that they can better harness the potential of trade, access more Aid for Trade funding and generate a path to poverty reduction. A critical issue is the lack of a sound analytical framework which is reflected in the policy practice of trade mainstreaming.

However, these joint trade-development finance mechanisms are yet to bear tangible outcomes across all objectives, and in some cases, the reported results are inconclusive (Roethlisberger and Santos-Paulino, 2011). The recent global review process of the Aid for Trade mechanism (2011), particularly the responses from LDCs, do not seem to indicate that Aid for Trade is an effective mechanism for poverty reduction in LDCs. This exposes the limits of what Aid for Trade can achieve, at least in the short-medium term. It might be the case that the developmental effectiveness of Aid for Trade is being undermined by its interception between the aid regime and the multilateral trade agenda. Thus, Aid for Trade to LDCs should not be confined to the single undertaking of the Doha ‘Development’ Round. Instead, it should continue providing resources to expand their export and productive sectors through better infrastructure and policy frameworks, and thereby contribute to structural transformation, poverty reduction and the beneficial integration of LDCs into the global economy.

V. CONCLUSION

The theoretical and empirical literatures explaining the impact of greater openness to trade on income distribution and poverty appear highly sensitive to modelling and assumptions. Most studies, as well as factual evidence, tend to agree that trade liberalization probably improves aggregate welfare, but gains are small and unequally distributed. The existing body of work is primarily based on the first order effects of trade policy or trade openness. The welfare effects are measured basically through price changes, focusing on the effect on the relative demand for domestic factors of production, and in particular, the demand for skilled relative to unskilled labour. Poverty is a constraint to the production function, and hence to growth and development. The constraint originates from various sources, notably: infrastructure; skills; incomplete markets and policy.

But there are other channels beyond relative skills differentials that deserve more attention and research, particularly the mechanisms that emphasize the compositional impact of globalization, and how these channels affect poor countries. Trade expansion and diversification away from commodities and traditional exports and the relationship with poverty is a critical area of research. Issues related to marginalization and polarization, and the role of international support measures in reducing poverty and generating positive egalitarian effects are also relevant in the trade-distribution-poverty agenda.

The literature at large does not take into account dynamics and indirect links. Importantly, the impact of trade policy on inequality depends on these nexus. The distributional impacts largely depend on the structure of trade policy, particularly in low income countries and LDCs. For instance, a key issue would be to analyse the structure of protection (taxes or benefits) and how it affects the poor, particularly in sectors like agriculture. It is recognized that the differential effect of trade policy on inequality and poverty is explained by the structure of protection before liberalization. Thus, ex-ante and ex-post analyses, particularly the extent of the bias of the tariff structure – i.e. whether it is pro-poor (anti-poor) – is crucial in studying the trade and poverty nexus.

Finally, there are other important issues that are insufficiently addressed in the current literature. Thus, an agenda for further work, to improve the existing body of knowledge and to help policy decisions could include: (i) new information and datasets to study firm and sector specific cases, particularly in LDCs to study, *inter alia*, the employment effects of trade liberalization in different sectors because it is the loss of employment and unemployment that is the main cause of poverty; (ii) analysis and assessment of

safety nets as generalized compensation mechanisms, and government progress in lifting liberalization constraints in markets participation, as well as in improving productive capacities; and (iii) addressing specific forms of structural poverty and inequality related to particular characteristics including wealth, assets, intra-household inequality, gender, and social stratus.

ANNEX

Figure A.1

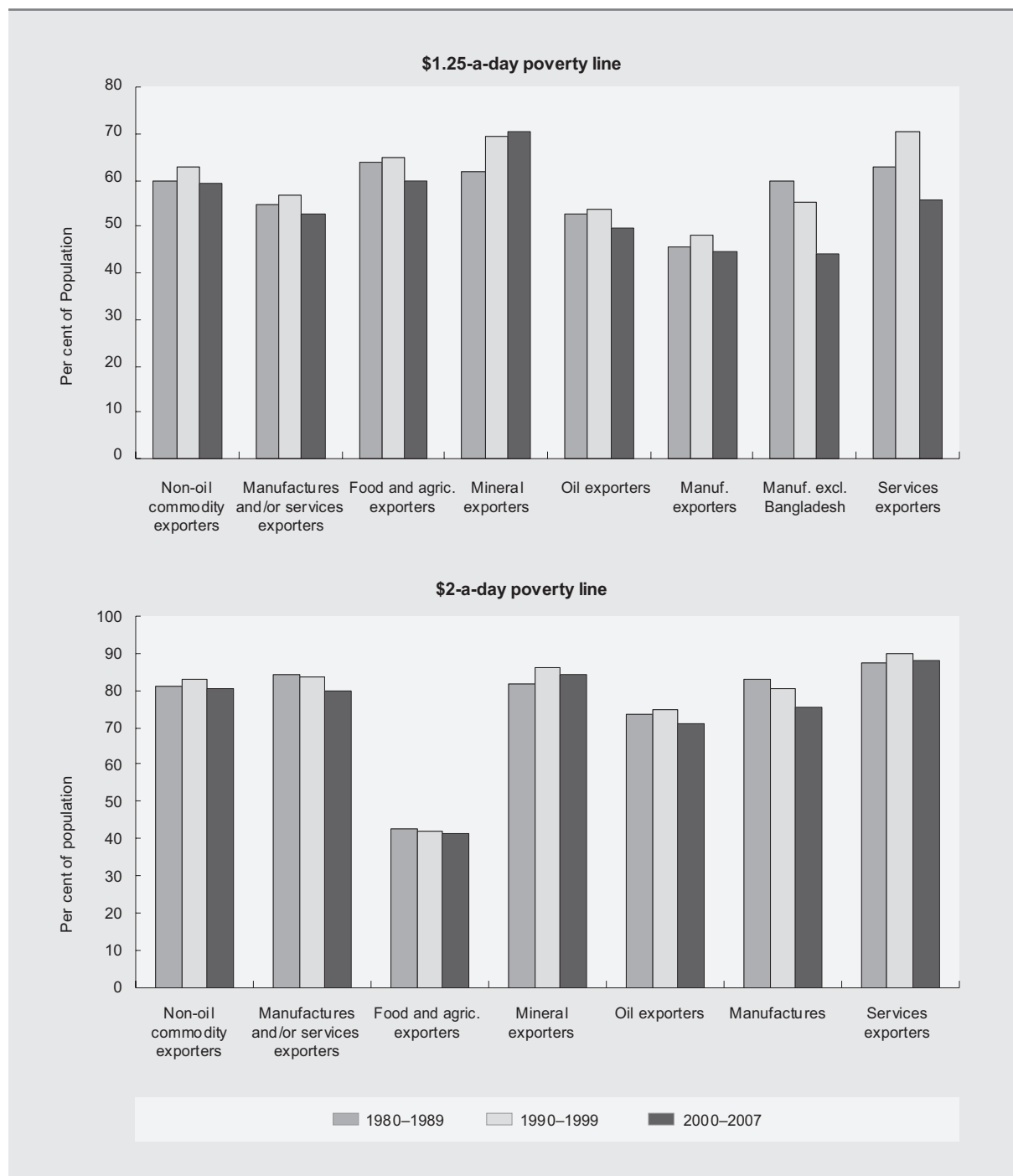
POVERTY RATES AND TRADE VOLUMES IN DEVELOPING COUNTRIES, 1980–2007

(Per cent)



Source: UNCTADstat, 2011; and Karshenas, 2010.

Figure A.2
INCIDENCE OF POVERTY IN LEAST DEVELOPED COUNTRIES BY EXPORT SPECIALIZATION
(Averages)



Source: UNCTADstat, 2011.

Table A.1
SELECTED STUDIES ON TRADE, LIBERALIZATION AND POVERTY

<i>Study, author, date</i>	<i>Measure of trade / openness</i>	<i>Measure of poverty</i>	<i>Data description</i>	<i>Identification strategy</i>	<i>Findings</i>
Trade and Poverty					
1. Cashin et al. (2001)	Trade / GDP, black market premium	Human development index (HDI)	100 countries during 1975–1998	Relationship between economic policy and HDI, for a given rate of growth of GDP per capita.	- No significant or robust evidence that any openness indicator is associated with pro or anti poor growth.
2. Dollar and Kraay (2002)	Trade / GDP, WTO membership dummy, capital controls, Sachs and Warner (2005)	Income of poorest quintile	1950–1999, 137 developing countries	Income share of the lowest quintile on mean per capita income.	- Income of poorest quintile grows one-for-one with average incomes. - Given growth, openness has no effect on the income of the poor.
3. Ravallion (2007)	Trade / GDP	Urban and rural poverty measures (per cent)	Cross country and case studies of China and Morocco	Macro and micro modelling, household survey data combined with structural modelling.	- Macro and micro approaches cast doubt on the 'robust' between globalization and poverty reduction. - Under a set of specific conditions, trade openness could be effective in reducing poverty.
4. Goldberg and Pavnick (2007a)	Trade / GDP	Urban poverty (per cent) Labour income	Colombia	Micro study	- Failed to find evidence between the trade reforms and the changes in urban poverty.
5. Hoekman and Olarreaga (eds, 2007)	Trade, tariff and non-tariff indices	(Poverty and inequality) Poverty ratios, household incomes, real incomes	Case studies (LDCs: Ethiopia, Cambodia, Zambia, Viet Nam), and Bolivia and Nicaragua	Micro studies (country-household-sectoral)	- Trade openness could lead to economic growth and hence poverty reduction. - But the results are country-sector specific: income changes due to liberalization can lead to gains, or can be neutral or negative on the poor. - The same applies to inequality.
6. Fosu and Mold (2008)	Trade balances, exports Changes in import duties/export subsidies	Labour market (wages and employment)	SSA	CGE/GTAP	- African countries cannot expect substantial gains from further multilateral liberalization. - Limited or negative impact on poverty due to the sharp contraction in the import competing sector, and lack of compensating policies.

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Table A.1 (continued)
SELECTED STUDIES ON TRADE, LIBERALIZATION AND POVERTY

<i>Study, author, date</i>	<i>Measure of trade / openness</i>	<i>Measure of poverty</i>	<i>Data description</i>	<i>Identification strategy</i>	<i>Findings</i>
Trade and inequality					
7. Edwards (1998)	Average tariffs, average QR coverage, WB index of OO, average collected TR, Wolf's index of import OO, and average BMP	Gini, share of the poorest quintile	Averages for 1970s and 1980s, 44 countries (27 developing)	Uses comprehensive dataset on income distribution and six alternative measures of trade orientation.	- No evidence linking openness or trade liberalization to increases in inequality.
8. Spilimbergo et al. (1999)	Adjusted trade/GDP	Gini, quintiles 1–5	1965–1992, 34 countries	Different measures of openness and of relative factor abundance.	- The impact of trade openness on inequality depend on factor abundance.
9. Fischer (2001)	Sachs and Warner (2005)	Gini	5–years average, 1965–1990, 66 countries	Presents a general framework for the analysis of the evolution of the personal income distribution following trade liberalization.	- Effects of production factors and trade on income distribution is mixed.
10. Barro (2000)	Adjusted trade/GDP	Gini	1960–1990, 84 countries	Develops an empirical framework, based on conditional convergence, for the analysis of growth and inequality.	- A positive and long-term association between the levels of openness and inequality.
11. Calderon and Chong (2001)	Trade/GDP	Gini	5 years average, 1960–1995	Analyse the effects of various measures of international interdependence on income inequality.	- Capital market liberalization with deterioration in various measures of inequality.
12. Ravallion (2001)	Exports/GDP	Gini	5-year averages for 1947–1994, 50 countries	Detail analysis of ways in which distribution matters to the outcomes of the poor, as an impediment to growth and to poverty reducing growth.	- The effect of openness on inequality declines as per capita GDP increases.
13. Lundberg and Squire (2003)	Sachs and Warner index, TOT changes	Gini, land Gini		Study simultaneously whether growth and inequality are the joint outcomes of other variables and processes.	- Liberalization worsens income distribution.

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Table A.1 (concluded)
SELECTED STUDIES ON TRADE, LIBERALIZATION AND POVERTY

<i>Study, author, date</i>	<i>Measure of trade / openness</i>	<i>Measure of poverty</i>	<i>Data description</i>	<i>Identification strategy</i>	<i>Findings</i>
14. Zhou et al. (2011)	Globalization indices	Gini	60 countries 1950–2001	Construct 2 globalization indices based on multiple components/criteria.	- Robust evidence that globalization reduces inequality.
15. Nicita et al. (2011)	Trade restriction indices, index of pro-poor bias of trade policy	Survey data, wages elasticities	SSA-LDCs: Burkina Faso (2003), Côte d'Ivoire (2002), Cameroon (2001), Ethiopia (2000), the Gambia (1998), Madagascar (2005)	Estimate the potential pro-poor bias in the structure of protection of six SSA/LDCs. Estimate an agricultural household production model, including adjustment in labour income associated with the skill differentials.	- SSA's own trade policy is biased in favour of poor households, and thus is pro-poor. - The trade policies of the trading partners tend to be biased in favour of SSA's rich households, when ad-valorem equivalents of non-tariff measures are taking into consideration.

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