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ABSTRACT

This essay surveys the evidence on the linkages between globalization and poverty. I focus on two measures of globalization: trade and international capital flows. Past researchers have argued that global economic integration should help the poor since poor countries have a comparative advantage in producing goods that use unskilled labor. The first conclusion of this essay 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 investments in human capital and infrastructure, as well as policies to promote credit and technical assistance to farmers, and policies to promote macroeconomic stability. Third, trade and foreign investment reforms have produced benefits for the poor in exporting sectors and sectors that 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 underscores the need for carefully targeted safety nets.

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I. Introduction

More than 1 billion people live in extreme poverty, which is defined by the World Bank as subsisting on less than 1 dollar a day.¹ In 2001, fully *half* of the developing world lived on less than 2 dollars a day. Yet poverty rates are much lower today than twenty years ago. In the last two decades, the percentage of the developing world living in extreme poverty has been cut in half. While poverty rates were falling, developing countries became increasingly integrated into the world trading system. Poor countries have slashed protective tariffs and increased their participation in world trade. If we use the share of exports in GDP as a measure of “globalization”, then developing countries are now more “globalized” than high income countries.²

Does globalization reduce poverty? Will ongoing efforts to eliminate protection and increase world trade improve the lives of the world’s poor? There is surprisingly little evidence on this question.³ The comprehensive surveys by Winters et al (2004), Goldberg and Pavcnik (2004), and Ravallion (2004) all 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.⁴

¹ All the poverty estimates in this paragraph are taken from the World Bank’s official poverty website, at <http://iresearch.worldbank.org/PovcalNet/jsp/index.jsp>. The 1 \$ a day poverty line is actually \$1.08 in 1993 purchasing power parity dollars.

² See “Trade Liberalization: Why So Much Controversy”, by Ann Harrison and Helena Tang, in **Growth in the 1990s: Learning from a decade of reform**, edited by N. Roberto Zaghera, World Bank, 2005.

³ Although there have been a number of recent studies on globalization and inequality, these volumes focus primarily on distributional consequences of globalization, rather than poverty. There are exceptions, of course. See, for example, Bhagwati’s new book, **In Defense of Globalization** (2004). Bardhan’s publications on this topic include his (2000) ILO Nobel Peace Prize Lecture, published as “Social Justice in a Global Economy”, as well as Bardhan (2003) and Bardhan (2004). See also the 2005 book by Thomas Hertel and L. Alan Winters (editors), **Poverty and the WTO: Impacts of the Doha Development Agenda**.

⁴ Winters et al (2004) write in their insightful and comprehensive survey that “there are no direct studies of the poverty effects of trade and trade liberalization.” Goldberg and Pavcnik’s (2004a) 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

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 economist's perspective on how globalization affects poverty in developing countries.⁵ By bringing together experts on both international trade and poverty, our goal is to bridge the intellectual divide that separates the individuals who study each of these phenomena. The fifteen studies and accompanying 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 cut import protection improve the lives of the poor? 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 in developing countries? Or do such programs in fact provide assistance by reducing the cost of food imports? Finally, does food aid hurt the poor by lowering the price of the goods they sell on local markets?

Although the concept of "globalization" is quite broad, we focus on two aspects: (1) international trade in goods and (2) international movements of capital--including foreign investment, portfolio flows, and aid. Consequently, most of the chapters measure the impact of increased exposure to trade and international capital flows on poverty. We do not address other aspects of globalization, such as information flows, migration, or trade in services. A number of chapters also address the linkages between these measures of globalization and inequality.

Why is it important to think about globalization's impact on inequality in a volume devoted to poverty? As pointed out by Besley and Burgess (2003), poverty can be reduced by

poverty typically use computable general equilibrium models to disentangle the linkages between trade reform and poverty. While such research provides an important contribution to our understanding of the channels through which globalization 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. See the studies cited in Winters et al (2004), Ravallion (2004), Chen and Ravallion (2000), and Hertel and Winters (2005).

growing the economy or through improvements in the income distribution or both. If a country is growing slowly or not at all, then measures that improve the distribution of income will reduce poverty. Besley and Burgess (2003) calculate that a one standard deviation reduction in inequality in sub-Saharan African would reduce poverty by more than half. If openness to trade is associated with increasing inequality, then the growth gains from trade could be wiped out for those at the bottom of the income distribution. In other words, if the gains from trade are highly unequal, then the poor may not share the benefits. Many of the studies in this volume suggest that globalization has been associated with rising inequality, and that the poor do not always share in the gains from trade.

The new research presented in this volume takes two different approaches: cross-country studies and individual country studies. The cross-country studies use aggregate data to examine the impact of globalization on the number of poor, aggregate growth rates, and inequality. The country case studies typically use micro data for a single country to examine the impact of globalization on the incomes of the poor. Cross-country studies are appealing because they allow authors to generalize beyond one specific case study. Yet many countries have information on aggregate poverty for only 2 or 3 points in time, which means that statistical tests using cross-country data may not yield conclusive results. 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.

What are the lessons that emerge from the various chapters? Though the issues are complex, some broad themes emerge.

⁵ The individual chapters may be downloaded from <http://www.nber.org/books/glob-pov/index.html>.

The poor in countries with an abundance of unskilled labor do not always gain from trade reform. Many economists have used the Heckscher-Ohlin (HO) framework in international trade to argue that trade liberalization should raise the incomes of the unskilled in labor-abundant countries. Most researchers who use this framework to argue that globalization is good for the world's poor make a number of heroic assumptions. These assumptions—such as the necessity that all countries produce all goods—are challenged in this volume. In addition, the country studies show that labor is not nearly as mobile as the HO trade model 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 why the poor may not gain from trade reforms is that developing countries have historically protected sectors that use unskilled labor, such as textiles and apparel. This pattern of protection, while at odds with simple interpretations of HO models, makes sense if standard assumptions (such as factor price equalization) are relaxed. Trade reforms may result in less protection for unskilled workers, who are most likely to be poor. Finally, penetrating global markets even in sectors that traditionally use unskilled labor requires more skills than the poor in developing countries typically possess.

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 reducing impediments to labor mobility. 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. The fact that other policies are needed to ensure that the benefits of trade are shared across the population suggests that relying on trade reforms alone to reduce poverty is likely to be disappointing.

Export growth and incoming foreign investment have reduced poverty. Poverty has fallen in regions where exports or foreign investment is growing. 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 has been 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 has been 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.

Financial crises are costly to the poor. In Indonesia, poverty rates increased by at least 50 percent after the currency crisis in 1997. While recovery in Indonesia has been rapid, the Mexican economy has yet to fully recover from its 1995 peso crisis. Poverty rates in Mexico in the year 2000 were higher than they had been ten years earlier. Cross-country evidence also suggests that financial globalization leads to higher consumption and output volatility in low-income countries. One implication is that low income countries are more likely to benefit from financial integration if they also create reliable institutions and pursue macroeconomic stabilization policies (including the use of flexible exchange rate regimes). However, foreign

investment flows have very different effects from other types of capital flows. While 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 chapters on India and Mexico.

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 some small and most medium 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 rest of this paper is organized as follows. Section II discusses some issues associated with measuring both poverty and globalization. Section III discusses theoretical links between trade and poverty outcomes. Section IV summarizes the results from the cross-country studies while section V describes the results of the country case studies. The studies which address the impact of capital flows on the poor are summarized in Section VI. Although 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 VII. Since the evidence suggests that globalization creates winners as well as losers among the poor, Section VIII discusses why globalization's critics seem all too aware

of the costs of globalization and generally fail to see the benefits. A number of research questions remain unanswered; these are also discussed in Section VIII. Section IX concludes.

II. Measuring Globalization and Poverty

There is an enormous literature devoted to trade and poverty measurement. For openness to trade, the authors in this volume use both trade volumes and measures of trade policy. Most contributors favor the use of direct policy measures, such as tariffs or quotas, over trade volumes. Trade volumes are typically measured as shares, such as exports plus imports divided by GDP. Although widely available, trade shares are not ideal because they are determined by trade policies, geography, country size and macro-economic policies. Globalization of financial flows is measured either by creating indices of policy or by using measures of actual flows. Capital controls, which are collected by the International Monetary Fund, are examples of policy measures; again, actual capital flows are less desirable measures of policy than capital controls since flows are outcomes of many factors.

One important observation which emerges from the various chapters is that different measures of globalization are associated with different poverty outcomes. *How* globalization is measured determines *whether* globalization is good for the poor. 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 rising poverty. These different effects are consistent with short run models of international trade (such as the specific sector model) where factors of production cannot easily move from contracting or import-competing sectors to expanding or export oriented ones.

Poverty is typically measured by choosing a poverty line, which reflects the minimum

income or consumption necessary to meet basic needs. For low income countries, the World Bank has calculated poverty lines at \$1 and \$2 a day.⁶ Although these minimum requirements vary across countries and over time, the \$1 and \$2 a day measures allow policy makers to compare poverty across countries using the same reference point. The headcount measure of poverty identifies the percentage of the population living in households with consumption or income per person below the poverty line. The headcount is reported either as a percentage (the incidence of poverty) or as the number of individuals who are poor. Another popular measure is the poverty gap, which measures the mean distance below the poverty line as a proportion of the poverty line.

One area of disagreement in poverty measurement is whether poverty should be measured as the percentage of individuals who are poor (the incidence) or the absolute number of people who are poor. While the incidence of poverty has been falling over the last twenty years, the change in the absolute numbers of poor individuals depends on the poverty line chosen. The number of individuals living on less than one dollar a day declined in the 1980s and 1990s, while the number of individuals living on between one and two dollars a day did not.⁷ Critics of globalization frequently use the absolute number of people who are poor as their preferred measure, while globalization's supporters (see the discussion by Xavier Salai-i-Martin for this volume) prefer to use the incidence of poverty. The first chapter in the volume, by Emma Aisbett, shows that this diversity of opinion is one of the reasons that there is so much disagreement about whether world poverty has been falling during the period of globalization.

⁶ Actually \$1.08 and \$2.15 in 1993 Purchasing Power Parity dollars.

⁷ 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 adequately explored, in large part because this necessitates being able to follow the same poor household or individual over time.

It is important to emphasize that the poverty line itself is not fixed over time. Prasad, Rogoff, Wei and Kose conclude their chapter with the following observation:

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 country case studies show that acceptable poverty lines vary across countries and through time. As discussed in Goldberg and Pavcnik's chapter, the \$1 a day line is indicative of poverty lines used in very poor countries, but not in middle income countries such as Colombia. The official poverty line in Colombia is closer to three (purchasing power parity) dollars a day. In the United States, the poverty line in 2004 was closer to thirty dollars a day. As acceptable definitions of poverty shift over time, research on inequality and the overall distribution of income becomes increasingly important. This is one reason why Gordon Hanson, Ethan Ligon, Elizabeth Frankenberg and Duncan Thomas, in their chapters, report the impact of globalization on the entire distribution of income, using non-parametric techniques.

III. Theoretical linkages between globalization and poverty

One of the most famous theorems in international trade is the Stolper-Samuelson theorem, which in its simplest form suggests that the abundant factor should see an increase in its real income when a country opens up to trade. If the abundant factor in developing countries is

unskilled labor, then this framework suggests that the poor (unskilled) in developing countries have the most to gain from trade. Anne Krueger (1983) and Jagdish Bhagwati and T.N. Srinivasan (2002) have used this insight to argue that trade reforms in developing countries should be pro-poor, since these countries are most likely to have a comparative advantage in producing goods made with unskilled labor. From this perspective, expanding trade opportunities should cut poverty and reduce inequality within poor countries.

In their chapter on the theoretical linkages between trade and poverty, Don Davis and Prachi Mishra argue that “Stolper-Samuelson is dead”. They write eloquently that applying trade theory to suggest that liberalization will raise the wages of the unskilled in unskilled-abundant countries is “worse than wrong—it is dangerous.” Davis and Mishra show that such arguments are based on a very narrow interpretation of the Stolper-Samuelson (SS) theorem. In particular, SS only holds if all countries produce all goods, if the goods imported from abroad and produced domestically are close substitutes, or if comparative advantage can be fixed vis-à-vis all trading partners. As an illustration, a poor country in a world with many factors and many goods may 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 low skill goods in trade with the United States, its comparative advantage switches vis-à-vis trade with China.

Trade reform also affects the poor by changing the prices they face as consumers and producers. Davis and Mishra develop a simple model to show that if imports and domestic goods (produced by the poor) are non-competing, then the first order effect of a trade reform would be to raise real incomes of the poor. Clearly, the poor gain from tariff reductions on

goods that they buy. If globalization raises the prices of goods produced by the poor—such as agricultural products marketed by farmers—then poverty is also likely to decline.

Many of the authors in this volume do not use the HO model as their framework, but adopt a specific sector framework. In the specific sector framework, workers or machines may be “attached” to a specific sector or industry and cannot relocate easily. Consequently any reduction in protection to sector X will lead to a fall in the incomes of workers who previously produced goods for that sector and 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, then the specific sector model may be the more appropriate framework, at least in the short run.

William Easterly also explores the theoretical linkages between globalization and poverty, but in the context of a neoclassical growth model. Easterly shows that globalization could affect the incomes of the poor in two opposite ways. If productivity levels are similar but endowments are different, globalization should raise the incomes of the poor. Globalization, by relaxing constraints on the movement of goods and factors, will allow factor returns to equalize across countries. This is the “factor endowment” view. 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. A second possibility is the “productivity” view. Differences in per capita incomes may stem from exogenous productivity differences across countries, rather than differences in endowments. This second possibility implies that globalization will either have no impact on poverty or could exacerbate poverty, as capital is drawn away from low productivity towards high productivity regions.

Aart Kraay, Xavier Sala-i-Martin, and Prasad and his co-authors emphasize that globalization could raise the incomes of the poor through a third channel: by increasing long run growth. To reconcile their perspective with Easterly’s framework, this means that increases in trade or capital flows could increase incomes of the poor by raising productivity or through the accumulation of capital. Imports of new goods embody new technology, which in turn raises productivity, while incoming foreign investment provides the possibility for technology transfer. If the income effects are fairly uniform, then the increase in aggregate income resulting from globalization-induced productivity gains should improve the incomes of the poor.

IV. Cross-Country Evidence

The cross-country studies present evidence on the relationship between poverty, inequality and globalization. Easterly finds that increasing trade integration is associated with falling inequality within developed countries and greater inequality within developing countries. His results are consistent with the evidence presented by Branko Milanovic and Lynn Squire, who construct their own measures of both inter-industry and inter-occupation wage inequality using detailed information on wages across occupations and industries. Milanovic and Squire find that

globalization, measured using average tariffs, leads to rising inequality in poor countries and falling inequality in rich countries.

Both Easterly and Milanovic and Squire find that increasing openness to trade is associated with rising inequality in poor countries. Easterly argues that the evidence is consistent with his “productivity” view, whereby exogenous differences in productivity lead capital to flow from poor to rich countries and exacerbate inequality in poor countries. Milanovic and Squire emphasize the lack of labor mobility and the weak power of unions to explain why increasing openness to trade is associated with rising inequality in poor countries.

Aart Kraay in his comment on Easterly’s chapter reviews the evidence on (1) the linkages between trade and growth, and (2) the relationship between growth and poverty. Although some previous studies on the relationship between trade and growth have been discredited (see Rodriguez and Rodrik (2000) and Harrison and Hanson (1999)), Kraay cites several new studies which find that increasing openness to trade is associated with higher growth. Kraay also points to his own work showing that growth is good for the poor, and concludes that since trade enhances growth, which in turn reduces poverty, then globalization is good for the poor.

McMillan, Zwane and Ashraf use cross-country data to measure the impact of OECD support policies for agriculture on poverty. The vast majority of least developed countries have historically been net importers of food, particularly cereals, which are among the crops most subsidized by the OECD. As net food importers, poor countries may gain from rich country subsidies (see also Panagariya 2002, 2004, Valdes and McCalla 1999). Even within food exporting countries, the poorest members of society may be net purchasers of food. However, McMillan et al find no support in the cross-country analysis for the claim that OECD policies worsen poverty in developing countries.

None of these studies directly examine the aggregate relationship between different poverty measures and globalization. Previous research on this topic, including Dollar (2001) and Dollar and Kraay (2001, 2002), combines measures of income distribution derived from household surveys with aggregate national income data to measure the income of the poor. Deaton (2001, 2003) suggests that using aggregate national income data to interpret cross-country correlations between aggregate growth and poverty reduction is likely to be misleading. This is because the observed correlation could be attributable to measurement error as well as biases in national income statistics, which generally suggest a much higher rate of poverty reduction relative to trends in aggregate poverty implied by household surveys.

One solution to this problem is to use measures of poverty based exclusively on household surveys. Yet the limited time series for poverty data from these surveys makes it almost impossible to conclude anything on the aggregate relationship between openness and poverty. I show this in Tables 1 and 2, which report regression results on the linkages between openness, GDP growth, and different measures of poverty from Aisbett, Harrison and Zwane (2005). I begin by revisiting the evidence on the linkages between trade and growth; these results are presented in Table 1. Openness to trade is measured in two different ways, as either (1) the ratio of trade ($X+M$) to GDP or (2) average tariffs, defined as tariff revenues divided by imports. The results suggest that an increase in openness—using these two measures—is associated with an increase in aggregate income.⁸

⁸ See Aisbett, Harrison, and Zwane (2005) for more details. To address concerns regarding endogeneity, openness is measured either using its three year lag or the contemporaneous value 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

The problems of small sample size are illustrated in columns (5) and (10) of Table 1. I redo the basic specifications but restrict the sample to the observations for the country-years where poverty rates could be calculated based on household surveys. In the restricted sample the link between openness to trade and GDP per capita weakens significantly. 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 using cross-country datasets are likely to be plagued by limited data availability.

The association between measures of openness, GDP growth, and poverty is presented in Table 2. Measures of poverty are derived from household sample surveys made available by the World Bank. While the results are robust to the poverty measure chosen, in Table 2 we define poverty as the percentage of households living on less than \$ 1 a day in PPP terms. The evidence in Table 2, confirming evidence presented by Besley and Burgess (2003) as well as other researchers, suggests 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 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.⁹

instrument for openness using lagged values—are not always significant at the 5 percent level, the evidence is generally consistent with a positive relationship between openness and income or growth. 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.

⁹ The coefficients on real GDP per capita reported in Tables 1 and 2 are much larger than those reported by Besley and Burgess (2003). The poverty-reducing effects of growth are larger here because any one of the following changes alone leads to big changes in the coefficient on GDP per capita: the inclusion of time effects, a larger sample with more years of data and more countries, the inclusion of other policy determinants of poverty, or a PPP real GDP per capita measure. The fact that any of these modifications leads to such large changes in the coefficient on GDP per

Although the results presented in Tables 1 and 2 suggest a strong link from trade integration to aggregate income, and from income growth to poverty reduction, the evidence on direct linkages between trade shares or tariffs and poverty outcomes is quite weak. While the first three columns of Table 2 suggest that openness to trade (measured using either trade shares or tariffs) is associated with less poverty, this result disappears when we introduce country fixed effects. I show this graphically in Figures 1 and 2. In Figure 1, there is a positive relationship between globalization and poverty reduction, but this association disappears in Figure 2 with the addition of country effects.¹⁰

To summarize, there is no evidence in the *aggregate* data that trade reforms are good or bad for the poor.¹¹ Yet even if we could identify a robust relationship between trade reform and poverty reduction in the aggregate data, cross-country work remains problematic for several reasons. First, 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. Second, 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 of the poor. The cross-country evidence presented by Easterly, Milanovic, and Squire is consistent with this view: their chapters suggest that

capita suggests that—despite a strong poverty-reducing effect of growth—the exact magnitude of the effect cannot be precisely estimated.

¹⁰ 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

¹¹ In a comparable exercise using country-level poverty headcounts and trade shares, Ravallion (2004) reaches a similar conclusion; he argues that there is no robust relationship between poverty and globalization in the aggregate data. Possibly the only exception to these general conclusions is Agenor (2004), who finds that there is a nonlinear relationship between measures of poverty and globalization. Agenor finds that at low levels, globalization appears to

globalization has been accompanied by increasing inequality in poor countries. Finally, even if the cross-country evidence presented in Tables 1 and 2 overcomes 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 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 usually able to use the panel nature of these datasets to address this issue.¹²

hurt the poor, but beyond a certain threshold, it seems to reduce poverty. For earlier related studies, see Dollar and Kraay (2001, 2002).

¹² Even preferred measures of globalization, such as tariffs or capital controls, are likely to be endogenously determined. The possible endogeneity of tariffs as well as solutions to this problem are explored in a number of the individual chapters. Since uniformity in tariffs is frequently a goal of trade reform, tariff reductions are often inversely linked to initial tariff levels. To achieve uniformity, policy makers must apply the largest tariff reductions to those sectors with the highest initial protection levels. Consequently, some chapter authors use initial levels of protection as an instrument for changes in tariffs.

V. Country Case Studies

This section reviews the ten country case studies for the volume. These country studies use household-level or firm-level data to measure (1) the impact of globalization on employment and labor incomes of the poor and (2) the impact of globalization on poverty through changes in the prices of goods produced and consumed by the poor.

The Impact of Globalization on Employment and Labor Incomes of the Poor Country studies on Columbia, India, Mexico, and Poland examine the relationship between trade reform and labor market outcomes. 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. Import competition increases the likelihood of unemployment and informality, and is associated with a higher incidence of poverty. Export growth is associated with the opposite: falling informal sector employment, rising minimum wage compliance, and falling poverty. Goldberg and Pavcnik present evidence suggesting 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 policies for minimizing the adverse effects of trade reform on the poor. 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 on poverty disappears.

This is exactly the conclusion reached by Petia Topalova, who estimates the impact of trade reform in India on poverty. 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 an industry on the eve of the economic reforms and the reduction in trade barriers in that industry as a measure of a district's exposure to foreign trade. Because industrial composition is predetermined and trade liberalization was unanticipated, she argues that it is appropriate to causally interpret the correlation between the changes in the levels of poverty and trade exposure.

Topalova's chapter on India suggests that the rural poor gained less from the trade reforms than other income groups or the urban poor. A rural 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 lower in trade-affected areas, where (rural) poverty may have fallen by an average of 11 instead of 13 percentage points between 1987 and 1999.¹³ To

¹³ 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.

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. Topalova also discusses why the rural poor gained less than other groups from liberalization: restrictions on labor mobility in rural areas have impeded adjustment. She finds that 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

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

conclusions that the incidence of wage poverty in low exposure states increased relative to poverty in high-exposure states by approximately 7 percent.

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’s chapter, that poverty fell more in regions that exported more or received more foreign direct investment. Consequently, both studies suggest that export activity and foreign direct investment are correlated with beneficial outcomes for the poor.

Goh and Javorcik examine the relationship between tariff changes and wages of workers in Poland. Poland embarked on significant trade reforms during the 1990s, when the country moved from a closed to a very open economy, particularly vis-à-vis the European Union. Poland makes an excellent case study in part because 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.

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. They present evidence showing that tariff declines led to wage increases because firms were forced to increase productivity, and productivity increases resulted in higher wages. These

consumption.

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 significantly different, however, from some of the other studies, since they find that workers in sectors with the biggest tariff reductions gained the most.

Impact of globalization on poverty via prices of production and consumption goods In many developing countries, wages are not the primary source of income for the rural poor. In their chapter, Balat and Porto (2004) calculate that in Zambia wages accounted for only 6 percent of income for the rural poor in 1998. 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. These linkages are explored to various degrees in the studies on Ethiopia, Mexico, and Zambia. In Mexico, McMillan, Zwane and Ashraf (2005) 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. However, they also find that the majority of the poorest corn farmers are net consumers of corn and hence benefited from the drop in corn prices. The income from corn production among middle income farmers who are mostly net sellers fell, both as a share of total income and in absolute terms. The decline in income from corn production among those

farmers who are net sellers would have translated into an equivalent decline in real income if farmer incomes had not been supplemented with transfers through government programs such as PROCAMPO and PROGRESA.

In their study of Ethiopian rural grain producers, McMillan and Levinsohn explore the impact of food aid on both consumption and production of the rural poor. This paper addresses the concern 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 consumers¹⁴, 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 Rohini Pande in her excellent discussion of this paper, these results are contingent on food aid actually reaching the poor. Levinsohn and McMillan argue that this is often the case.

For Zambia, Balat and Porto calculate the impact of liberalizing the market for maize, which was heavily subsidized for 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, 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.

VI. 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 on poverty—via possible growth effects—is likely to be small. They argue that since there are no clear linkages between financial integration

¹⁴ This assumes that local purchase does not drive prices up for some poor people.

and growth in the aggregate cross-country evidence, direct linkages between financial integration 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, income smoothing made possible by global financial integration could be beneficial to the poor. However, Prasad et al find that the opposite is true: financial globalization in developing countries is associated with higher consumption volatility. 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, 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. How have the poor weathered these currency crises? The justification for addressing the links between currency

crises and poverty outcomes in this study is simple: for many developing countries, financial globalization has been accompanied by more frequent currency crises, which in turn have implications for poverty. One study in the volume, by Frankenberg and Thomas, examines the impact of such a crisis on the poor. Using longitudinal household survey data from the Indonesia Family Life Survey (IFLS), Frankenberg and Thomas examine 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.

Frankenberg and Thomas demonstrate 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.

VII. Measuring Other Effects of Globalization

While the primary focus of the country studies is on poverty alleviation, several of the studies also examine other outcomes associated with globalization. Three of the country case studies test for the relationship between globalization and inequality, complementing the cross-country studies by Easterly, Milanovic and Squire.¹⁵ Past studies that use micro datasets have found that trade and capital flows are frequently associated with an increase in the relative demand for skilled labor.¹⁶ The country case studies on India, Poland, China, and Colombia prepared for this volume, however, suggest that the evidence is mixed. Evidence presented by Petia Topalova on India suggests that despite the increase in inequality 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, Goldberg and Pavcnik show 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, Goh and Javorcik suggest the reverse: trade reforms

¹⁵ As pointed out by Sala-i-Martin, Milanovic and Squire, and Aisbett in their respective chapters, debate continues 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.

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. 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, the ratio of 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. These changes were accompanied by many other developments, 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.

¹⁶ See Hanson's chapter for a review of this literature. His review covers micro-evidence on the relationship between

This connection between changes in the distribution of income and consumption expenditures could be entirely attributable to differences in preferences 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.¹⁷

VIII. Globalization's Critics and Some Remaining Questions

Why does there continue to be so much criticism of globalization? This is the central question of Aisbett's chapter. Aisbett 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

different measures of globalization and inequality for Chile, Mexico, Colombia, and Hong Kong.

¹⁷ 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 phenomenal increase as a global exporter. 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 are 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.

competitive framework, and different interpretations regarding the evidence. Aisbett argues that people have a natural tendency to weight the information 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 on aggregate poverty has declined. Aisbett suggests a number of explanations for this value preference, including recent evidence from behavioral experiments.

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 the most comprehensive evidence to date on the linkages between globalization and poverty. However, this is a relatively new area of research for economists and many questions remain unanswered. In this section, we draw on the new evidence uncovered in the NBER project and suggest what we believe to be the most important areas for further research.

How do we integrate the poorest of the poor into the world trading system? One sixth of the world's population lives in extreme poverty. Figuring out how to lift these people out of extreme poverty is arguably the most pressing issue. It is also the most difficult. The very poorest individuals tend to be untouched by globalization. This is evident among the poorest Mexican corn farmers who report that they never sell corn and among the poorest Ethiopian farmers who are net buyers of food. The number of extreme poor in Sub-Saharan Africa has nearly doubled over the past two decades - going from around 170 million to 310 million. Roughly half of Sub-Saharan Africa lives in extreme poverty and this number has *increased* over the past two decades. Sub-Saharan Africa has seen very little in the way of foreign investment and still exports primarily unprocessed agricultural products.

More research is needed to identify the critical interventions required to lift these people out of poverty. What are the key constraints? How important is outside intervention? In light of the scarcity of resources available, creating a ranking of which complementary investment or reform is most needed to allow the poor to access world markets would be very useful.

What are the key issues in poverty measurement? As acceptable definitions of poverty shift over time, one question which needs to be addressed by poverty researchers is why they are focusing primarily on one aspect of the entire distribution of income. Presumably, focusing on the entire distribution of income—and hence income inequality—should become increasingly important. Once one focuses on the fact that poverty lines are constantly changing across countries and also within the same country over time, it becomes puzzling why poverty researchers do not also focus more on broader measures of income distribution as well.

In addition to explicitly focusing on the entire distribution of income, researchers also need to focus on issues related to measuring the absolute numbers of poor versus the incidence of poverty. As discussed by Emma Aisbett in her chapter, the incidence of poverty has generally declined but the number of individuals who are living on less than 2 dollars a day has actually increased. Kanbur (2001,2004) discusses this issue in more detail. Kanbur (2004) also emphasizes the need to use other outcome measures, such as health and mortality, in assessing the lives of the poor. Those issues are also emphasized by Duncan Thomas and Elizabeth Frankenberg in their chapter

Why hasn't increasing financial integration helped the poor more? One 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. 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.

However, Eswar Prasad, Shang-Jin Wei, and Ayan Kose in their chapter suggest that the impact of financial integration on poverty—via possible growth effects—is likely to be small. Why hasn't international financial integration helped the poor more? Prasad et al suggest that there is 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. Further research is necessary to understand why such a threshold might exist. What prevents lower income developing countries from exploiting the benefits of international financial integration? Is the answer that financial globalization must be approached with the right set of complementary policies, such as flexible exchange rates, macroeconomic stabilization policies, and the development of strong institutions? Prasad et al suggest that if there is institutional development and good governance—including transparency in business and government transactions, control of corruption, rule of law, and financial supervisory capacity—then poor countries may also gain from financial integration. Yet more evidence is needed on this question.

How have the poor weathered the currency crises of the last two decades? Evidence from the Indonesian 1997 currency crisis shows 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% (Frankenberg and Thomas). Yet what is remarkable is that five years later, poverty in Indonesia is now below what it was at the start of the crisis. In contrast, between 1990 and 2000

poverty in Mexico increased. Although poverty increased less in Northern Mexico—the part of the country most exposed to the forces of globalization, nevertheless poverty in Mexico was higher in 2000 than in 1990.

These contrasting experiences suggest two questions for research. First, why was Indonesia able to recover so much quicker than Mexico? Were the special transfer programs in Indonesia—targeted at consumption and education of poor households—responsible for the different experiences in addressing poverty during this decade? Or, is it because Mexico entered into the North American Free Trade Agreement (NAFTA) just before the peso crisis? Second, are there long term consequences to the Indonesian financial crisis for the poor? Although recovery was rapid, households adjusted in the short run by cutting expenditures on durables, cutting health care visits, and cutting school attendance. Will there be long term consequences to this behavior, despite the fact that poverty rates quickly reverted back to pre-crisis levels?

Who among the poor are the winners from globalization? A number of the case 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 reduction in India and China.

Although research on China is constrained by the lack of micro datasets in the public domain, the relationship between rising inequality, falling poverty, and globalization deserves further investigation. While some researchers, notably Kanbur (2005) have found that increasing

globalization is associated with higher inequality in China, others have found no relationship (Martin Ravallion), and for the NBER volume Shang-Jin Wei reports evidence suggesting that trade is associated with falling inequality. Differences in the approaches can be traced to different use of openness measures (Kanbur uses aggregate data on tariffs and trade shares, while Wei uses city-level data on exports) and different approaches.

Can we better identify the complementarities between measures of globalization and other policies? It is increasingly evident that the poor are more likely to gain from openness to trade if there are other complementary policies in place. A number of recent studies emphasize the importance of complementary policies in determining the benefits or costs of trade reforms for developing countries. For example, Freund and Bolaky (2005) show that trade reforms actually lead to income losses in highly regulated economies.

However, much more work is needed to identify which types of policies should accompany trade reforms. There has been little 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. Additional work is needed to identify whether trade reforms introduced in conjunction with labor market reforms are more likely to reduce poverty, and how to properly design social safety nets to accompany trade reforms. While Mexico has been successful in targeting some of the poorest who were hurt by reforms, these programs are expensive and additional research could identify whether this approach is realistic for the very poorest countries.

Further research is needed to identify the source of the immobility of labor. While studies on India and Colombia 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 societal factors which discourage workers from relocating. Further evidence, identifying the relationship between gross labor inflows and outflows and trade reforms would be useful in this regard.

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 is not consistent with reality in at least some sectors of developing economies.

While the need for labor mobility is emphasized here, does this mean that protection to workers should be scrapped? Clearly the answer is no. Although workers need to be able to move from contracting to expanding sectors, dropping measures that provide rights for workers does not seem to be the answer either. Workers in many developing countries still do not benefit from basic health and safety regulations, and the right to organize is frequently not recognized by governments. In many countries, workers seeking to form unions are fired or jailed, or even worse. Striking the right balance between safeguarding worker rights and ensuring labor mobility in order to create new jobs is difficult, but necessary.

Can we identify the dynamic effects of industrial country trade and aid policies on developing country agriculture? Several issues explored in the forthcoming volume include the role of industrial country policies in affecting the incidence of poverty in developing countries.

Those studies suggest that at least in the short run, OECD subsidies and food aid have probably helped the poor in other countries. 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 into net consumers. Another issue which deserves further research is the impact of OECD agricultural subsidies on poverty. While the research presented in the NBER volume suggests that the poorest countries have been net beneficiaries of OECD agricultural subsidies because these poor countries are net food importers, decades of OECD subsidies may have discouraged poor countries from producing agricultural goods in the first place.

While there have been far-reaching reforms across developing countries in reducing barriers to trade, agriculture remains protected in many countries. Both China and India have protected agricultural sectors. In the coming decade, agriculture is likely to open up more to competition, in both developed and developing countries. Yet the highest incidence of poverty in developing countries is in the rural areas. What will be the impact of trade reforms targeted at the agricultural sector on the rural poor? How can complementary measures be introduced to cushion the negative impact? This remains an important area for future research.

Why is there no relationship between globalization and poverty in the aggregate cross-country data? The evidence in Figure 1 suggests that there is no significant relationship between globalization (measured using average import tariffs) and poverty. Poverty is measured as the percentage of households in a country living on less than \$1 a day, measured in 1993 PPP dollars. There are several possible explanations for the lack of any robust association between

globalization and poverty reduction in the aggregate data. One strong possibility, which is clearly revealed in the country case studies that make use of micro data using households or firms, is that there is too much heterogeneity in the effects of trade reforms on the poor. Since poor workers in import-competing sectors lose from reforms, while poor workers in export-oriented sectors gain (according to the studies by Goldberg and Pavcnik on Colombia and Topalova on India), it is not surprising that in the aggregate these different effects are lost.

Another possibility, which is related to the fact that there are so many heterogeneous effects of globalization on the poor, could be that cross-country data on poverty are too poor to yield meaningful results. Angus Deaton has argued that relying on national income data to impute poverty yields very different results from estimates based on household data. If we rely only on World Bank estimates of poverty, which are based on household surveys, the number of observations is very small. The World Bank poverty estimates provide only 2 or at most 3 data points over time for any one country. Consequently, it is not surprising that cross-country estimates using these data are so fragile.

A third possibility is that the aggregate relationship between globalization and poverty is not significant because the costs of trade reforms 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 gains from trade in the aggregate have not been big enough to offset some of the adverse distributional consequences for the poor. The lack of any robust positive association between trade and poverty reduction could indicate that the growth gains from trade have failed to trickle down to the poor because they simply do not participate in the benefits. This interpretation of the results is consistent with the fact that a number of studies find that globalization is associated with

increasing inequality. For example, both Branko Milanovic (with Lynn Squire) and William Easterly in their chapters for the volume find that increasing globalization is associated with increasing inequality. Consequently, a third possibility which is consistent with the evidence so far at the aggregate level is that the growth gains from trade have been wiped out by the adverse distributional outcomes for the poor. Identifying whether increasing inequality associated with globalization completely offsets any gains to the poor from the growth effects of trade should be an important priority.

IX. Conclusion

Many countries have made tremendous strides in reducing not only the percentage of the population living in poverty, but also the absolute number of individuals living on less than \$1 a day. During this period, developing countries increased their trade shares and slashed their tariffs. If export shares are one measure of globalization, then developing countries are now more “globalized” than high income countries. To what extent is increasing globalization responsible for the fall in the incidence of poverty?

The first theme that emerges across the chapters is that the relationship between globalization and poverty is complex; in many cases, the outcome depends not just on trade or financial globalization but on the interaction of globalization with the rest of the environment. Key complementary policies include investments in human capital and infrastructure, as well as policies to promote credit and technical assistance to farmers, and macroeconomic stability. Financial globalization is more likely to promote 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). The role of complementary policies in ensuring that globalization yields benefits for the poor is emerging as a critical theme for multilateral institutions (see World Bank (2005))

One related issue is that poor workers need to be able to move out of contracting sectors and into expanding ones. The country studies on India and Colombia suggest that 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 labor market institutions that could undermine labor mobility may be misleading. More research is needed to identify whether labor legislation protects only the rights of the small fraction of workers who typically account for the formal sector in developing economies, or whether such legislation softens short-term adjustment costs and helps the labor force share in the gains from globalization. The role of anti-sweatshop activists in promoting the right to organize, improving working conditions, and raising wages suggests that selective interventions may be successful (see Harrison and Scorse (2004)).

Second, 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 the losers from globalization among the poor. Poor workers in import-competing sectors—who may not be able to relocate 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, some poor and most medium-income corn farmers have been negatively affected by increasing import competition.

Fourth, 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 and empirical contributions to the volume suggest that this interpretation of trade theory is too simple and frequently not consistent with reality. The cross-country studies document that globalization has been accompanied by increasing inequality within developing countries. One implication is that rising inequality induced by globalization offsets some of the gains in poverty reduction achieved via trade-induced growth.

The conclusions highlighted in these studies have several key implications for the globalization debate. First, impediments to exports from developing countries exacerbate poverty in those countries. Developing countries need access to developed country markets. The evidence shows a clear link between export activity and poverty reduction in Colombia, Mexico, India, and Poland. This research suggests that efforts to dismantle barriers to developing country exports through the Doha Round or other agreements are likely to lead to further poverty reduction. The evidence for India, Mexico, and Poland also points to a strong link between foreign investment inflows and poverty reduction.

Second, there are losers among the poor from trade reform. In particular, this volume identifies as losers the poor in import competing sectors following the liberalization of trade.

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. Mexico's transfer programs played a major role in preventing the smallest corn farmers from experiencing a large decline in income following reforms. In Indonesia, subsidized food was distributed to many communities. Scholarships and free public schooling introduced a year after the Indonesian crisis led to subsequent increases in school enrollments, particularly among the poorest. Extending such subsidies to health care visits and basic drugs might have arrested the decline in the use of health care which occurred after the 1997 crisis.

Finally, the evidence suggests that relying on trade or foreign investment alone is not enough. A critical role for complementary policies is highlighted in the country studies on Zambia, India, Colombia, Indonesia and Poland. The poor need better education, access to infrastructure, access to credit for investing in technology improvements, and the ability to relocate out of contracting sectors into expanding ones in order to take advantage of trade reforms. Clearly, the concerns of globalization's critics have been heard, but much remains to be done.

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Figure 1
(Source: Aisbett, Harrison, and Zwane (2005))

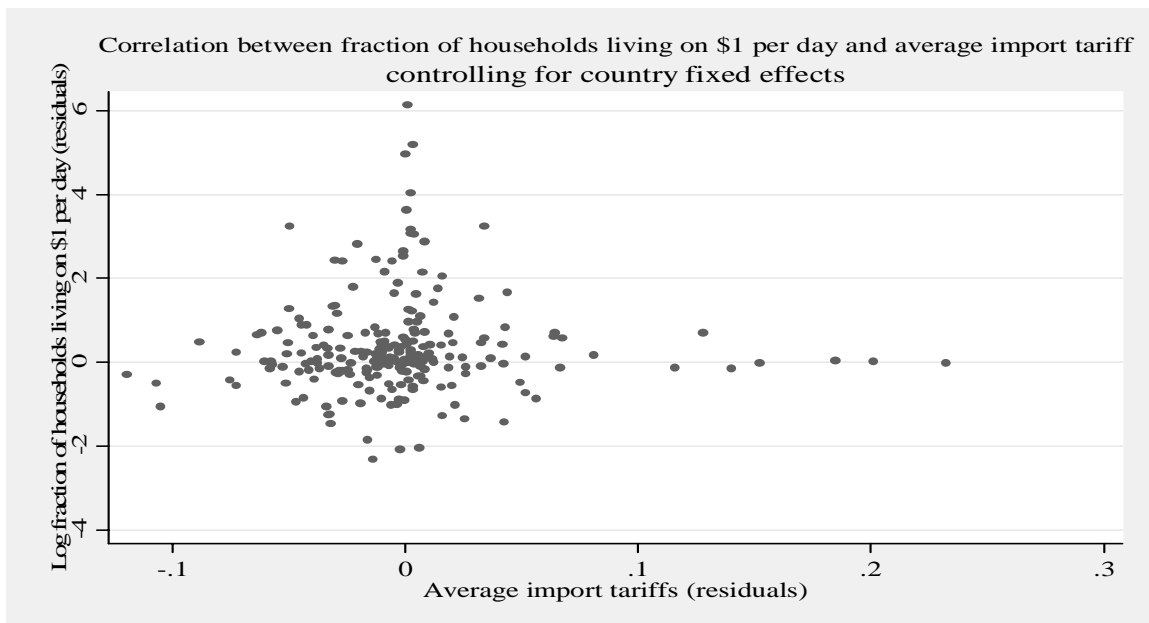
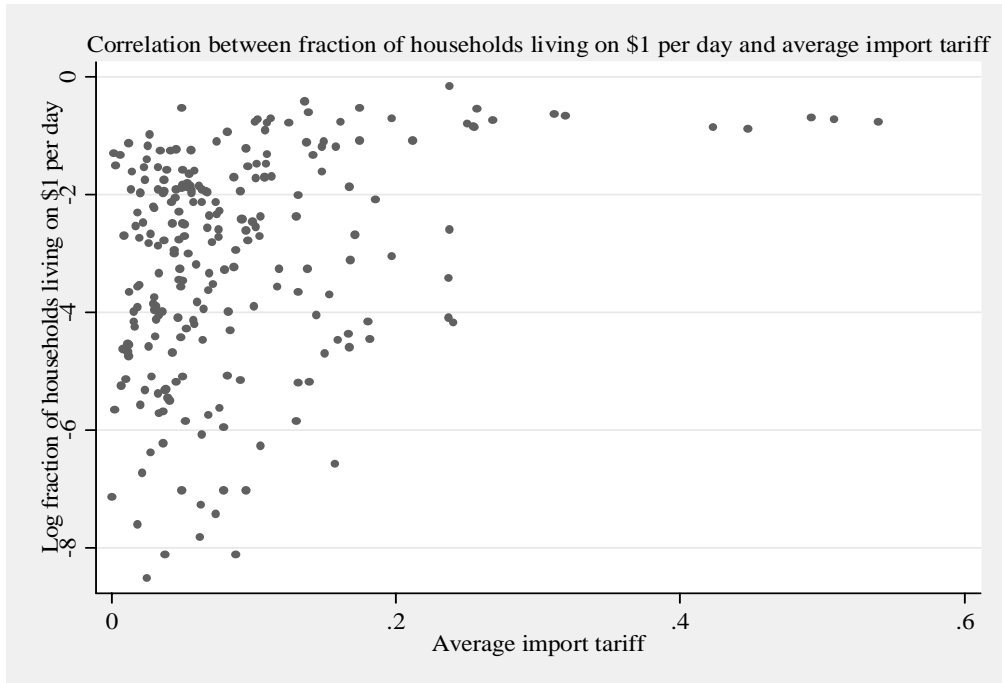


Table 1

Income per capita, trade shares, and 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
	No	No	Includes	Includes	Includes	No	No	Includes	Includes	Includes
	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls
3-year lag trade share	0.907	0.514	0.214	0.203	0.081					
	[0.036]	[0.037]	[0.038]	[0.035]	[0.074]					
Trade share						0.978	0.857	0.426	0.402	0.248
						[0.037]	[0.057]	[0.067]	[0.064]	[0.167]
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
Restricted sample?	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES

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
	No	No	Includes	Includes	Includes	No	No	Includes	Includes	Includes
	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls
3-year lag average import tariff	-3.586	-0.721	-0.298	-0.137	-0.250					
	[0.377]	[0.142]	[0.117]	[0.119]	[0.281]					
Average import tariff						-4.830	-4.830	-0.635	-0.338	-1.831
						[0.441]	[0.441]	[0.328]	[0.379]	[1.563]
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
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. Columns (3) and (8) include controls for inflation, government expenditure in GDP, currency crises, investment in GDP, and the fraction of the population that is literate. Columns (4), (5), (9), and (10) include controls for inflation, government expenditure, and currency crises. Huber robust standard errors in parentheses. In IV regressions, trade share instrumented using three-year lagged value and import tariff instrumented using three-year lagged value. Source: Aisbett, Harrison and Zwane (2005).

Table 2
Head count poverty (\$1 per day), trade shares, and import tariffs in a cross-section of countries

Dependent variable: Ln fraction of households living on less than \$1 per day (\$1993 PPP)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	OLS	OLS	OLS	OLS	OLS	OLS	IV	IV	IV	IV
	No	Includes	Includes	No	Includes	Includes	Includes	Includes	Includes	Includes
	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls
3-year lag trade share	-1.921	-1.772	-1.517	0.418	0.685	0.579				
	[0.385]	[0.502]	[0.484]	[0.931]	[1.209]	[1.086]				
Trade share							-2.164	-1.767	-3.609	2.261
							[0.760]	[0.524]	[2.240]	[3.576]
3-yr lag log income per Capita		-2.225			-5.154		-6.405		-0.380	
		[0.252]			[1.646]		[2.070]		[3.926]	
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

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)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	OLS	OLS	OLS	OLS	OLS	OLS	IV	IV	IV	IV
	No	Includes	Includes	No	Includes	Includes	Includes	Includes	Includes	Includes
	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls	Controls
3-year lag ave. I tariff	7.543	0.418	5.606	0.811	0.741	1.018				
	[1.229]	[1.618]	[1.490]	[2.167]	[4.736]	[4.305]				
Average import tariff							-1.038	6.158	1.549	8.242
							[2.266]	[1.801]	[22.870]	[22.706]
3-yr lag log real income Per Capita		-1.896			-3.662		-2.551		0.843	
		[0.263]			[1.666]		[1.044]		[6.771]	
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

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

All regressions exclude OECD high-income countries. Columns (3) and (8) include controls for inflation, government expenditure in GDP, currency crises, investment in GDP, and the fraction of the population that is literate. Columns (4), (5), (9), and (10) include controls for inflation, government expenditure, and currency crises. Huber robust standard errors in parentheses. In IV regressions, trade share instrumented using three-year lagged value and import tariff instrumented using three-year lagged value. Source: Aisbett, Harrison and Zwane (2005).