

Globalization and Poverty: An NBER Study

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Abstract: This paper surveys the evidence on the linkages between globalization and poverty, drawing on fifteen papers prepared for an NBER forthcoming study directed by Ann Harrison, *Globalization and Poverty*. We focus on two measures of globalization: trade integration (measured using tariffs or trade flows), and international capital flows. Many economists have used the Heckscher-Ohlin framework in international trade to argue that the unskilled or the poor in countries with a comparative advantage in unskilled labor are most likely to gain from trade reform. The first conclusion of this paper is that such a simple interpretation of general equilibrium trade models is likely to be misleading. Second, the evidence suggests that the poor are more likely to share in the gains from globalization when there are complementary policies in place. Such complementary policies include programs to promote human capital development, infrastructure development, credit and technical assistance to farmers, and macroeconomic stability. Third, trade and foreign investment reforms have produced benefits for the poor, particularly those in exporting sectors or sectors which receive foreign investment. Fourth, financial crises are very costly to the poor. Finally, the collected evidence suggests that globalization produces both winners and losers among the poor. The fact that some poor individuals are made worse off by trade or financial integration suggests the need for carefully targeted safety nets. We emphasize the heterogeneity of results across different countries and settings, but also present cross-country evidence which suggests that the path from globalization to poverty reduction via the growth effects of trade reforms is likely to be important.

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I. Introduction

Despite the street protests of anti-globalization activists and streams of editorials on the perils or promises of globalization for the poor, economists have remained largely silent. Publishing houses are replete with volumes on globalization, but these tomes are typically written by sociologists, anthropologists, political scientists, and journalists. Apart from Jagdish Bhagwati, who has responded eloquently to globalization's critics, where are the economists? One reason for this remarkable silence is that the division of labor between academic economists is well defined: one group addresses questions of poverty, while another focuses on international trade, currency crises, multinational corporations, and other topics commonly associated with "globalization".

Yet one of the biggest concerns of globalization's critics is its impact on the poor. This essay, and the consequent chapters which are part of the forthcoming book **Globalization and Poverty**, provides an economic perspective on how globalization affects poverty in developing countries.¹ By bringing together experts on both international trade and poverty, our goal is to bridge the intellectual divide that has typically separated the individuals who study each of these phenomena. The fifteen studies and fifteen discussions that are part of this project ask the following questions: how has global economic integration affected the poor in developing countries? Do trade reforms that eliminate or reduce import protection lead to rising or falling poverty? Has increasing financial integration led to more or less poverty? How have the poor fared during currency crises? Do agricultural support programs in rich countries hurt the poor

¹ The individual chapters may be downloaded from <http://www.nber.org/books/glob-pov/index.html> .

in developing countries, as some critics argue? Or do such programs in fact provide assistance by reducing the cost of food imports? Finally, does food aid help or hurt the poor?

Although the concept of “globalization” is quite broad, we focus on two important aspects: (1) international trade in goods and (2) capital flows--including foreign investment, portfolio flows, and aid. Of course, this definition is not all-encompassing: economic aspects of globalization have also affected information flows, migration, and trade in services. However, we focus primarily on trade and capital flows, as these have been the focus of intense policy debates and are more easily measured than other aspects of globalization.

Several recent surveys seek to identify the relationship between globalization and poverty (see for example, Winters et al (2004), Goldberg and Pavcnik (2004), and Ravallion (2004)). However, the authors of these surveys acknowledge that they can only review the *indirect* evidence regarding the linkages between globalization and poverty. There have been almost no studies which test for the *direct* linkages between the two. Winters et al (2004) write in their insightful and comprehensive JEL survey that “there are no direct studies of the poverty effects of trade and trade liberalization.” (JEL, page 73) Goldberg and Pavcnik’s (2004) excellent review points out that “while the literature on trade and inequality is voluminous, there is virtually no work to date on the relationship between trade liberalization and poverty”. The few studies which do examine the links between globalization and poverty, including several cited in the Winters et al (2004) survey and Ravallion (2004a, 2004b), typically use computable general equilibrium models to disentangle the complex linkages between trade reform and poverty. However, while such research provides an important contribution to our understanding of the channels through which globalization or future reforms could affect

poverty, it is extremely important to be able to look at actual ex post evidence of the impact of trade and investment reforms on the poor.

There are several reasons why the links between globalization and poverty have not been adequately explored in the past. One reason is that academic researchers who address questions of poverty and globalization have typically chosen not to achieve mastery of both sub-disciplines. Other reasons for the limited evidence are the methodological problems associated with linking trade to poverty outcomes. Simply producing comparable measures of poverty over time within a single country is considered an accomplishment (see Deaton, 2004). On the trade side, measuring and properly identifying the effects of trade policy on growth has spawned an enormous and acrimonious debate. Thus it is not surprise that attempting to directly relate measures of globalization and poverty poses a significant challenge. Yet there is a pressing need for some answers. Although there have been hundreds of studies which examine the possible linkages between inequality and globalization, there is a dearth of research on whether globalization raises incomes of the poor. If globalization is accompanied by increasing inequality but **both** the incomes of the rich and poor are rising, this is a very different picture than if globalization has led to absolute income gains for some income groups but real income losses for others.

What are the mechanisms through which globalization affects poverty? One important possible mechanism is through globalization's impact on growth. As I discuss later in this essay, growth is typically good for the poor. If globalization increases a country's growth rate, then that growth is likely to reduce poverty. Apart from its impact through aggregate growth, trade reform directly affects the welfare of the poor by changing the relative prices they face as

consumers and producers. If liberalization leads to falling prices for goods purchased by poor consumers, this could reduce poverty. If globalization raises the prices of goods produced by the poor—such as agricultural goods or textiles and apparel—then poverty is also likely to decline. In addition, international trade could affect poverty through its impact on the incomes and employment opportunities of poor wage earners. Many economists, including Jagdish Bhagwati, Anne Krueger, and Alan Winters, have argued that trade reforms in developing countries should be inherently pro-poor, since these countries are more likely to have a comparative advantage in producing unskilled-intensive goods. These expected gains are based on several assumptions--including free mobility of labor--which are discussed in a number of the case studies included in the volume.

The new research presented in this volume takes two different approaches: cross-country studies, which use aggregate data to examine how country-level policies affect the poorest percentage of the population, and individual case studies, which typically use micro data for a specific country. Cross-country studies are appealing because they allow authors to generalize beyond one specific case study, but in-depth country studies are necessary for several reasons. First, the cross-country results reviewed in this essay--while consistent with a positive link between globalization and poverty reduction--are based on very few data points. Many countries have information on aggregate poverty for only 2 or 3 points in time. Second, even if the cross-country evidence suggests that globalization is on average growth-promoting, the benefits to the poor could be curtailed or even eliminated if the gains are highly unequal—for example, if globalization redistributes this higher income towards the rich and away from the poor. Consequently, most of the studies in this volume rely on the use of micro data. These datasets typically span a number of years, including periods before, during, and after a trade

reform. The fact that trade reforms are typically implemented at different rates across different sectors or regions provides an identification strategy for a number of the authors.

What are the lessons that emerge from the various cross-country and more detailed case studies using household data? First, the evidence presented in both the cross-country studies and the individual country cases suggests that simple interpretations of general equilibrium trade models are likely to be misleading. Many economists have used the Heckscher-Ohlin framework in international trade to argue that the unskilled or the poor in countries with a comparative advantage in unskilled labor are most likely to gain from trade reform. The evidence suggests that this story is much too simple. One reason is that labor is not nearly as mobile as simple trade models assume; for comparative advantage to increase the incomes of the unskilled, they need to be able to move out of contracting sectors and into expanding ones. Another reason is that developing countries have historically protected their unskilled-intensive sectors (although this is less true in the case of agriculture), which implies that in the manufacturing sector trade reforms frequently result in less protection for unskilled workers relative to skilled labor. A third reason is that even sectors which are relatively unskilled-intensive in a global context may require workers with more skills than the poor in developing countries typically possess.

A second lesson that emerges from a review of country case studies is that the poor are more likely to share in the gains from globalization when there are complementary policies in place. The studies on India and Colombia suggest that globalization is more likely to benefit the poor if trade reforms are implemented in conjunction with labor market deregulation. In Zambia, poor farmers are only expected to benefit from greater access to export markets if they

also have access to credit, technical know-how, and other complementary inputs. The studies also point to the importance of social safety nets. In Mexico, if poor corn farmers had not received income support from the government, their real incomes would have been halved during the 1990s. In Ethiopia, if food aid had not been not well targeted, globalization would have had little impact on the poor.

Third, the evidence suggests that trade and foreign investment reforms in a number of countries have contributed towards reducing poverty. In Mexico, the poor in the most globalized regions have weathered macroeconomic crises better than their more isolated neighbors. In India, opening up to foreign investment was associated with a decline in poverty. The study on Zambia suggests that poor consumers gain from falling prices for the goods they buy, while poor producers in exporting sectors benefit from trade reform through higher prices for their goods. In Colombia, increasing export activity was associated with an increase in compliance with labor legislation and a fall in poverty. In Poland, unskilled workers—who are the most likely to be poor--have gained from Poland's accession to the European Union.

Fourth, both the cross-country and individual case studies suggest that financial crises are very costly to the poor. For the NBER project, Prasad, Rogoff, Wei and Kose study financial deregulation across countries and find that lower income countries that embark on financial globalization are likely to experience higher consumption and output volatility. Their work reinforces the need for complementary policies, such as the creation of reliable institutions and macroeconomic stabilization policies (including the use of flexible exchange rate regimes). While financial crises resulting from unrestricted capital flows are associated with a higher likelihood of poverty, foreign direct investment inflows are associated with a

reduction in poverty. The poverty-reducing effects of FDI are clearly documented in the studies on India and Mexico

The final lesson is that globalization produces both winners and losers among the poor. It should not be surprising that the results defy easy generalization. Even within a single region, two sets of farmers may be affected in opposite ways. In Mexico, while small corn farmers saw their incomes fall by half in the 1990s, large corn farmers gained. Across different countries, poor wage earners in exporting sectors or in sectors with incoming foreign investment gained from trade and investment reforms; conversely, poverty rates increased in previously protected sectors which were exposed to import competition. Within the same country or even the same region, a trade reform may lead to income losses for rural agricultural producers and income gains for rural or urban consumers of those same goods.

The evidence presented in this volume also shows that different measures of globalization are frequently associated with different outcomes: measures of export activity and foreign investment are generally associated with poverty reduction, while removal of protection (an *ex ante* measure of globalization) or import shares (an *ex post* measure) are frequently associated with negative income effects for the poor. What globalization's critics frequently neglect to take into account is that trade reforms produce both winners—those in expanding sectors—as well as losers—those in previously protected sectors—at least in the short run. If it is difficult for workers to move from contracting to expanding sectors, or if other complementary policies are not present, then short run adjustment costs may be prolonged.

Section II of this essay summarizes the results from the cross-country studies, while Section III describes the results of the country case studies, focusing on the impact of

globalization on employment opportunities and labor income of the poor, as well as its impact on consumption and production opportunities for the poor. Section III also discusses two studies on the impact of OECD agricultural subsidies and food aid on poverty, using data for Mexico and Ethiopia. The studies which address the impact of capital flows on the poor are summarized in Section IV.

While the focus of this volume is on the relationship between poverty and different measures of globalization, a number of authors also address other possible outcomes associated with globalization; these are described in Section V of this essay. Four studies examine the relationship between inequality and globalization. A case study by Ligon on China examines how globalization has affected risk, while another study by Levinsohn on South Africa tests whether globalization has affected the return to speaking English.

Since the evidence suggests that globalization creates winners as well as losers among the poor, this essay moves in Section VI to a discussion of why globalization's critics seem all too aware of the costs of globalization and generally fail to see the benefits. Aisbett's contribution, which is devoted to this question, argues that this is due to the use of different methodologies in estimating poverty and inequality, the concerns of globalization's critics about the short term costs versus the longer term gains from trade reform, their rejection of a perfectly competitive framework, and different interpretations regarding the evidence. Another reason is the lack of knowledge on the possible linkages between globalization and poverty reduction, which this volume seeks to address. Nevertheless, a number of research questions remain unanswered; these are also discussed in the last section.

II. Cross-Country Evidence

The cross-country studies present evidence on the relationship between poverty or inequality and various measures of globalization. Two studies, by Branko Milanovic and Lynn Squire, and William Easterly, use cross-country data to explore the relationship between various measures of globalization and different measures of within-country inequality. Prasad, Rogoff, Wei and Kose examine whether countries which have engaged in financial globalization are more likely to experience higher volatility in consumption. Prasad et al also explore the links between financial liberalization in developing countries and the likelihood of financial crises.

William Easterly argues that in the context of a neoclassical growth model, globalization could affect the incomes of the poor through two different avenues. First, in a world where different countries have unequal endowments of capital and labor but similar productivity levels, relaxing constraints on the mobility of goods and factors will lead factor returns to equalize across countries. If poor countries are more endowed with (unskilled) labor, then relaxing constraints on global trade or factor flows will lead capital to flow to poor countries and per capita incomes there should rise. This is the “factor endowment” view, which generally predicts that globalization should raise incomes of the poor. A second possibility, the “productivity” view, suggests that differences in per capita incomes stem from exogenous productivity differences across countries. This second possibility implies that globalization will either have no impact on poverty or could have perverse effects, as capital is drawn away from low productivity towards high productivity regions.

Aart Kraay and Xavier Sala-i-Martin, in their extensive separate discussions for this volume, as well as Prasad and his co-authors, emphasize that globalization via trade reform could raise the incomes of the poor through a third channel: by increasing long run growth. In the context of Easterly's framework, this means that globalization via trade or capital flows could also increase incomes of the poor by directly affecting either productivity, which need not be exogenous, or the accumulation of capital. If imported goods or incoming foreign investment transfers technology to productivity laggards, as a number of firm-level studies have shown, then globalization can reduce poverty by raising domestic productivity and increasing aggregate income. If the income effects are fairly uniform across income levels—an assumption which needs to be tested by looking directly at the evidence--then the increase in aggregate income resulting from globalization should improve the incomes of the poor. The possibility that incoming FDI is associated with falling poverty is confirmed in the studies for this volume which use household data on India and Mexico.

Models that predict dynamic gains from globalization through its positive impact on productivity are sensitive to the maintained assumptions. One could, for example, construct models where openness fails to raise aggregate growth or where the increase in aggregate income bypasses the incomes of the poor—for example, trade might induce technical change which is labor-saving (see, for example, Bhagwati and Srinivasan (2002)). Since even simple theories lead to ambiguous predictions regarding the relationship between globalization and poverty, Easterly suggests that the debate can only be resolved with recourse to actual evidence.

One approach, suggested by Aart Kraay in his comment on Easterly's chapter, is to examine (1) the relationship between trade and growth, and (2) relate those improvements in

growth to a reduction in poverty. Although much of the previous literature on the relationship between trade and growth has been discredited (see Rodriguez and Rodrik (2000) and Hanson and Harrison (1999)), a number of new studies have arisen phoenix-like from the ashes of the old literature. These new studies—reviewed in the contributions by Aart Kraay and Prasad et al--generally find that increasing openness to trade is associated with higher growth. Kraay also points to his own work showing that poverty reduction is highly correlated with growth; his results suggest that growth can explain ninety percent of the observed decline in poverty. If Kraay is correct, then perhaps concerns about poverty are misplaced and should be redirected towards promoting aggregate growth. However, Deaton (2004) suggests that we use extreme caution in interpreting cross-country correlations between aggregate growth and poverty reduction. He argues that an observed correlation between aggregate growth and poverty reduction could be attributable to measurement error as well as biases in national income statistics, which deliver very different results regarding the magnitudes and trends in aggregate poverty relative to the household surveys used by the World Bank. Until this debate is resolved, it seems that we should continue to care about both the determinants of aggregate growth as well as the distributional impacts on the poor.

Prasad et al argue in their chapter that since data on poverty and income distribution across countries is limited and possibly unreliable, a better test is to examine the relationship between life expectancy, infant mortality, and tariffs. (see Prasad Chapter, Appendix II). They find that a reduction in tariff barriers is associated with a significant increase in life expectancy and a reduction in infant mortality. These results are robust to controls for initial income, schooling, availability of medical care, and other variables.

Another approach would be to directly examine the aggregate relationship between

different poverty measures and globalization. What does the evidence on the relationship between openness and poverty indicate? In Tables 1 through 4, I present evidence from Aisbett, Harrison and Zwane (2005) on the linkages between openness, GDP growth, and different measures of poverty. We begin by revisiting the evidence on the linkages between trade and growth; these results are presented in Tables 1 and 2. We use two different measures of openness to trade: (1) the ratio of trade (X+M) to GDP in nominal terms and (2) average tariffs, defined as import revenues divided by imports. We find that an increase in openness—using these two measures—is associated with an increase in aggregate income or an increase in aggregate income growth. To address concerns regarding endogeneity, we measure openness either as the three year lag of trade shares or tariffs or the contemporaneous value for openness instrumented using lagged values. These results are robust to the inclusion of other controls, such as country fixed effects or policy variables likely to be correlated with trade policies. Other extensions, using growth of GDP per capita as the dependent variable instead of income per capita, yield similar results. Although some specifications—notably those that include country fixed effects and use instruments for openness—are not always significant at the 5 percent level, the evidence is generally consistent with a positive relationship between openness and income or growth.² The evidence is also consistent with recent work by Lee, Ricci, and Rigobon (2004) who apply more innovative ways to address the endogeneity of openness and continue to find a positive relationship between openness (measured using trade shares) and growth.

In the course of writing this paper and completing the NBER study, I was surprised to

² See also Bhagwati (2004), who notes that not all of the literature shows a positive relationship between trade and

learn that there has been almost no research which tests for any association between measures of globalization and measures of poverty based on household survey data (for the problems associated with using national income data—an approach adopted by Dollar and Kraay (2002, 2004) to measure poverty--see Deaton (2004)). One likely reason is that there are very few data points available over time and across countries. In columns (5) and (10) of Tables 1 and 2, I redo the basic specifications, but restrict the sample to the observations for the country-years where there exists poverty data based on the household surveys. Once we restrict the sample to the observations with information on poverty, the link between openness to trade and GDP per capita in levels or growth rates weakens significantly. Other policies continue to matter in the restricted sample, including inflation—which is negatively associated with growth—and currency crises, which also negatively affect incomes per capita. The weakness of the association between openness and growth in this small sample suggests that efforts to find any direct relationship between openness and poverty reduction are likely to be plagued by limited data availability. Nevertheless, I present those results below.

The association between measures of openness, GDP growth, and poverty is presented in Tables 3 and 4. Measures of poverty are derived from household sample surveys made available by the World Bank. We use two different measures of poverty: the percentage of households living on less than \$ 1 a day in PPP terms, and the level of income earned by the poorest decile. The evidence in Tables 3 and 4 suggest that growth is indeed good for the poor. We use several different measures of income: contemporaneous income, income lagged three periods, and contemporaneous income instrumented using annual average levels of

growth, but that the evidence “by and large, is consonant with the views of the free trade proponents.”

precipitation and temperature. Across all specifications, aggregate income or aggregate income growth (not shown here) is associated with a reduction in the percentage of the population that is poor.

Although the results presented in Tables 1 through 4 suggest a strong link from trade integration to aggregate incomes, and from income growth to poverty reduction, the evidence on direct linkages between trade shares or tariffs and poverty outcomes is quite weak, and disappears if we control for country fixed effects or instrument measures of openness with their lags. Nevertheless, the association always goes in the same direction: greater openness, measured as either an increase in trade shares or a reduction in tariffs, is associated with a reduction in poverty. All the results which are statistically significant suggest that greater openness is associated with reduction in the percentage of the population living on less than 1 PPP dollar or 2 PPP dollars a day. Similar results were found when using different poverty measures—such as the percentage of the poor living on less than 2 PPP dollars per day, or the incomes of the poorest quintile or decile.

To summarize, there is certainly no evidence in the aggregate data that trade reforms are *bad* for the poor. This is true whether one uses trade shares or tariffs, which are a more appropriate measure of trade policy than trade shares since shares reflect the outcomes of policies. In a comparable exercise using country-level poverty headcounts and trade shares, Ravallion (forthcoming) reaches a similar conclusion; he argues that there is no robust

relationship between poverty and globalization in the aggregate data³.

However, the cross-country results presented in this volume and in earlier studies should be considered as a first step in this research.⁴ Due to limited data availability as well as the concerns expressed by Deaton (2004), it should not be surprising that a number of the results using aggregate data are somewhat fragile. The cross-country evidence presented in Figure 1, for example, shows that there is a positive relationship between globalization and poverty reduction, but this association disappears in Figure 2 if we control for country fixed effects. Second, it is difficult to find appropriate instruments for trade policy at the country level, or to adequately control for other changes which are occurring at the same time. Even the inclusion of additional controls is likely to be problematic, since other variables--such as the quality of institutions--are likely to be collinear with measures of trade policy. (Some researchers actually define institutional quality or rule of law using trade policy as an input.) Third, even if cross-country studies point to a positive relationship between globalization and overall growth, such growth may lead to unequal gains across different levels of income. If the growth effects on average are small and there are large distributional consequences, trade-induced growth could be accompanied by a decline in incomes for the poor. Finally, even if cross-country studies overcome this problem by directly testing for the relationship between poverty and trade reform, there may be significant underlying heterogeneity across different segments of the population. (see also Ravallion (2004)). Aggregate poverty could move in one direction or

³ Possibly the only exception to these general conclusions is Agenor (2002b), who finds that that poverty increased in countries more open to trade. However, his sample is limited to a sample size of 30 observations. In a similar paper using a somewhat larger sample, Agenor (2002a) finds no significant relationship between trade shares and a headcount measure of poverty.

⁴ For earlier related studies, see Dollar and Kraay (2002, 2004). See also Ravallion (forthcoming).

remain unchanged while poverty increases in some parts of a country and declines in others.

For all these reasons, most of the studies in this volume focus on changes in trade policy within a particular country. These studies typically use highly disaggregated data—at the level of the household or the enterprise, to identify the impact of trade policy. Since these studies exploit differences in globalization across sectors or regions within the same country, they are able to overcome the problem that trade reforms are usually introduced concurrently with other country-wide reforms such as exchange rate stabilization or privatization. Due to the availability of detailed household surveys documenting the existence of the poor, these surveys are also able to successfully address the problem of lack of comparable time series data. Finally, the authors of these studies are generally aware of the problem of the endogeneity of trade reform and are able to use the panel nature of these datasets to address this issue.

III. Country Case Studies

This section reviews the evidence from ten country case studies included in *Globalization and Poverty*. These case studies take as their point of interest the distributional effects of globalization. In other words, they emphasize how changes in trade policy or factor flows could have very different effects across different segments of the population. This is an important question not only for the design of social safety nets, but also because even if globalization raises aggregate incomes, it may not raise the incomes of all of the population.

The Impact of Globalization on Employment and Labor Incomes of the Poor Apart from its impact on poverty via growth, trade policy can directly affect the poor through its impact on wages. The standard story is the following: the poor are assumed to be owners of (generally

unskilled) labor, but not of capital. Thus trade will benefit the poor if it increases the relative returns to labor, i.e. real wages. This is the Stolper-Samuelson theorem: when a developing country increases its trade with a richer, relatively more capital abundant country, the less skilled in the developing country should gain relative to the more skilled. In other words, we would expect trade reforms in developing countries to be inherently pro-poor, since these countries are more likely to have a comparative advantage in producing goods which use unskilled labor.

As Don Davis points out in his chapter for this volume, however, this popular framework—a winning story which suggests that opening up to trade should increase the incomes of the poor in low income countries—is based on a very narrow interpretation of the standard Heckscher-Ohlin (HO) model. Davis shows that in a world of many factors and many goods, a poor country might no longer have a comparative advantage in producing unskilled intensive goods. This idea is easy to understand in the context of three countries—for example, the United States, Mexico, and China. Although Mexico might have a comparative advantage in producing goods that used unskilled labor vis-à-vis the United States, its comparative advantage changes if we allow for the possibility of trade with China.

Many of the authors in this volume do not use the HO model as their framework, but instead refer to the specific sector (SS) model, which may be more appropriate in the short run. In the SS framework, workers or machines may be “attached” to a specific sector or industry, and consequently any reduction in protection to sector X will lead to a fall in the incomes of workers who are unable to relocate elsewhere. The mechanism is the following: a fall in protection is assumed to put downward pressure on the price of the previously protected good,

which in turn shifts labor demand downwards. It is important to remember, however, that the reverse is also true: any increase in export activity in sector Y would then be beneficial to workers attached to that sector. The specific sector model suggests that workers may gain from globalization depending on which sectors (import-competing or exporting) they are attached to; this is very different from the HO framework, which suggests that winners and losers from globalization can be identified by their skill levels, regardless of where they work. If the HO assumption of perfect labor mobility across sectors is violated, which the evidence on India and Poland presented in this volume suggests, then the SS model may be the more appropriate framework--particularly in the short run. Milanovic and Squire, in their contribution to this volume, also analyze the impact of globalization on inequality in the context of an SS framework.

Four country studies in the volume examine the relationship between trade reform and labor market outcomes: the studies on Colombia, India, Mexico, and Poland. Goldberg and Pavcnik investigate the impact of a large reduction in average tariffs in Colombia between 1984 and 1998 on a variety of urban labor market outcomes: the probability of becoming unemployed, minimum wage compliance, informal sector employment, and the incidence of poverty. Analyzing the relationship between globalization and these different labor market outcomes is useful since poverty is highly correlated with unemployment, informal sector employment, and non-compliance with the minimum wage.

The Colombian experience suggests that individuals in sectors with increasing import competition are likely to become poorer, while those in sectors where exports are growing are less likely to be poor. Increasing import competition increases the likelihood of unemployment and informality, and is associated with higher incidence of poverty. Export growth is

associated with the opposite: falling informal sector employment, rising minimum wage compliance, and falling poverty. These results suggest that workers cannot easily relocate away from contracting towards expanding sectors in the context of trade reforms, contradicting the assumption of perfect labor mobility in the HO framework.

Consistent with other studies in the volume, the Colombian trade reforms suggest the importance of complementary reforms for minimizing the adverse effects on the poor. Trade reforms are only associated with negative labor market outcomes in the absence of labor market reforms; when trade reform is accompanied by labor market reforms which make it easier for firms to hire or fire and ease relocation for workers, the adverse impact of tariff reductions disappears. This is exactly the conclusion reached by Petia Topalova in her study relating the impact of trade reform in India to poverty.

Topalova's chapter on globalization and trade reform in India is a particularly important one. One third of the world's poor live in India. In the 1990s, India embarked on a remarkable trade reform, reversing decades of protectionist policies which had led to average tariffs in excess of ninety percent. Using household data which spans the period before and after the reform period, Topalova relates changes in tariffs to changes in the incidence of poverty. In particular, she uses the interaction between the share of a district's population employed by various industries on the eve of the economic reforms and the reduction in trade barriers in these industries as a measure of a district's exposure to foreign trade. Because industrial composition is predetermined and trade liberalization was sudden and externally imposed, she argues that it is appropriate to causally interpret the correlation between the changes in the levels of poverty and trade exposure.

Topalova finds that trade liberalization benefited less those individuals living in poverty in the rural districts which were more exposed to trade reforms. The effect is significant and large in magnitude. A district experiencing the mean level of tariff reductions saw a 2 percent increase in poverty, accounting for a setback of about 15 percent of India's progress in poverty reduction over the 1990s. In other words, the progress in poverty reduction experienced in rural India was slightly lower in trade-affected areas, where (rural) poverty may have fallen by an average of 11 instead of 13 percentage points between 1987 and 1999.⁵ To identify the net contribution of globalization to poverty reduction in India would require identifying first the contribution of globalization to the overall poverty reduction across all of India during the 1990s, and then netting out the adverse impact on districts with increasing import competition.

Consequently, as Topalova is quick to point out in her introduction, she does not study the level effect of liberalization on poverty in India, but rather the relative impact on areas more or less exposed to liberalization. Trade reform was probably associated with the overall decline in poverty in India observed during this same period, but this is an aggregate result which the cross-country studies described earlier and the evidence presented in Tables 1 and 2 are designed to address. In other work, Topalova (2004) shows that trade reforms were associated significant productivity increases in India during this period, which is consistent with the aggregate evidence that openness is associated with growth. However, the evidence on poverty linkages suggests that the rural poor gained less, compared to either other income groups or the urban poor. Topalova's chapter also discusses why: restrictions on labor mobility in rural areas have impeded adjustment, driving home the point that rural India was more consistent with the

⁵ These mean poverty rates are taken from the mean poverty rates for the rural areas in the national sample surveys for 1987 and 1999. See appendix tables in Topalova (2004). Mean poverty in the urban areas is reported separately.

SS framework in the short run. However, those short-run negative results appear to have been created by rigid labor market institutions: the negative impact of trade policy on poverty is reduced or eliminated in regions with flexible labor laws.

While the studies on Colombia and India suggest that the gains from trade reforms were less likely to benefit the poor, the evidence for Mexico and Poland suggests the opposite. Gordon Hanson explores the different outcomes for individuals born in states with high exposure to globalization versus individuals born in states with low-exposure to globalization between 1990 and 2000. He finds that the income of individuals in high-exposure states increased relative to the income of individuals in low-exposure states. While labor incomes in the 1990s deteriorated in both regions, caused in part by Mexico's peso crisis in 1995, the deterioration was much less severe in states with high exposure to globalization.

While poverty was falling dramatically in India during this period, between 1990 and 2000 poverty in Mexico increased. In the states with low exposure to globalization, poverty increased from 32 to 40 percent; in the states with high exposure, poverty increased only slightly, from 21 to 22 percent. If we take the difference in the increase in poverty within each region over the 1990s, we find that poverty increased by 8 percent in low exposure states and by only 1 percent in high exposure states. The “difference-in-difference” estimator is the differential in these two changes—ie $8 - 1$ equals 7 percentage points—and is the basis for Hanson's conclusions that the incidence of wage poverty in low exposure states increased relative to that in high-exposure states by approximately 7 percent. During Mexico's globalization decade, poverty increased less in the more globalized states.

Topalova also reports trends in alternative measures of poverty, including the poverty gap and changes in consumption.

How can we reconcile the findings on Mexico and India? As pointed out by Hanson, the peso crisis in Mexico in 1995 is one major reason for the aggregate increase in poverty, in contrast to India which experienced no major adverse macroeconomic shock during this period. In addition, Hanson defines high globalization states to include those with a high proportion of *maquiladoras*—production activities designated for exports—and foreign direct investment. Topalova also finds, consistent with Hanson, that activity associated with exports and foreign direct investment is positively correlated with poverty reduction. Consequently, both studies consistently show that export activity and foreign direct investment is correlated with beneficial outcomes for the poor.

Goh and Javorcik examine the relationship between tariff changes and wages of workers in Poland. Controlling for a variety of firm and worker characteristics, the authors exploit the significant trade reforms which occurred in Poland during the 1990s, when the country moved from a closed to a very open economy, particularly vis-à-vis the European Union. One advantage of choosing Poland is the fact that the changes in its tariffs can be treated as exogenous, as they were stipulated by the Association Agreement between the European Community and Poland signed in 1991. This agreement also predetermined the schedule of tariff reductions, which took place during 1994-2001.

Goh and Javorcik demonstrate that labor mobility is fairly restricted in Poland, placing their analysis also in the context of a specific sector framework. Their results suggest that workers in sectors that experienced the largest tariff declines experienced the highest increases in wages, after controlling for worker characteristics such as education and experience, as well as sector specific and time specific effects. These results are remarkable. They posit that the reason why tariff declines led to wage increases is that firms were forced to increase

productivity, and that those productivity increases were shared with the workers in the form of higher wages. They also present evidence showing---consistent with Topalova and previous productivity studies---that tariff reductions were indeed accompanied by significant increases in total factor productivity. These micro-level results showing a positive relationship between tariff reductions and productivity increases are consistent with the more aggregate evidence on the positive relationship between openness to trade and aggregate growth. Their results are also consistent with the other country studies which show that increasing export activity is correlated with wage increases. In a diversity of country settings---Poland, Colombia, India, and Mexico---this volume documents that exporting activities are associated with increasing incomes for the unskilled and the poor.

Impact of globalization on poverty via prices of production and consumption goods In many developing countries, wage income is not the primary source of income for the rural poor. In their contribution to the NBER study, Balat and Porto (2004) calculate that in Zambia wages accounted for only 6 percent of income for the rural poor in 1998. In Zambia, where 72 percent of the population was living below the poverty line in 1998, most of the rural poor either consumed their agricultural output, sold their crops, or derived income from other sources. Consequently, globalization could affect poverty by affecting the prices of goods consumed by the poor (the consumption channel) and goods produced by the poor (the production channel).

In many cases, the urban poor are net consumers of agricultural products and the rural poor are net producers of those same products; in this case, an increase in agricultural prices caused

(for example) by a removal of export taxes could lead to an increase in urban poverty but a decline in rural poverty. As an illustration, China's accession to the WTO, which is associated with liberalization of the agricultural sector, is expected to contribute to an increase in rural poverty but a decline in urban poverty over the next several years (Ravallion (2004)).

These linkages are explored to various degrees in the studies on Ethiopia, Mexico, and Zambia. In Mexico, Ashraf, McMillan and Zwane (2004) explore the impact of liberalizing Mexico's corn market on the incomes of the poor rural farmers. The evidence suggests that during the 1990s, imports of both white and yellow corn increased, and prices of Mexican corn fell. The income from corn production among poor farmers also fell, both as a share of total income and in absolute terms. The fifty percent decline in income from corn production would have translated into an equivalent decline in real income if poor farmer incomes had not been supplemented with remittances and transfers through government programs such as Progressa.

In their study of Ethiopian rural grain producers, McMillan and Levinsohn (2004) explore the impact of food aid on both consumption and production of the rural poor. This is an important contribution because some critics have argued that food aid further exacerbates poverty by depressing incomes of rural producers. While McMillan and Levinsohn confirm that a more optimal arrangement would be to buy food from local producers and distribute it to poor consumers, they also show that the net impact of food aid on the poor in Ethiopia has been positive. This is because the poor in Ethiopia are primarily net consumers, rather than net producers of food, and consequently food aid has alleviated poverty. As pointed out by Pande in her excellent discussion of this paper, these results are contingent on food aid actually reaching the poor. Levinsohn and McMillan show that this is often the case.

For Zambia, Balat and Porto calculate the impact of liberalizing the market for maize, which was heavily subsidized to both consumers and producers. They find that the resulting price increase led to consumption losses, which were offset by domestic market liberalization. They also measure the potential increase in income due to switching from production for home consumption to production and wage activities associated with production of cash crops. Balat and Porto estimate that rural Zambians would gain substantially from expanding into the production of cash crops, particularly in the production of cotton, tobacco, and maize.

However, Balat and Porto also caution that such gains can only be achieved if other complementary policies are in place. These would include extension services, infrastructure, irrigation, access to credit and finance, education and health services. Balat and Porto also point to the fact that Zambia needs to have access to international agricultural markets in order to realize potential gains.

Another paper in the NBER volume explicitly addresses the impact of industrial country distortions on global commodity markets by measuring the impact of OECD support policies for domestic agriculture on developing country incomes. Ashraf, McMillan and Zwane calculate a country-specific measure of OECD support to measure whether industrial country policies directly affect income and poverty in developing countries. The vast majority of least developed countries have historically been net importers of food, particularly cereals, which are among the most heavily subsidized crops. As net food importers, they may be hurt by higher commodity prices and could possibly gain from rich country subsidies (see also Panagariya 2002, 2004, Valdes and McCalla 1999). Even within exporting countries, the poorest members of society may be net purchasers of food. Ashraf et al find that for countries with food export

shares greater than 48 percent, OECD subsidies reduce income per capita. Again, the picture is decidedly mixed, with net consuming countries gaining from subsidized imports and net producing countries losing as a result of the same subsidies.

IV. Capital Flows and Poverty

Another avenue through which globalization could affect the welfare of the poor is through financial liberalization, which has increased the scope for capital to flow to developing countries. For this volume, Prasad et al document that both developed and developing countries have become increasingly open to capital flows, measured either using policy instruments such as capital controls or ex post capital flows.

In theory, openness to capital flows could alleviate poverty through several channels. If greater financial integration contributes to higher growth by expanding access to capital, expanding access to new technology, stimulating domestic financial sector development, reducing the cost of capital and alleviating domestic credit constraints, then such growth should reduce poverty. Access to international capital markets should also allow countries to smooth consumption shocks, reducing output or consumption volatility. Prasad et al begin by examining the relationship between financial integration and growth. Reviewing over a dozen studies and examining the data themselves, they find that there is no clear relationship between the two. This suggests that the impact of financial integration—via possible growth effects—is likely to be small. They suggest that since there are no clear linkages between financial

integration and growth in the aggregate cross-country evidence, that the direct linkages between financial and poverty are also likely to be difficult to find.

They also explore another link: whether financial integration has smoothed or exacerbated output and consumption volatility. They point out that greater macroeconomic volatility probably increases both absolute and relative measures of poverty, particularly when there are financial crises. Since the poor are likely to be hurt in periods of consumption volatility, such income smoothing could be beneficial to the poor. However, Prasad et al find evidence that suggests the opposite: financial globalization in developing countries is associated with higher consumption volatility, not lower volatility. More specifically, the data suggests that more financially integrated developing countries have experienced an increase in consumption volatility, relative to both industrial countries and to other developing countries. They posit the existence of a threshold effect: beyond a certain level of financial integration (50 percent of GDP), financial integration significantly reduces volatility. However, most developing countries are well below this threshold.

Prasad et al point out that despite the lack of evidence on any association between financial globalization and growth—suggesting limited gains for the poor from financial globalization—protectionism is not the answer. They suggest that if financial globalization is approached with the right set of complementary policies, then it is likely to be growth-promoting and also less likely to lead to higher-consumption volatility. These policies include the use of flexible exchange rates, macroeconomic stabilization policies, and the development of strong institutions. Their definition of institutional development and good governance includes transparency in business and government transactions, control of corruption, rule of law, and financial supervisory capacity

Much of the increases in consumption volatility identified by Prasad et al for less financially integrated countries occurred in the context of currency crises. In recent years, a number of countries have experienced a massive and largely unanticipated collapse of their exchange rate. One study in the NBER volume, by Duncan Thomas, examines the impact of such a crisis on the poor. Using longitudinal household survey data from the Indonesia Family Life Survey (IFLS), Thomas examines the immediate and medium term effects of the East Asian crisis on multiple dimensions of well-being. In IFLS, the same households were interviewed a few months before the onset of the crisis, a year later and again two years after that, which provides unique opportunities for measuring the magnitude and distribution of the effects of the crisis on the population.

Thomas demonstrates that in the first year of the crisis, poverty rose by between 50 and 100%, real wages declined by around 40% and household per capita consumption fell by around 15%. However, focusing exclusively on changes in real resources is complicated by the fact that measurement of prices in an environment of extremely volatile prices is not straightforward. Moreover, it misses important dimensions of response by households. These include changes in leisure (labor supply), changes in living arrangements (household size and thus per capita household resources), changes in assets and changes in investments in human capital. These responses are not only quantitatively important but also highlight the resilience of families and households in the face of large unanticipated shocks as they draw on a wide array of mechanisms to respond to the changes in opportunities they face.

While the volatility of bank borrowing and portfolio flows may be costly to the poor, many of the authors in this volume emphasize the benefits from another type of inflow: foreign direct investment. Prasad and his co-authors emphasize that the composition of capital flows

can have a significant impact on a country's vulnerability to financial crises. They also document that foreign direct investment flows are significantly less volatile than other types of flows. The studies on Mexico, India, Poland, and Colombia all demonstrate that incoming foreign investment is associated with a significant reduction in poverty.

V. Measuring Other Effects of Globalization

While the primary focus of the studies in *Globalization and Poverty* is to examine the impact of trade and capital flows on poverty alleviation, several of the studies also examine other outcomes associated with globalization. Two of the cross-country studies and three of the country case studies test for the relationship between globalization and inequality. One reason why inequality continues to be important even for researchers primarily interested in poverty is that the definition of poverty itself becomes a relative measure over time. As emphasized by Prasad, Rogoff, Wei and Kose in their conclusion,

One has to acknowledge that poverty is fundamentally a relative measure which would probably gain an entirely different meaning as the world economy becomes more integrated. For example, if global growth continues at a rapid pace during the next century, it is possible that emerging market economies, including China and India, could attain income levels exceeding those of Americans today by the end of the century. This implies that Malthusian notions of poverty are likely to become a distant memory in most parts of the world as global income inexorably expands over the next century, and issues of inequality, rather than subsistence, will increasingly take center stage in the poverty debate.

The notion of a shifting poverty line is evident from the fact that different poverty lines are considered more appropriate for different countries. Goldberg and Pavcnik point out that the 1 PPP dollar a day line is indicative of poverty lines used in poor countries, but not in middle

income countries such as Colombia. Reviewing the poverty line used by the government of Colombia, they point out that their line is closer to three PPP dollars a day, suggesting, as they put it, that the standard of living considered acceptable by Colombians is substantially higher than either the 1 \$ or 2 \$ a day measure. As acceptable definitions of poverty shift over time, the importance of looking at the overall distribution of income may become increasingly important. This is one reason why both Gordon Hanson and Duncan Thomas, in their contributions, report the impact of globalization on the entire distribution of income, using non-parametric techniques.

Several contributors provide a survey of aggregate trends in inequality and poverty, as well as the relationship between globalization and inequality. As pointed out by Sala-i-Martin, Milanovic, and Aisbett in their respective chapters, debates continue on the nature and direction of trends in inequality. Within countries, inequality is generally rising. Across countries, inequality is stable or falling if we weight by country size, in large part because of the recent successes of China and India in reducing poverty. As Sala-i-Martin and others have emphasized, the correct measure of global social welfare is to use such country weights when the outcome of interest is the welfare of individuals. This is of course still a very rough proxy since it disregards income inequality between individuals within countries. Thus access to most countries' income or expenditure surveys is needed for an accurate picture of individual-level welfare.

The cross-country evidence presented by Easterly suggests that increasing trade integration has been associated with greater inequality within developing countries. His results are

generally consistent with Milanovic, who constructs his own measures of both inter-industry and inter-occupation wage inequality using detailed information on wages across occupations and industries. For inter-industry wage inequality, Milanovic finds rising inequality in poor countries and falling inequality in rich countries. For inter-occupation wage inequality, the results are much weaker.

These results might be considered puzzling in the context of the Heckscher-Ohlin (HO) framework for explaining international trade. Many researchers in the past have argued—in a simple interpretation of this framework—that developing countries are well endowed with unskilled labor and consequently should see returns to unskilled labor rise relative to skilled labor with globalization. It was expected that in developing countries openness to trade would increase the return to skilled relative to unskilled labor, raising inequality. These two studies suggest that the opposite is true: more trade is associated with falling inequality in rich countries and rising inequality in poor countries. To explain these results, Milanovic also constructs a model which incorporates both the possibility of labor immobility as well as rent-sharing between unions and industry. Don Davis's chapter also emphasizes that a careful understanding of trade theory and its applications to the real world suggests that there is no reason why an observed correlation in the data between globalization and rising inequality should be in the least bit puzzling.

Given the data problems associated with aggregate measures of inequality, however, and the fragile nature of the results (consistent with earlier cross-country studies which typically find little relationship between trade reforms and inequality—see Edwards (1997), Lundberg and Squire (1999), Rama (2003), Dollar and Kraay (2002), and Milanovic (2002)) these questions should be addressed using more disaggregate data. Previous country case studies for

Chile, Mexico, Colombia, Hong Kong and Mexico confirm that trade and capital flows are associated with an increase in the relative demand for skilled labor (see Hanson's chapter for cites). The country case studies on India, Poland, China, and Colombia prepared for this volume, however, suggest that the evidence is mixed. Evidence for India suggests that despite the increase in inequality within India in the 1990s, there is no relationship between trade reform and inequality, using the standard deviation of log consumption and the mean logarithmic deviation of consumption as measures of inequality. For Colombia, the data suggest that trade reform was associated with increasing inequality, in part because the most protected sectors prior to reform were sectors with a high share of unskilled workers. In Poland, the results suggest the reverse: trade reforms increased the returns to unskilled workers relative to skilled workers, contributing to a decline in inequality.

A different approach to measuring the impact of globalization on incomes is taken by Jim Levinsohn in his contribution to the volume. Levinsohn points out that one of the challenges to analyzing the impact of globalization is that increasing openness to trade and investment are typically accompanied by many other changes. In South Africa, trade to GDP increased from 44 percent to 70 percent between 1991 and 2002, and there was a two hundred fold increase in foreign investment. At the same time, however, these changes were accompanied by many other changes, including the end of Apartheid, the introduction of democracy, and the HIV/AIDs epidemic. To try and separate the impact of globalization, he reasons that one approach would be to analyze whether the returns to speaking English increased. The evidence suggests that controlling for other factors, the returns to speaking English did in fact increase, but only for whites. The fact that the returns to speaking English increased only for whites and

not for other races suggests that the impact of globalization has been uneven in South Africa. This pattern of uneven gains is consistent with the other evidence presented in the cross-country studies and several of the individual case studies.

Another consequence of globalization, which is explored by Ethan Ligon in his study on China, is its possible impact on household welfare by affecting household risk. Prasad and his co-authors point out that the increase in consumption volatility possibly engendered by financial liberalization among the less developed countries could be harmful to the poor, but do not explicitly model the impact of increasing risk on household welfare. In China, recent increases in urban income inequality are mirrored in increases in inequality in consumption expenditures. This connection between changes in the distribution of income and consumption expenditures could be entirely attributable to differences in preferences (in which case households' intertemporal marginal rates of substitution would all be equated after every history), or could be caused by imperfections in the markets for credit and insurance which ordinarily would serve to equate these intertemporal marginal rates of substitution. Ligon presumes that market imperfections drive changes in the distribution of expenditures, and he uses data on expenditures from repeated cross-sections of urban households in China to estimate a Markov transition function for shares of expenditures over the period 1985-2001. He then uses this estimated function to compute the welfare losses attributable to risk over this period, and to predict the future trajectory of inequality from 2001 through 2025. Ligon's contribution emphasizes that the amount of risk a household faces depends much more on its position in the consumption distribution than it does on aggregate shocks, whatever their source.

In a very different approach, Shang-Jin Wei in his discussion presents evidence suggesting that globalization in China has contributed to a reduction in inequality within the country. Using as his measure of openness the ratio of exports to output, he shows that the rural urban wage differential has narrowed significantly in regions with increasing exports. He further shows that increasing exports have been associated with a reduction in inequality within rural areas, but an increase in inequality within urban areas. Overall, his results point to a modest reduction in inequality associated with increasing export activity within China.

The contribution of globalization to the decline in poverty within China is clearly a topic that deserves further research. Ravallion (2004) suggests somewhat provocatively that the significant reduction in poverty in China over the last twenty years is probably not related to its rising trade. He uses as evidence aggregate time series data, in contrast to Wei who has access to more disaggregate information. Nevertheless, Ravallion makes the important point that average tariffs and non-tariff barriers barely fell during the most rapid period of poverty reduction in China. It should be evident from this discussion that the choice of aggregation and the measure of globalization is likely to be key in resolving this debate. In addition, Wei in his discussion and in other research employs measures of export activity or foreign investment to show that both are associated with desirable outcomes, while Ravallion looks at overall trade shares.

The studies presented in this volume make it clear that different measures of globalization are frequently associated with different outcomes: measures of export activity and foreign investment are generally associated with poverty reduction, while removal of protection (an ex ante measure of globalization) or import shares (an ex post measure that looks at the impact of policy changes) are frequently associated with negative income effects for the poor.

VI. Globalization's Critics and Some Remaining Questions

One of the goals of this volume was to evaluate why globalization's critics seem all too aware of the costs of globalization and generally fail to see the benefits. Aisbett's chapter, which is devoted to this question, begins by reviewing the evidence on trends in poverty reduction worldwide. As she points out, all authors agree that the incidence of poverty was falling in the world over the period 1987-98. However, there is a diversity of opinions on whether headcount or incidence is the appropriate measure of poverty. As indicated by Aisbett and Xavier Sala-i-Martin in his excellent discussion of Aisbett's paper, different studies have alternatively found that poverty (or inequality) is declining or increasing over time. Part of these discrepancies can be ascribed to the measures used: while most studies suggest that the poverty rate is falling (ie the percentage of the population living under poverty), the same cannot be said of the absolute numbers of individuals living under poverty. While the number of individuals living on less than one dollar a day is declining, the number of individuals living on two dollars a day is not. One possible explanation is that the poor in the world are becoming better off, moving from incomes of less than one dollar to less than two dollars per day. Yet this possibility has not been explored. Critics of globalization frequently use one measure of poverty to buttress their claims (ie the absolute numbers living under poverty), while supporters refer to another measure (the percentage of the world's population living under poverty).

Aisbett argues that this diversity of opinion, combined with the sometimes contradictory trends that headcount and incidence suggest, is one of the reasons that there is so much disagreement about whether world poverty has been increasing during the period of globalization.

In light of these trends, which suggest falling poverty, why does there continue to be so much criticism of globalization? This is the central question of Aisbett (2004), and she argues that there are several parts to the answer. The first part is that people have a natural tendency to weight the information that they receive according to their prior beliefs and values. Thus evidence which is objectively 'mixed' is quite likely to be interpreted by one type of person as very positive, and by another as very negative. The mere fact that there are some losers among the poor from globalization will lead people with negative priors to believe it is negative.

The second part of Aisbett's answer is to examine what types of beliefs and values lead people to a more negative interpretation of the evidence on globalization and poverty. The values which she identifies include concern over inequality, independent of poverty. In particular, globalization's critics feel differently about the polarization of the income distribution and inequality in the gains that different groups receive from globalization.

As first pointed out by Kanbur (2001), critics of globalization also tend to focus on shorter term impacts, while globalization's proponents are more concerned about the longer term. Critics of globalization also focus on the losses experienced by subgroups of the poor, even when at the country level poverty has declined. Aisbett suggests a number of explanations for this value preference, including recent evidence from behavioral experiments. She notes that the results of these experiments suggest that people concerned for subgroups may simply be displaying a very common human characteristic.

Aisbett also argues that many people believe that the current form of globalization is based on processes which distill both political and market power upward and away from the poor. In particular, critics of globalization believe that corporate and commercial lobbies have disproportionate access to the international organizations such as the WTO and IMF, and that rich countries exploit their power within these international organizations. This belief about the processes through which globalization occurs is partly what predisposes them to interpret the available evidence negatively.

This volume seeks to address these misunderstandings and also presents comprehensive new evidence on the possible linkages between globalization and poverty amelioration. Nevertheless, a number of research questions remain unanswered, which I enumerate below:

#1 What is the relationship between globalization and poverty in the aggregate cross-country data?

Although there are many pitfalls associated with using cross-country datasets, it would nevertheless be useful to have more information on the association between globalization—measured using information on barriers to trade or capital flows—and measures of poverty. Evidence to date suggests that there is generally a positive association between openness and growth, and between growth and poverty reduction. Transitivity implies that there should consequently be a positive association between openness and poverty reduction; yet the evidence presented in the volume—while consistent with expectations—is quite fragile. The question remains: is the evidence fragile because the cross-country data on poverty are too poor

to yield meaningful results, or because the costs of trade reforms to date have fallen disproportionately on the poor? In light of our knowledge that openness to trade is generally associated with growth, and that sectors hit by import competition in regions like India and Colombia have gained less from trade reforms, the possibility exists that the gains from trade in the aggregate have not been big enough to offset some of the adverse distributional consequences for the poor.

#2 Can we identify better the winners from globalization among the poor?

A number of the NBER studies point to winners among the poor from globalization. These include the poor wage earners in export-competing sectors and in sectors or regions that are recipients of foreign direct investment. Particularly in light of the vocal criticism leveled at globalization, these beneficiaries should be identified and emphasized in any future research agenda on the relationship between globalization and poverty. Of particular interest would be research that could further identify the impact of foreign investment inflows and export growth on poverty in some regions of India and China

#3 Can we identify the dynamic effects of industrial country trade and aid policies?

Several issues explored in this volume include the role of industrial country policies in affecting the incidence of poverty in developing countries. In particular, studies for the volume explored the impact of OECD agricultural subsidies on poverty in developing countries and the impact of food aid on the poor. Those studies suggest that at least in the short run, OECD

subsidies and food aid have not had identifiable adverse effects on the poor. However, further research is needed to identify whether there are longer term, dynamic effects. For example, even if the poor in Ethiopia are currently net beneficiaries from food aid, there exists the possibility that over the long run food aid has discouraged poor farmers from planting or investing, transforming them from net producers to net consumers.

#4 Can we identify the complementarities between measures of globalization and other policies, including macro-economic policies, labor laws and institutions?

Many of the country studies identify the importance of complementary policies in determining the benefits or costs of trade reforms for the poor. However, much more work is needed to identify which types of policies should accompany trade reforms. There has been no formal analysis to show, for example, that financial globalization would be beneficial to developing countries if it was accompanied by flexible exchange rate regimes or better institutions. Similarly, more work is needed—in addition to the case studies on Colombia and India included in this volume--identifying whether trade reforms introduced in conjunction with labor market reforms are more likely to reduce poverty.

#5 How immobile is labor in developing countries in the short run? Should we modify existing models of international trade to take into account immobility of labor or imperfect competition?

The fact that the gains or losses from trade reforms to the poor may hinge on the mobility (or immobility) of labor needs to be more explicitly addressed in existing models of international trade. Some models adopt assumptions of perfect factor mobility (HO), while others assume no factor mobility (specific sector). Neither assumption is consistent with reality. In addition, many of globalization's critics perceive the world through the lens of imperfect competition. Yet most trade economists assume perfect competition or zero profits, which may be at odds with reality in at least some developing countries.

Further research is needed to identify the source of the immobility of labor. While Topalova and Goldberg and Pavcnik show that some of these sources are artificial—stemming from labor market legislation which inhibits hiring and firing—Goh and Javorcik argue that much of the immobility of labor in Poland is due to tradition, which discourage workers from relocating. Further evidence, identifying how much gross movement there is into and out of new employment within regions or sectors, would be useful in this regard.

VII. Conclusion

Several themes emerge across both the cross-country and individual case studies in *Globalization and Poverty*. First, the relationship between changes in globalization and changes in poverty is a complex one; in many cases, the outcome depends not just on trade reform or financial globalization but on the interaction of those policies with the rest of the environment. It is misleading to examine the impact of trade reform on poverty without taking into account the complementarity between trade or financial globalization and other changes in

the environment. Financial globalization is more likely to have a benign impact on growth and poverty reduction if it is accompanied or preceded by the development of good institutions and governance, as well as macroeconomic stability (including the use of flexible exchange rates). In India and Colombia, trade reforms have been associated with an increase in poverty only in regions with inflexible labor laws. Consequently, reaching any conclusions without taking into account the role of labor market legislation—and its contribution to inhibiting labor mobility in those countries--would be highly misleading.

Second, there are both winners and losers among the poor. The evidence suggests that globalization leads to clearly identifiable winners. Across several different continents, export expansion has been accompanied by a reduction in poverty. The evidence also points to the beneficial effects of foreign direct investment. While the macro-economic evidence suggests that FDI is a less volatile source of capital than other types of inflows, the micro-economic evidence for India, Mexico, Poland, and Colombia indicates that higher inflows of foreign investment are associated with a reduction in poverty.

Third, it is also possible to identify some losers from globalization among the poor. Poor workers in import competing sectors—who cannot relocate possibly due to the existence of inflexible labor laws—are likely to be hurt by globalization. Financial crises also affect the poor disproportionately, as indicated by the cross-country evidence and the erosion of real wages following currency crises in Indonesia and Mexico. In Mexico, poor corn farmers have been negatively affected by increasing import competition. However, transfer programs which redistribute income have been successful in preventing the erosion of their real income.

The fourth lesson that emerges from a review of cross-country evidence and country case studies is that simple interpretations of general equilibrium trade models such as the

Heckscher-Ohlin framework are likely to be incorrect. Many economists predicted that developing countries with a comparative advantage in unskilled labor would benefit from globalization through increased demand for their unskilled-intensive goods, which in turn would reduce inequality and poverty. The theoretical discussions as well as the empirical evidence presented in this paper suggest that this interpretation of trade theory is too simple and frequently not consistent with reality. Cross-country evidence (see Easterly (2004) and Milanovic and Squire (2004)) suggests that globalization has been accompanied by increasing inequality within developing countries. However, the micro studies are more mixed, with evidence from Colombia consistent with rising inequality accompanying trade reforms, the evidence on India suggesting no relationship between trade reform and inequality, and the evidence on Poland suggesting that trade reforms have contributed to falling inequality.

There are several reasons why the evidence is not consistent with a simple interpretation of general equilibrium trade models. One reason is that labor is not nearly as mobile as the Heckscher-Ohlin framework assumes; for comparative advantage to increase the incomes of the unskilled, they need to be able to move out of contracting sectors and into expanding ones. Another reason is that developing countries have historically protected their unskilled-intensive sectors (although this is less true in the case of agriculture), which implies that in the manufacturing sector trade reforms frequently result in less protection for unskilled workers relative to skilled labor. A third reason is that even sectors which are relatively unskilled-intensive in a global context may require workers with more skills than the poor in developing countries typically possess.

The heterogeneity in outcomes suggests that careful targeting is necessary to address the

poor who are likely to be hurt by globalization. This includes the poor in countries hit by financial crises, as well as the smallest farmers who cannot compete with the more efficient larger farmers or with expanding import competition. Clearly, the concerns of globalization's critics have been heard, but much remains to be done.

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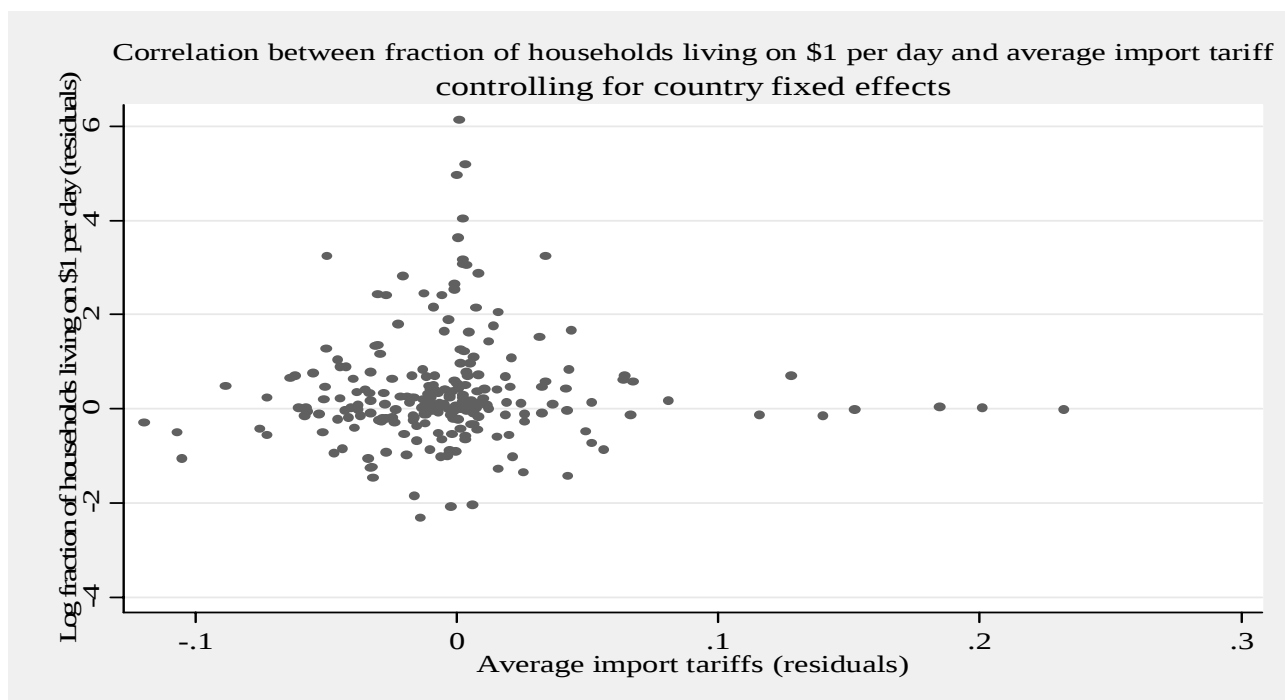
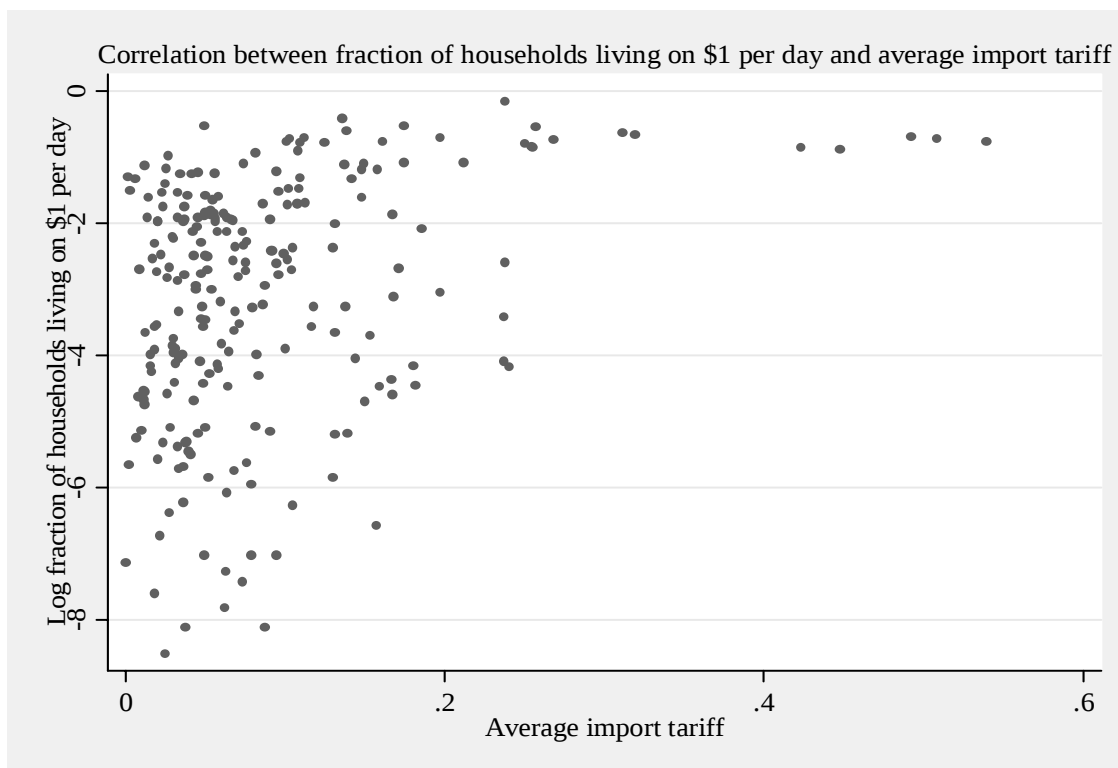


Table 1: Incomes and trade shares in a cross-section of countries

Dependent variable: Ln income per capita (\$1993 PPP)										
	Reduced form					Instrumental variables				
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) IV	(7) IV	(8) IV	(9) IV	(10) IV
3-year lag trade share	0.907 [0.036]***	0.514 [0.037]***	0.214 [0.038]***	0.203 [0.035]***	0.081 [0.074]					
Trade share						0.978 [0.037]***	0.857 [0.057]***	0.426 [0.067]***	0.402 [0.064]***	0.248 [0.167]
Ln (1+CPI)			-0.027 [0.013]**	-0.090 [0.018]***	-0.020 [0.019]			-0.035 [0.014]**	-0.094 [0.018]***	-0.034 [0.018]*
Gov't expend./ nom. GDP			0.159 [0.174]	0.264 [0.142]*	0.625 [0.261]**			0.230 [0.180]	0.298 [0.142]**	0.840 [0.219]***
Currency crisis			-0.039 [0.011]***	-0.039 [0.013]***	0.013 [0.022]			-0.070 [0.012]***	-0.060 [0.013]***	-0.000 [0.018]
GDI /real GDP			0.298 [0.126]**					0.116 [0.126]		
Fraction of pop. literate			-0.208 [0.146]					-0.171 [0.146]		
Constant	7.239 [0.028]***					7.173 [0.030]***				
Country fixed effects?	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES
Time fixed effects	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Observations	3294	3294	1996	2657	308	3288	3288	1996	2657	308
R-squared	0.17	0.93	0.96	0.95	0.99					
Restricted sample?	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES

Restricted sample is country-year observations for which poverty (head count) data is available.

All regressions exclude OECD high-income countries.

Huber robust standard errors in parentheses. Significantly different from zero at 90% (*) 95% (**) 99% (***) confidence.

In IV regressions, trade share instrumented using three-year lagged value.

Source: Aisbett, Harrison and Zwane (2005)

Table 2: Income per capita and average import tariffs in a cross-section of countries

Dependent variable: Ln income per capita (\$1993 PPP)										
	Reduced form					Instrumental variables				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	OLS	OLS	OLS	OLS	OLS	IV	IV	IV	IV	IV
3-year lag ave. I tariff	-3.586 [0.377]***	-0.721 [0.142]***	-0.298 [0.117]**	-0.137 [0.119]	-0.250 [0.281]					
Average import tariff						-4.830 [0.441]***	-4.830 [0.441]***	-0.635 [0.328]*	-0.338 [0.379]	-1.831 [1.563]
Ln (1+CPI)			-0.047 [0.014]***	-0.095 [0.016]***	-0.050 [0.017]***			-0.055 [0.013]***	-0.106 [0.013]***	-0.054 [0.015]***
Gov't expend./ nom. GDP			0.360 [0.224]	0.379 [0.181]**	0.418 [0.290]			0.410 [0.245]*	0.395 [0.161]**	0.676 [0.349]*
Currency crisis			-0.026 [0.013]*	-0.018 [0.014]	0.040 [0.029]			-0.027 [0.014]**	-0.018 [0.016]	0.003 [0.034]
GDI /real GDP			0.345 [0.157]**					0.572 [0.171]***		
Fraction of pop. literate			0.398 [0.211]*					0.482 [0.216]**		
Constant	8.368 [0.045]***					8.108 [0.194]***				
Country fixed effects?	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES
Time fixed effects	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Observations	1617	1617	1261	1485	212	1415	1415	1125	1306	189
R-squared	0.07	0.96	0.97	0.96	0.99					
Restricted sample?	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES

Restricted sample is country-year observations for which poverty (head count) data is available.

All regressions exclude OECD high-income countries.

Huber robust standard errors in parentheses. Significantly different from zero at 90% (*) 95% (**) 99% (***) confidence.

In IV regressions, average import tariff instrumented using three-year lagged value.

Source: Aisbett, Harrison and Zwane (2005)

Table 3: Head count poverty (\$1 per day) and trade shares in a cross-section of countries

Dependent variable: Ln fraction of households living on less than \$1 per day (\$1993 PPP)										
	Reduced form						Instrumental variables			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	OLS	OLS	OLS	OLS	OLS	OLS	IV	IV	IV	IV
3-year lag trade share	-1.921 [0.385]***	-1.772 [0.502]***	-1.517 [0.484]***	0.418 [0.931]	0.685 [1.209]	0.579 [1.086]				
Trade share							-2.164 [0.760]***	-1.767 [0.524]***	-3.609 [2.240]	2.261 [3.576]
Ln (1+CPI)		-0.348 [0.396]	-0.879 [0.396]**		0.291 [0.382]	-0.022 [0.367]	0.824 [0.557]	-0.845 [0.349]**	-0.014 [0.391]	-0.145 [0.366]
Gov't expend. / nom. GDP		-2.945 [3.757]	-8.275 [4.172]**		5.299 [4.503]	-3.058 [4.222]	-5.266 [5.629]	-7.589 [3.918]*	-1.935 [5.929]	-1.270 [4.237]
Currency crisis		-0.153 [0.402]	0.118 [0.446]		-0.143 [0.455]	-0.281 [0.444]	-0.609 [0.624]	0.150 [0.423]	-0.187 [0.375]	-0.386 [0.373]
GDI /real GDP		-0.117 [2.486]			0.696 [5.203]		1.171 [3.606]		4.806 [3.997]	
Fraction of pop. literate		1.997 [0.912]**			1.673 [6.827]		11.779 [4.606]**		2.397 [7.459]	
3-yr lag ln income per cap.		-2.225 [0.252]***			-5.154 [1.646]***		-6.405 [2.070]***		-0.380 [3.926]	
Constant	-1.874 [0.252]***									
Country fixed effects?	NO	NO	NO	YES	YES	YES	NO	NO	YES	YES
Time fixed effects	NO	YES	YES	NO	YES	YES	YES	YES	YES	YES
Observations	349	284	325	349	284	325	229	325	229	325
R-squared	0.06	0.38	0.14	0.65	0.67	0.67				

All regressions exclude OECD high-income countries.

Huber robust standard errors in parentheses. Significantly different from zero at 90% (*) 95% (**) 99% (***) confidence.

In IV regressions, trade share instrumented using three-year lagged value and income instrumented using precipitation and temperature.

Source: Aisbett, Harrison and Zwane (2005)

Table 4: Head count poverty (\$1 per day) and average import tariffs in a cross-section of countries

Dependent variable: Ln fraction of households living on less than \$1 per day (\$1993 PPP)										
	Reduced form						Instrumental variables			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	OLS	OLS	OLS	OLS	OLS	OLS	IV	IV	IV	IV
3-year lag ave. I tariff	7.543 [1.229]***	0.418 [1.618]	5.606 [1.490]***	0.811 [2.167]	0.741 [4.736]	1.018 [4.305]				
Ave. import tariff							-1.038 [2.266]	6.158 [1.801]***	1.549 [22.870]	8.242 [22.706]
Ln (1+CPI)		0.339 [0.305]	-0.021 [0.302]		0.429 [0.378]	0.169 [0.329]	0.687 [0.434]	0.062 [0.290]	0.039 [0.431]	0.018 [0.196]
Gov't expend./ nom. GDP		-6.406 [3.812]*	-7.992 [3.763]**		2.795 [5.966]	1.124 [5.750]	-2.080 [3.407]	-9.186 [3.775]**	0.344 [6.494]	-0.402 [4.544]
Currency crisis		-0.411 [0.563]	-0.299 [0.610]		-0.967 [0.601]	-1.083 [0.645]*	-0.302 [0.621]	-0.129 [0.553]	-0.698 [0.604]	-0.730 [0.579]
GDI /real GDP		-1.229 [1.673]			2.870 [4.822]		-1.906 [1.948]		10.863 [9.068]	
Fraction of pop. literate		0.908 [0.888]			3.717 [7.905]		2.279 [2.113]		-7.041 [14.028]	
3-yr lag ln income per cap.		-1.896 [0.263]***			-3.662 [1.666]**		-2.551 [1.044]**		0.843 [6.771]	
Constant	-3.966 [0.225]***									
Country fixed effects?	NO	NO	NO	YES	YES	YES	NO	NO	YES	YES
Time fixed effects	NO	YES	YES	NO	YES	YES	YES	YES	YES	YES
Observations	223	202	217	223	202	217	152	194	152	194
R-squared	0.07	0.36	0.19	0.70	0.73	0.75				

All regressions exclude OECD high-income countries.

Huber robust standard errors in parentheses. Significantly different from zero at 90% (*) 95% (**) 99% (***) confidence.

In IV regressions, average import tariff instrumented using three-year lagged value and income instrumented using precipitation and temperature.

Source: Aisbett, Harrison and Zwane (2005)