



# Introduction

# Trade policies, household welfare and poverty alleviation – An overview

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## 1 Introduction

During the past three decades, low- and middle-income countries have become increasingly integrated into the global economy. Exports of low-income countries grew from 26 to 55 per cent of their gross domestic product (GDP) between 1994 and 2008 (Hanson, 2012). Exports of middle-income countries increased from 25 to 55 per cent of their GDP during the same period. Hanson (2012) attributes the heightened global engagement to declines in trade costs through large-scale trade liberalizations in developing countries and the removal of barriers to low-skilled goods such as apparel and textiles in developed country markets. Greater international fragmentation of production and increased demand for commodities, fueled by growth in India and China, have also contributed to this trend.

This globalization of less-developed countries has sparked a debate in academic and policy circles about the relationship between international trade and poverty. Global poverty has declined: the share of people living on less than a dollar per day dropped from 52 per cent in 1981 to 22 per cent in 2008 (Chen and Ravallion, 2012). But to what extent is this decline related to growth in international trade? How do the poor fare as low-income countries embrace more liberalized trade policies and expose domestic markets to increased import competition? Do the poor benefit as low-income countries gain access to high-income export markets? Several recent surveys and studies address these questions and discuss the channels through which international trade might affect poverty (Goldberg and Pavcnik, 2004; Winters *et al.*, 2004; Harrison, 2007; Pavcnik, 2008).

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Increased participation in global markets also exposes the poor in less-developed countries to terms-of-trade shocks. Fluctuations in global food prices might play a particularly important role because of the significance of food staples in consumption and the prevalence of employment in agriculture among the poor in less-developed economies. As a result, trends in global food prices have received substantial attention from domestic and international policymakers. Until recently, much of this attention has focused on the role of agricultural subsidies in high-income countries in depressing world prices of agricultural commodities. During the 2006–2008 food crisis, the focus shifted to concern about large increases in the prices of key food staples. Ivanic and Martin (2008) suggested that these price hikes contributed to an increase in global poverty. Many governments resorted to trade policy measures to reduce the impact of these global food price shocks on domestic consumers and poverty (Rocha *et al.*, 2012; Aksoy and Hoekman, 2010). However, higher prices of agricultural commodities do not necessarily harm the poor (Aksoy and Hoekman, 2010) because the effects of food price increases on poverty are country- and commodity-specific and depend on initial conditions. The relationship between international trade, agriculture and commodity prices, and poverty thus continues to be a topic of great policy interest.

The studies collected in this volume examine the welfare and poverty consequences of changes in global commodity prices and trade policies in selected countries. The goal of this overview is to place these studies in the context of existing literature on international trade and poverty.

Table 1 lists the countries covered in the studies and compares their level of economic development, poverty, and prevalence of agricultural employment. The case studies focus on lower-middle-income and middle-income countries, with GDP per capita ranging from USD 2,388 in Nigeria to about USD 12,000 in Argentina in 2010 purchasing power parity (PPP) terms. The countries vary in their prevalence of poverty, with the share of the population that lives on less than a dollar per day ranging from less than 1 per cent in the former Yugoslav Republic of Macedonia and Argentina to 16 to 18 per cent in countries such as China, the Philippines, and Viet Nam and 68 per cent in Nigeria. The studies also encompass countries that differ in their exposure to global agricultural markets through production and employment. Less than 1 per cent of individuals are employed in agriculture in Argentina, compared to 45 per cent in Nigeria and almost 50 per cent in Viet Nam.

The studies address the relationship between globalization and poverty in the context of two broad themes. One set of studies examines the welfare consequences of the recent increases in global food prices. The other set of studies examines the welfare effects of trade policy and exchange rate changes. Table 1 lists the price change and/or specific policies and commodities that are the focus of each country's case study.

The research uses a common methodology based on household-level surveys, originally developed by Deaton (1989), to examine the welfare consequences of international trade. The focus is on the short-term effect of price changes through household consumption, production and wage earnings, which in turn affect household welfare and poverty. While the studies could in principle examine the role of all three components, data constraints at times confine the analysis to a subset of the channels. The channels considered in each country are also specified in Table 1.

The studies yield insights about the relationship between trade policy, changes in commodity prices, and poverty. Most importantly, they provide additional support for the conclusion by Aksoy and Hoekman (2010) that it is not possible to generalize about how higher food prices affect the poor. The consequences of commodity price changes for poverty through the channels examined in this volume are country-specific. Net effects on the poor for each country case study are summarized in Table 1. They depend on the impact of the trade policy change on domestic prices, the exposure of the poor households to price fluctuations as producers and consumers of the good, the exposure of these households to price shocks through wage earnings, and the magnitude of the price changes.

For example, while the rural poor tend to be harmed by increases in the price of rice in the Philippines, they benefit from an increased price of maize in the former Yugoslav Republic of Macedonia. This difference stems from the fact that the rural poor in the Philippines tend to be net consumers of rice, while the rural poor in the former Yugoslav Republic of Macedonia are net producers of the commodity that experienced a large price increase. The case of the former Yugoslav Republic of Macedonia further illustrates that the effects on poverty might depend on the commodity under consideration.

Table 1 Country case study summaries

Country	GDP per capita <sup>1</sup>	Poverty rate <sup>2</sup>	Employment in agriculture <sup>3</sup>	Price or policy change	Commodity	Channels	Net effect on the poor
Philippines	3,910	18.4 <sup>4</sup>	33	Price increase	Rice	Consumption, production	Negative
Former Yugoslav Republic of Macedonia	11,367	0.6	19 <sup>5</sup>	Price increase, subsidy	Wheat, maize, rice	Consumption, production, wage earnings	Commodity-specific
Argentina	12,016 <sup>6</sup>	0.9	1	Export restrictions (price increase)	Wheat, wheat-based products	Consumption	Neutral/positive
China	7,503	16.3	37	Exchange rate appreciation	All commodities	Consumption	Positive
Costa Rica	11,504	3.1 <sup>7</sup>	15	Lower tariffs (price decrease)	Rice	Consumption	Positive
Peru	9,355	4.9	26	Lower tariffs (on corn) (price decrease)	Corn, chicken	Consumption	Positive
Nigeria	2,388	68	45 <sup>8</sup>	Lower tariffs (price decrease)	Agriculture, manufacturing	Consumption, production, wage earnings	Positive
Viet Nam	3,334	16.9 <sup>9</sup>	48 <sup>10</sup>	Large-Scale Field Model (price increase)	Rice	Consumption, production, wage earnings	Positive (negative for the poorest)

Source: World Bank World Development Indicators.

<sup>1</sup> PPP terms in 2010 USD.

<sup>2</sup> Poverty headcount ratio at USD 1.25 a day (PPP) as a percentage of the population at 2010 international prices.

<sup>3</sup> Per cent of total employment in 2010.

<sup>4</sup> Data only available at 2009 prices.

<sup>5</sup> Data only available for 2011.

<sup>6</sup> Data only available for 2006.

<sup>7</sup> Data only available at 2009 prices.

<sup>8</sup> Data only available for 2004.

<sup>9</sup> Data only available at 2008 prices.

<sup>10</sup> Data only available for 2011.

The studies also provide institutional details about the organization of the supply chain through which commodities are delivered from producers to consumers. Several studies highlight that it is crucial to consider how price changes are passed through in this supply chain. For example, studies on Viet Nam and Argentina suggest that the main beneficiaries of higher prices might be the middlemen and intermediaries. Likewise, studies on Costa Rica and Peru suggest that the welfare gains of consumers from reductions in import tariffs on a good might be reduced when wholesale importers do not fully pass on cost savings to consumers of final goods. Further exploration of the organization of the supply chain can therefore be a fruitful topic for future research.

Section 2 of this overview reviews the channels through which international trade might affect poverty and discusses the empirical evidence on the importance of these channels in practice. Section 3 discusses the mechanisms through which international trade affects poverty in the studies compiled in this volume and overviews the common methodology. Section 4 summarizes the findings of the studies that focus on the welfare consequences of recent increases in global food prices. Section 5 reviews the studies that examine the welfare effects of trade policy and exchange rate changes. Section 6 puts forth conclusions.

## **2 International trade and poverty – An overview**

This section reviews the channels through which international trade might affect poverty and discusses the empirical evidence on the importance of these channels in practice.

### **2.1 International trade and poverty: Economic growth**

Economists agree that economic growth is potentially the most important channel to reduce poverty and that international trade might play an important role in this process. This argument requires one to first examine the relationship between international trade and economic growth, and then consider how trade-induced economic growth might affect poverty.

Theoretically, the relationship between international trade and growth is ambiguous, especially for lower-income countries that might not have comparative advantage in sectors that generate dynamic gains from trade (Rodriguez and Rodrik, 2001). International trade raises average incomes through static gains from trade due to specialization according to comparative advantage and economies of scale, among other factors. However, if

specialization according to comparative advantage contracts sectors that are engines of growth, it could outweigh the benefits of static gains from trade and reduce growth in less-developed countries. Several empirical studies (most notably Frankel and Romer, 1999) find that countries that trade more tend to have higher incomes, but a robust relationship between international trade and growth across countries has been elusive (see Rodriguez and Rodrik, 2001, for a critique). That being said, it is difficult to point to countries that were able to grow over long periods of time without opening up to trade (Irwin, 2004). So the lack of robust evidence certainly does not imply that international isolation leads to growth. One major challenge in this literature is determining the causality of whether countries that trade more (or observe an increase in international trade) subsequently experience higher growth, or whether high-growth countries simply engage more in international trade.

Several recent studies have made advances in addressing the causality problem and confirm a positive link between international trade and growth. For example, Feyrer (2009) found that declines in trade associated with the closure of the Suez Canal were associated with reductions in income in countries that rely heavily on the canal for transportation. Estevadeordal and Taylor (2013) compared changes in growth rates in less-developed countries that participated in the Uruguay Round of the World Trade Organization (WTO) negotiations with changes in growth rates among non-participants. They found that declines in import tariffs increased GDP growth among the countries that liberalized their trade. Increased growth rates stemmed mainly from declines in tariffs on capital goods and imported intermediate inputs rather than reductions in tariffs on consumer goods. This highlights the importance of gains from trade that operate through increased efficiency and innovation in the production process. The importance of imported inputs and technology for efficiency and innovation in less-developed countries is corroborated by microeconomic firm-level evidence (Amiti and Koenings, 2007; Topalova and Khandelwal, 2011; Goldberg *et al.*, 2010). While this more recent evidence suggests a robust and more nuanced positive relationship between international trade and economic growth, the academic debate on the topic continues.

In order to consider how international trade affects poverty via growth, one needs to examine how trade-induced economic growth affects poverty – a link which is very difficult to establish. Widely cited works by Dollar and Kraay (2002, 2004) suggest that trade – via growth – is good for the poor by showing that countries with increased participation in international trade experience greater declines in poverty. However, these findings have been heavily debated (Ravallion, 2001; Deaton, 2005). Trade-induced economic

growth could help the poor (for example, by increasing their earning opportunities through the creation of employment for less-educated individuals), but it could also circumvent the poor (Ravallion, 2001).

## **2.2 International trade and poverty: Relative prices, wages, and employment**

Most studies that examine the relationship between international trade and poverty look at the direct effect on poverty that might operate through changes in relative prices, wages and employment. A survey by Goldberg and Pavcnik (2004) discussed trade-related mechanisms that could affect poverty through earnings of less-educated workers, industry wage premiums, occupational wage premiums, and effects on worker employment and/or unemployment. They suggested that the effects of international trade on poverty are country-specific. The effects depend on the exposure of the poor to international trade through employment opportunities and the above-mentioned sources of income, the impact of trade on these sources of income, and the nature of the trade policy change in the country in question.

Several recent studies have directly examined the effect of trade liberalization on poverty.<sup>1</sup> Goldberg and Pavcnik (2007) found no relationship between international trade and poverty in urban Colombia. Poverty among urban households in Colombia was relatively low, with less than 3 per cent of households living below the dollar-a-day poverty line during the time frame under study. The urban poor tended to live in households with an unemployed household head, so the main mechanism through which international trade could affect poverty was through its effects on unemployment. The study did not find any evidence that declines in import tariffs in Colombia were associated with increased unemployment. As a result, it is not surprising that the study also did not find any evidence that import tariff declines affected urban poverty.

Several studies have found a statistically significant impact of international trade on poverty in countries with relatively high poverty rates at the onset of trade policy reforms. In these cases, the effects of trade reform on poverty depend in part on the nature of trade liberalization and the ease of worker mobility. For example, India experienced large declines in poverty during the 1990s. Topalova (2007, 2010) found that poverty declined less in Indian districts that were more exposed to import tariff declines, especially

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<sup>1</sup> Several of these studies were published in Harrison (2007), a volume on globalization and poverty.

in areas located in states with stringent labour laws. Indian workers in industries with larger tariff cuts experienced declines in relative wages, so the study conjectured that limited mobility of individuals living in these districts precluded them from moving to the areas with new employment opportunities. Kovak (2011) also documented declines in regional wages and evidence of limited regional labour mobility in the aftermath of trade liberalization in Brazil. As in the case of India, the Brazilian reform consisted of lowered import barriers to trade. McCaig (2011), on the other hand, found that poverty dropped more in Vietnamese provinces that were better positioned to benefit from increased export opportunities after Viet Nam signed the bilateral trade agreement with the United States. Workers in provinces that were more exposed to export opportunities, especially workers with less education, experienced increases in wages in response to declines in tariffs on Vietnamese exports in the United States, which translated into lower poverty.

Overall, these studies highlight that the effects of international trade on poverty depend on the nature of the trade reform, the effects of international trade on sources of income/employment, and the importance of these channels for the households at the bottom of the income distribution in the country in question.

### **2.3 International trade and poverty: Relative prices, and net consumption and production**

The studies reviewed in Section 2.2 examine the link between international trade and poverty that operates through the response of wages and employment opportunities of individuals to trade-induced changes in relative prices of goods. Trade-induced changes in relative prices of goods might also affect poverty through exposure of households as consumers and producers of goods (see surveys by Goldberg and Pavcnik, 2004, and Harrison, 2007). Most individuals in low-income countries do not work for wages and are instead self-employed in a household business or farm. However, these households might be exposed to trade-induced price fluctuations as producers of commodities experiencing price changes. Likewise, households in low-income countries are affected by price fluctuations as consumers. Fluctuations in the prices of food staples might be particularly important because poor households in these economies often spend 60 to 80 per cent of their household budget on staples.

The literature that examines the above-mentioned effects of trade policy on poverty through net consumption and production builds on the methodology of Deaton (1989) and focuses on the first-order effects of price

changes on the welfare of households, holding the consumption and production bundles of households fixed.

Overall, the literature concludes that the effects of trade liberalization on poverty operating through these channels are case-specific. They depend on the nature of the trade policy change, exposure of the poor to trade-induced price fluctuations as consumers, producers and wage earners, sensitivity of wages to price changes, and the magnitude of the price changes.

Potentially the most influential among these studies are Porto (2006) and Nicita (2009). Porto (2006) examined the effect of the Common Market of the South (MERCOSUR) on urban Argentine households through consumption and earnings channels. The study found that import tariff reductions induced by MERCOSUR benefited poor households in Argentina. Tariffs declined relatively more on skilled-labour-intensive goods than unskilled-labour-intensive goods, leading to increased relative prices of unskilled-labour-intensive goods. As predicted by the Heckscher-Ohlin model, this translated into increased wages of unskilled workers and declines in earnings of skilled workers. Because most workers from poor households in urban Argentina tend to be less educated, the earnings in poor households increased. At the same time, poor households experienced a decline in welfare through the consumption channel because they tend to consume relatively more of the goods whose price increased (such as unskilled-labour-intensive goods). However, the welfare gains through earnings exceeded the welfare losses through consumption, leading to overall welfare gains for the poor.

Nicita (2009) studied the effect of Mexico's trade liberalizations during the 1980s and 1990s on Mexican households through consumption, production and wage earnings channels. Import tariff reductions lowered the prices of agricultural and manufacturing goods, and these lower prices benefited households through the consumption channel at all income levels. However, welfare gains were smaller for the poor because they relied more heavily on self-produced consumption. Lower prices of agricultural goods negatively affected poor households through the production channel, and the poor were also not well positioned to gain through the wage earnings channel. The trade reform was associated with a slight increase in the wages of educated workers that mainly benefited higher-income households composed of individuals with many years of completed schooling. Overall, the study found that the welfare gains through consumption outweighed the welfare losses through production for the poor. It also concluded that the trade reform was more beneficial for households living closer to the United States border and in urban areas.

The above studies focus on first-order effects of price changes on the welfare of households, holding the consumption and production bundles of households fixed. Households might respond to price changes by altering consumption and production. A related study that examines the importance of international trade for the welfare of poor households is Brambilla *et al.* (2012), who examined the effect of anti-dumping duties on catfish imposed by the United States on Vietnamese households. The study found that higher import tariffs lower production and investment, and reduce the income of Vietnamese households that rely on catfish as their source of livelihood. The study illustrates that the usual methodology that focuses on first-order short-term effects of price changes through consumption and production might potentially ignore welfare consequences associated with longer-term responses to price shocks that operate through changes in household consumption, production and investment decisions (Porto, 2010).

### 3 Overview of studies in this volume

The studies in this volume focus on the relationship between international trade and poverty that operates through channels discussed in Section 2.3. While the studies cover a variety of topics, they all examine short-term first-order effects of price changes on household welfare that operate through household consumption and production.

The welfare analysis uses a common methodology that is based on cross-sectional household-level data that contain information about household income (and its sources) and household expenditures allocated to different consumption items. The data are representative of households along the entire distribution of income, allowing for direct examination of the welfare consequences of price fluctuations for poor households. As in Deaton (1989), household budget shares of a commodity measure a household's exposure to price changes through the consumption channel. Likewise, the household income share stemming from production of a commodity measures a household's exposure to price changes through the production channel. A household's exposure to price changes through labour earnings – the wage channel – depends on the share of these earnings in household income and the elasticity of wages with respect to a price change.

The studies use either information on actual price changes or a price change predicted by a policy adjustment, such as a change in an import tariff or exchange rate appreciation. The framework can be used to simulate the effect of price changes on household welfare, taking into account differences in households' exposure to price changes through these three

channels. While all studies could in principle examine the role of all channels, data constraints at times confine the analysis to the first-order welfare effects of price changes operating through consumption.

The studies apply this framework to address two broad topics. One set of studies examines the welfare consequences of the increases in global commodity prices during the 2008–2010 food crisis. These studies focus on the Philippines, the former Yugoslav Republic of Macedonia and Argentina. Section 4 summarizes their findings. The other set of studies – on China, Costa Rica, Peru, Nigeria and Viet Nam – examines the welfare effects of trade policy and exchange rate policy, and is reviewed in Section 5.<sup>2</sup>

#### 4 The effects of global food price increases

Several studies explore the short-term welfare implications for the poor of price increases during the 2006–2008 food crisis. This discussion is related to the discourse on the consequences of agricultural subsidies in rich countries for the terms of trade of low-income countries. These subsidies lower world prices of commodities, generating terms-of-trade losses for countries that are net exporters of these commodities, while benefiting countries that are net importers of the goods.

Research suggests that the poorest countries are often net importers of commodities which are subject to agricultural subsidies (Panagariya, 2006; Valdes and McCalla, 1999; McMillan *et al.*, 2007). They might therefore be adversely affected by the elimination of these subsidies. The main beneficiaries of the elimination of agricultural subsidies are expected to be large net exporters of agricultural goods such as Brazil (Panagariya, 2006; Valdes and McCalla, 1999), that is, lower-middle-income and middle-income countries. This literature highlights that the overall effect of recent price hikes on countries depends on whether a country is a net producer or a net consumer of the good. In aggregate, the surges in prices benefit countries that are net exporters of the food staple experiencing the price increase, while harming countries that are net importers of the good.

It is important to emphasize that in a country that might largely benefit from a price increase, poverty can increase or decrease. Within countries, price hikes generate winners and losers. A price increase of a good raises

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<sup>2</sup> The description of each study in Sections 4 and 5 draws on facts and policy descriptions from the respective studies, unless otherwise noted. Please refer to the individual studies for original references.

the welfare of households that are net producers of the good, and reduces the welfare of households that are net consumers of the good. The consequences of price hikes for poverty depend crucially on whether the households at the bottom of the income distribution are net consumers or net producers of the good (Aksoy and Hoekman, 2010).

#### **4.1 Effects on importing countries**

The above discussion suggests that recent increases in global food prices might reduce aggregate welfare in countries that are net consumers of the good that experiences a price increase. This does not imply, however, that the poor in import-competing countries are necessarily worse off. The consequences of the price increases for the welfare of the poor in import-competing countries are country- and commodity-specific. The studies on the Philippines and the former Yugoslav Republic of Macedonia included in this volume highlight these nuances and illustrate the importance of using micro-survey data to better understand the relationship between global increases in food prices and poverty.

##### **The Philippines: Rice**

The study on the Philippines examines the impact of the 2008 rice crisis on household welfare in the country. During the crisis, world rice prices more than doubled. As one of the largest importers of rice in the world, the Philippines suffered a terms-of-trade loss and a potentially sizable aggregate welfare decline.

The study examines the effects of price increases on poverty through household consumption and production. Because a typical Filipino household is a net consumer of rice, the study finds that more households are negatively affected by the increase in rice prices. Rice accounts for about 13 per cent of household spending (a third of spending on food) in a typical Filipino household. Consistent with Engel's Law, the poorest households in the Philippines spend between 20 to 25 per cent of their budget on rice, with the share declining to less than 5 per cent among the relatively richer households. Consequently, the uptick in domestic rice prices had a particularly large negative effect on the welfare of the poorest households because they were the most exposed to rice price hikes through consumption.

The price shock lowered the welfare of poor households in rural and urban areas, but the price increase is predicted to have had a more detrimental effect on the urban poor. The finding of negative welfare effects on the rural poor might be surprising at first because rice cultivation is

concentrated in rural areas, with 22 per cent of the rural population growing rice. However, rice cultivation is not an important income source for the poorest rural households.

The study also considers gender differences by comparing the income and expenditure patterns of female- and male-headed households. While the patterns of expenditure are similar for both types of households, differences are found in the composition of income: rice production is relatively more important in male-headed households, probably because female-headed households derive income from other non-rice production-related activities. As a result, female-headed households are more vulnerable to price hikes.

Overall, the study illustrates that households adversely affected by the rice crisis outnumber households that were better off, with the poor bearing disproportionate welfare losses. The main beneficiaries of the rice price increases were richer agricultural households, which tend to be net producers of rice.

The study highlights the effects of rice price increases on household welfare through the household level of rice consumption and production, but not through household wage earnings. This channel might play the largest role in regions where rice cultivation is concentrated if rice price increases are large enough to increase local demand for agricultural labour and thus local wages.

### **The former Yugoslav Republic of Macedonia: Wheat, maize and rice**

Similar to the Philippines, the former Yugoslav Republic of Macedonia experienced a negative terms-of-trade shock during the recent food crisis. The country is a net importer of wheat, maize and rice, the three crops that experienced a large price increase between 2006 and 2012. However, GDP per capita in the country is substantially higher than in the Philippines, so a typical Macedonian household is substantially less exposed to these price shocks through consumption and production than a typical household in the Philippines.

Rice consumption and production play a small role in the lives of average Macedonian households, accounting for less than 1 per cent of household expenditure and less than half a per cent of income. Even among rural households, expenditure on rice accounts for less than 1 per cent of the household budget and about 1 per cent of household income.

An average Macedonian household is more exposed to fluctuations in prices of wheat and maize, spending about 2 per cent of household expenditure on wheat and maize and receiving 5 per cent of income from the two commodities. Wheat and maize play a substantially larger role in the lives of rural households, contributing to about 20 per cent of household income and 4 per cent of household expenditure. The two commodities account for a small share of average urban household expenditure (0.8 per cent) and income (0 per cent).

The study highlights differences in the short-term effects of increased global prices on households through consumption, production, and wage earnings. Price increases of all three commodities reduced the welfare of urban households that are net consumers of these commodities. The poorest urban households, especially female-headed ones, experienced the largest decline in welfare.

Price increases in wheat and maize were beneficial for rural households along the entire income distribution, with the poorest households benefiting the most from price hikes. However, conditional on per capita expenditure, male-headed households benefited substantially more than female-headed ones. The cultivation of wheat and maize occurs mainly in male-headed households, and this accounts for the observed differences in welfare changes by gender. The poorest female-headed rural households do not engage significantly in cultivation and are most negatively affected by price increases.

Rice accounts for a substantially smaller share of the household budget, so the effects of rice price increases were small in magnitude. Rice price increases benefited mainly male-headed rural households in the middle and upper level of income distribution, as these households are more likely to cultivate rice. Poor, female-headed rural households were particularly adversely affected.

The study also evaluates the effectiveness of a production subsidy implemented by the government of the former Yugoslav Republic of Macedonia in 2006 to encourage production of wheat and maize and improve the livelihoods of the rural poor. The results suggest that the subsidy did not reverse the trend of declining domestic production of cereals. Neither was it an effective tool for combating poverty, in part because poor rural female-headed households and poor urban households tend to be net consumers rather than producers of the subsidized crops. The study proposes an alternative scheme for subsidy disbursement that better targets the poorest sub-groups and aims to encourage production among

female-headed households and poor urban households. While the alternative subsidy scheme might better target the poor than the original one, a policy tool that more directly addresses poverty alleviation, such as direct cash transfers to the poor or other forms of a social safety net aimed at the poor, might be even more effective. Overall, the study is a clear illustration of the usefulness of micro-level surveys in assessing the short-term first-order effect of price changes induced by government policy.

#### **4.2 Export restrictions in response to the food crisis**

The 2006–2008 food crisis deteriorated the terms of trade of importers such as the Philippines and the former Yugoslav Republic of Macedonia, while improving the terms of trade of exporting countries. Exporting countries experience a net benefit from the price hikes. However, the price shocks can also increase poverty in these countries by disproportionately harming the households at the bottom of the income distribution if these households are net consumers of the good. Faced with these concerns, many exporting countries responded to the food crisis by restricting exports of key food staples through the imposition of export quotas and by raising export taxes. Rocha *et al.* (2012) reported 85 new export restrictions between 2008 and 2010, the majority of them imposed on wheat, maize and rice, which are all staples that account for a large share of the household budget in low- and middle-income countries.

In theory, export restrictions such as export taxes and quotas lower domestic prices of staples. Faced with an increased cost of exporting, domestic firms divert export sales to domestic markets, hereby increasing the supply and consequently lowering internal prices. This benefits domestic consumers (who can now consume more of the good and at lower prices) at the expense of domestic producers (who now produce less and sell at lower prices).

Export restrictions do not constitute first-best economic policies for poverty reduction during times of price hikes. In addition, these measures only alleviate the increases in poverty during times of price hikes if the poor are actually net consumers of the good in question. This is more likely to hold for urban households, but it is less clear for rural households.

#### **Argentina: Export restrictions, subsidies and international wheat prices**

The study on Argentina contributes to the understanding of these issues by focusing on the potential effects of quantitative restrictions imposed

on wheat exports in 2006 on the welfare of urban households in Argentina. Argentina is a net exporter of wheat, with exports accounting for over 60 per cent of production and over 7 per cent of the country's total exports during the period under study. Argentina introduced export duties on wheat in 2002, followed by quantitative export restrictions on wheat in 2006. Domestic price ceilings and subsidies for millers and wheat producers were also put in place in 2007.

As a result, millers were to purchase wheat from producers at a low "internal supply price". The government then paid the mills a subsidy in case they bought wheat domestically at a higher price than the internal supply price, and provided producers a subsidy compensating them in case the price in the international market, adjusted by export duties, exceeded that in the domestic market. These policies were implemented to curb domestic inflation in cereals and wheat-based products (such as bread and pasta) during the period of high global prices and to ensure sufficient domestic provision of wheat.

Export restrictions benefited Argentine consumers of wheat, including producers and consumers of wheat-based products, at the expense of Argentine wheat producers. While the subsidies might have in part compensated Argentine wheat producers, they required government funding. How effective were these policies in curbing inflation and protecting the poor from high food prices?

The author examines the consequences of these policies for the welfare of Argentine urban households through household consumption of wheat-based products. A typical Argentine household spends about 6 per cent of its budget on wheat-based products such as bread and pasta, but export restrictions were associated with negligible welfare gains for urban consumers. Wheat-based products account for a substantially higher budget share among poor households (about 11 per cent) than among households in the top 5th quintile of the income distribution (about 3 per cent). Although declines in prices of wheat-based goods benefited the poorest households the most, the magnitude of these effects also turns out to be quite limited.

Negligible welfare effects are attributed to the minimal influence that high international wheat prices have on prices of wheat-based products. Wheat accounts for about 10 per cent of the cost of producing wheat-based products, with inputs such as labour, utilities and rent playing a substantially more important role. According to the study, the price of wheat-based products would only increase 1 per cent more in the absence of export quotas.

The study also examines the interaction of export restrictions with domestic policy measures. When combined with ceiling prices and subsidies to the milling industry, welfare effects on households are larger, although they continue to be small in magnitude. These results are indicative of the failure of the policies to achieve welfare goals, and might help direct the design and implementation of future policies.

The study highlights the importance of examining the organization of the entire supply chain. The author argues that the likely main beneficiaries of the policy were millers and exporters because they usually hold export licences. The establishments that received export licences were able to purchase wheat at low prices controlled by price ceilings, and then export it at high international prices. The author suggests that export restrictions actually reduced competition among the millers and exporters, thus strengthening their monopoly position over wheat producers and further reducing the price of wheat received by the farmers.

The effectiveness of export restrictions in insulating domestic consumers from price increases and reducing poverty could diminish further once global externalities of a trade policy change are taken into account. When several large exporters simultaneously impose export restrictions, this limits the world supply and leads to the escalation of international prices. Recent research by Anderson *et al.* (2013) pointed out that, once the effects of export restrictions on world prices are considered, the declines in global poverty attributed to these restrictions are substantially reduced.

## 5 Effects of appreciation and trade policy

Governments can also influence the domestic prices of goods through exchange rate policy and trade policy. A set of studies in this volume examines the short-term consequences of such policies on household welfare.

### China: Effects of exchange rate appreciation

In July 2005, China ceased to fix its exchange rate against the United States dollar and began to appreciate the renminbi, which led to a 30 per cent appreciation of the Chinese currency against the dollar.

The study on China examines the impact of the appreciation on changes in welfare of Chinese households through consumption. It first determines the effect of the renminbi appreciation on domestic prices, and then analyses the subsequent effect of these price changes on household welfare

through consumption. The analysis focuses on rural China, where most poor households are located. According to the study, in 2007, 14 per cent of rural households and less than half a per cent of urban households in China lived on less than a dollar per day.

Appreciation in the nominal exchange rate of renminbi could exert downward pressure on prices of domestic substitute products in China by lowering prices of competing imported goods and by reducing the demand for Chinese export goods abroad. The estimates confirm that the appreciation lowered consumer prices of goods in China, with the exception of medical care and durable goods. The authors attribute the lack of decline in prices in these two areas to imperfect substitutability of domestic and foreign medicines (most Chinese consumers tend to consume domestically produced medicines) and to the fierce competition within China among domestic producers of durable goods, which translates into the prices of these products rarely being affected by the currency appreciation. Food products and housing experienced the largest drop in prices, in part due to reduced prices of fuel. Because purchased food products account for the largest share of the household budget (on average between 19 to 33 per cent in various regions), the appreciation generated significant welfare gains for all households by reducing their consumption expenditure.

However, poor households benefited less from appreciation than richer households. The lower benefits of the poor in rural areas stem from a heavy reliance on self-produced consumption (which is not affected by appreciation) and a subsequently lower share of purchased food. Among the items affected by appreciation, poorer households consume less of the goods that experienced greater price declines. The authors also show that appreciation generated larger gains for households living in provinces with more developed market institutions, because appreciation pass-through to domestic prices is higher (and thus prices lower) in these regions. Inland provinces in Western China tend to have less developed markets, so the poor households in these provinces benefited the least from appreciation. Conditional on income, households in coastal areas are better positioned to gain than households in inland provinces.

The study focuses on the impact of the appreciation on household welfare through short-term first-order price effects on household consumption, and illustrates that this channel benefits poor households less than richer ones. With the reduced demand for Chinese exports, it is plausible that households employed in the export sector would experience decreased earnings. The export sector employs a large proportion of less-educated workers, who tend to be from poorer households. Thus, one needs to be

cautious about making conclusions with regard to the total effect of the appreciation on household welfare.

### **Costa Rica: Import tariffs and quotas on rice**

The domestic rice market in Costa Rica is protected by several domestic and border policies, ranging from import tariffs and quotas to the fixing of domestic prices. These policies, which apply to paddy and milled rice, have neither increased productivity of rice farmers nor improved conditions for small farmers. However, they have substantially raised the prices paid by Costa Rican consumers, at times to levels double the prices prevailing on international markets.

In 2004, Costa Rica signed the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR). As part of this agreement, which entered in force in 2009, it agreed to gradually phase out import quotas on rice imports and provide unlimited duty-free access to rice imports from the United States by 2025. Costa Rican imports on average cover 35 per cent of its demand, with the United States accounting for over 80 per cent of imports (Central America, Argentina and Uruguay provide the rest). Consequently, this agreement might have an important effect on the Costa Rican rice market, especially since the non-preferential tariff on rice imported from the United States is 36 per cent. This study provides an *ex-ante* analysis of the welfare effects of the elimination of rice import tariffs and the relaxation of import quotas on Costa Rican consumers.

Research suggests that existing policies have mainly benefited vertically integrated large farmers and millers, who often hold quota licences and are able to purchase paddy rice cheaply on the world market, earning high profits as they process it and sell it domestically. By reducing the cost of rice imports (and increasing their supply), the elimination of import tariffs is expected to reduce the domestic price of rice, leading to welfare gains for rice consumers. A typical Costa Rican household is a net consumer of rice, with 8 per cent of the food budget spent on rice.

The study finds that poor households in Costa Rica would benefit most from a reduction in the price of rice following implementation of the CAFTA-DR. This is expected, given that households in the bottom quintile of the income distribution spend on average 5 per cent of their overall budget on rice. Middle-income households would also benefit from a reduction in rice prices, while welfare gains for the richest households would be negligible due to lower expenditure on rice.

Poor urban households are expected to benefit the most from a price decrease because they tend to consume more rice than rural households with the same income. The study also suggests greater benefits for larger households and for households with less-educated household heads, owing again to the larger share of rice in these households' expenditure.

The study highlights the potential gains to Costa Rican rice consumers of the trade policy change through first-order effects on consumption. The analysis assumes that importers of rice will pass lower prices of imported rice on to consumers once the tariffs are eliminated. In addition, the study implicitly assumes that domestic policies will not interfere with the predicted declines in the consumer price of rice. To the extent that larger importers (mainly millers) have market power and the government keeps in place domestic measures that benefit producers and millers at the expense of consumers, the realized welfare gains of Costa Rican consumers might be smaller.

### **Peru: Elimination of the import tariff on yellow corn**

Peru is a net importer of yellow corn, which also is the third most important agricultural crop in the country and the main input for the broiler industry. Taken together, the production of yellow corn and chicken meat accounted for 23 per cent of agricultural GDP in 2012.

The Peruvian government introduced trade measures aimed at reducing the effective import tariff applied to yellow corn. Between 2000 and 2011, the tariff declined from 33.3 per cent to zero. This study examines the short-term effects of tariff elimination on the welfare of Peruvian households through the consumption of chicken. It focuses on households in coastal Peru, the region where most imported yellow corn is consumed and where about 90 per cent of the broiler industry is located.

A decline in the import tariff on yellow corn lowers the domestic price of corn, which, while reducing domestic production (and lowering the welfare of domestic producers), is expected to increase consumption and benefit consumers of yellow corn. Chicken meat farmers, the main consumers of yellow corn, are expected to benefit from these price reductions. According to the study, yellow corn accounts for 45 per cent of their production costs. To the extent that declines in production costs are passed on to final consumers, consumers of chicken meat would also benefit from tariff elimination.

In coastal regions of Peru, expenditure on chicken meat accounts on average for about 4 per cent of total household expenditure and approximately

15 per cent of food expenditure. Net consumption of chicken is lowest among the extremely poor and increases as income rises, subsequently declining for the wealthiest households. Despite very low consumption among the poorest households, the corn tariff nonetheless benefits poor households more than richer ones. Urban households account for 86 per cent of the coastal population and the study finds slightly higher welfare gains in urban than in rural areas because of higher chicken consumption among urban households.

The study raises the issue of the extent to which the tariff-induced declines in the cost of production in the broiler industry are passed on to consumers through lower prices of chicken meat. While the elimination of the import tariff on corn benefits final consumers of chicken meat, the magnitude of the effect is predicted to be small. Limited gains to consumers of chicken meat might be related to the vertical integration between corn wholesalers and the broiler industry.

In Peru, the main importers or wholesale buyers of corn are also the largest producers of chicken meat. To the extent that they have some market power (or variable markups), they may not pass much of the cost savings on corn prices through to lower prices of chicken, thereby limiting the potential gains of import tariff liberalization for final consumers. Limited short-term gains for consumers are consistent with recent studies that highlight low pass-through of cost savings induced by tariff reductions on imported inputs to consumer prices (De Loecker *et al.*, 2012).

### **Nigeria: Effects of the Common External Tariff**

As a member of the Economic Community of West African States (ECOWAS), Nigeria adopted the ECOWAS Common External Tariff (CET) in 2005. This study examines the potential effects of adoption of the CET on the welfare of Nigerian households.

The implementation of the ECOWAS CET committed Nigeria to lower the maximum tariffs imposed on imports from non-member countries. The study reports that average import tariffs on agricultural goods declined from 32 to 15 per cent and the average import tariffs on manufactured goods declined from 25 to 11 per cent between 2000 and 2010. Imports from ECOWAS members account for less than 5 per cent of Nigerian imports. Given that Nigeria mainly imports goods from non-ECOWAS trade partners, the implementation of the CET could in principle have important consequences for the welfare of Nigerian households.

The study examines the effects of import tariff reductions through the ECOWAS CET on household welfare through the consumption, production and wage earnings channels. It focuses on several agricultural product groups, such as rice and fruits, and on processed manufactured goods, such as oil and bread. Jointly, these goods account for about 30 per cent of the household budget of a typical Nigerian household.

Declines in import tariffs are associated with lower domestic prices of agricultural goods. Declines in prices increase the welfare of households at all income levels through the consumption channel. Welfare gains are larger for poor households because they spend a larger portion of their budget on agricultural goods. However, poor households also experience reductions in welfare as producers of agricultural goods. Overall, the consumption channel plays a more important role and the CET is predicted to increase the welfare of poor Nigerian households, as well as households at other levels of income.

With regard to the wage earning channel, the study finds that the lower domestic prices are not associated with changes in the country's wages.

While the study provides interesting insights on the effects of the CET on household welfare in Nigeria, two issues might affect its findings. Data availability and quality are potentially a concern, affecting the estimates of the relationship between import tariffs and domestic prices of manufactured goods. In addition, internal unrest affected Nigeria's international trade and thus potentially the results of the analysis.

### **Viet Nam: Upgrading the rice export value chain**

The opening of Viet Nam to export markets lifted many households out of poverty (McCaig, 2011), but policymakers continue to focus their attention on sharing the benefits of exporting more widely with farmers. Viet Nam currently ranks as the largest world exporter of rice; however, farmers appear to gain less from exporting than other actors in the value chain (Tran *et al.*, 2013). The vast majority of farmers sell rice to exporting firms through a complex chain of collectors and millers. Farmers' ability to bargain for higher prices is hampered by the market power of intermediaries, outstanding loans after harvest, and the inability to store rice. Less than 5 per cent of rice sales occur directly between farmers and exporters, in part because transportation and coordination costs make it unprofitable for large-scale exporters to directly interact with small-scale farmers.

The study evaluates the potential effects on the welfare of Vietnamese rice farmers of a pilot project that upgrades the rice export value chain. The project, the Large-Scale Field Model (LSFM), aims to increase the farm gate price of rice by reducing the role of intermediaries and linking farmers directly with exporters, so that benefits of exporting could be shared more with farmers. The project also aims to consolidate land across farmers to reduce the cost of production through economies of scale. In addition, it includes several measures that aim to improve farmers' access to higher-quality inputs to subsequently increase rice yields.

The effectiveness of the project is evaluated among farmers in the Mekong River Delta, Viet Nam's key rice-exporting region. The analysis, which simulates the effects of the project on farmers' welfare through consumption, production and wage earnings, suggests that on average it benefits the farmers. However, the poorest farmers tend to be net consumers of rice, so in the long-term when there is an additional increase in the price of paddy, they are not as well positioned to benefit from an upgraded export supply chain as are wealthier households that are net producers of rice. Households with a larger farm size are the main beneficiaries, owing to economies of scale. Overall, although the poorest farmers might not always benefit from the project, the total effect of the upgraded export supply chain is estimated to reduce poverty in the Mekong River Delta.

With regard to the extent that productivity improvements and cost reduction would be passed on to lower prices, the study may overstate the gains from the project. The literature suggests that the pass-through of cost reduction to prices is incomplete (De Loecker *et al.*, 2012). Therefore, reduction in costs may not be completely reflected in the price decrease.

This study illustrates the importance of focusing on the entire supply chain through which exports reach product markets. The short- and long-term effects of the policy are evaluated under the assumption that the project will successfully implement structural changes that lead to better farm gate prices and cost reductions for farmers, including elimination of intermediaries, land consolidation across farmers, and new infrastructure such as storage. Most of the large exporters of rice are state-owned enterprises, which, according to the study, lack incentives to invest in improvements in the distribution chain. The study illustrates the possibility of upgrades in the supply chain to benefit the farmers, but questions of implementation remain a topic for future discussion.

## 6 Concluding remarks

The relationship between globalization and poverty continues to garner attention in research and policy circles. The studies in this volume contribute towards a better understanding of this issue by using household-level surveys to analyse the effects of global price shocks and trade policy changes on the poor.

The studies yield several insights about the relationship between changes in commodity prices and poverty. Most importantly, they provide additional support for the conclusion by Aksoy and Hoekman (2010) that it is not possible to generalize about how higher food prices affect the poor. The effects of commodity price changes on poverty through the channels examined in this volume are case-specific. They depend on the exposure of the poor households to price fluctuations as producers and consumers of the good, the exposure of these households to price shocks through wage earnings, and the magnitude of the price changes.

All of the studies evaluate the welfare effects of policy changes, holding the household consumption share, production share, and earning share constant. As such, this welfare analysis might be particularly useful for *ex-ante* evaluation of a price or policy change and more likely to be representative of short-term household welfare responses to price fluctuations. More broadly, such *ex-ante* studies can provide a useful policy tool that can be implemented with existing household-level surveys to better understand the potential short-term effects of policy changes on the distribution of income (as is done in the study on Costa Rica, for example, which examines the potential effects of CAFTA-DR prior to its full implementation).

The studies in this volume also raise additional questions. First, several of them suggest that the transmission of policy changes to prices faced by consumers (or producers) depends on the market structure in the commodity markets, the local supply chain, the distance from the border, and the development of market institutions, among other factors. The studies on Viet Nam and Argentina, for example, suggest that poor farmers (or poor consumers) might not always necessarily be the main beneficiaries of policies implemented to reduce poverty. The middlemen or intermediaries are at times better positioned to benefit from price changes. In order to better understand the impact on poverty, future studies need to further explore the institutional details that affect the transmission of prices through the supply chain.

Second, while all the studies could in principle examine the role of all three channels (consumption, production and wage earnings), data constraints at times confine the analysis to the first-order welfare effects of price changes operating through consumption. As a result, one needs to be cautious when analysing policy implications based on a subset of potential channels through which changes in prices affect welfare in the short run.

In practice, households might respond to a price change by adjusting their consumption and production of a commodity (Porto, 2010; Brambilla *et al.*, 2012). Price changes and trade policy might also affect the incentive of firms to improve and invest in the productivity of production processes. These channels through which international trade might also affect poverty are not captured in the current studies. Such longer-term assessment therefore remains a fruitful topic for future research.

## References

- Aksoy, M. and Hoekman, B. (2010). "Introduction and Overview." In: Aksoy, M. and Hoekman, B. Eds. *Food Prices and Rural Poverty*. World Bank, Washington DC.
- Amiti, M. and Koening, J. (2007). "Trade Liberalization, Intermediate Inputs, and Productivity: Evidence from Indonesia." *American Economic Review*, 97 (5): 1611–1638.
- Anderson K, Ivanic, M. and Martin, W. (2013). "Food Price Spikes, Price Insulation, and Poverty." CEPR Discussion Paper 9555. Centre for Economic Policy Research, London.
- Brambilla, I., Porto, G. and Tarozzi, A. (2012). "Adjusting to Trade Policy: Evidence from U.S. Antidumping Duties on Vietnamese Catfish." *Review of Economics and Statistics*, 94 (1): 304–319.
- Chen, S. and Ravallion, M. (2012). "More Relatively Poor People in a Less Absolutely-Poor World." Policy Research Working Paper No. 6114. World Bank, Washington DC.
- Deaton, A. (1989). "Rice Prices and Income Distribution in Thailand: A Non-Parametric Analysis." *Economic Journal*, 99 (395): 1–37.
- Deaton, A. (2005). "Measuring Poverty in a Growing World (or Measuring Growth in a Poor World)." *Review of Economic Statistics*, 87 (1): 1–19.
- De Loecker, J., Goldberg, P., Khandelwal, A. and Pavcnik, N. (2012). "Prices, Markups, and Trade Reform." NBER Working Paper No. 17925. National Bureau of Economic Research, Cambridge MA.
- Dollar, D. and Kraay, A. (2002). "Growth Is Good for the Poor." *Journal of Economic Growth*, 7 (3): 195–225.
- Dollar, D. and Kraay A. (2004). "Trade, Growth and Poverty." *Economic Journal*, 114 (493): F22–F49.
- Estevadeordal, A. and Taylor, A. (2013). "Is the Washington Consensus Dead? Growth, Openness, and the Great Liberalization, 1970s–2000s." *Review of Economics and Statistics*, 95: 1669–690.
- Feyrer, J. (2009). "Distance, Trade, and Income – The 1967 to 1975 Closing of the Suez Canal as a Natural Experiment." NBER Working Paper No. 15557. National Bureau of Economic Research, Cambridge MA.
- Frankel, J.A. and Romer, D. (1999). "Does Trade Cause Growth?" *American Economic Review*, 89 (3): 279–309.
- Goldberg, P. and Pavcnik, N. (2004). "Trade, Inequality, and Poverty: What Do We Know? Evidence from Recent Trade Liberalization Episodes in Developing Countries." NBER Working Paper No. w10593. NBER, Cambridge MA.
- Goldberg, P. and Pavcnik, N. (2007). "The Effects of the Colombian Trade Liberalization on Urban Poverty." In: Harrison, A. Ed. *Globalization and Poverty*. Chicago and Cambridge MA: University of Chicago Press and NBER.
- Goldberg, P., Khandelwal, A., Pavcnik, N. and Topalova, P.O. (2010). "Imported Intermediate Inputs and Domestic Product Growth: Evidence from India." *Quarterly Journal of Economics*, 125 (4): 1727–1767.
- Hanson, G. (2012). "The Rise of Middle Kingdoms: Emerging Economies in Global Trade." *Journal of Economic Perspectives*, 26 (2): 41–64.
- Harrison, A. Ed. (2007). *Globalization and Poverty*. Chicago and Cambridge MA: University of Chicago Press and NBER.

- Irwin, D. (2004). *Free Trade Under Fire*. Princeton: Princeton University Press.
- Ivanic, M. and Martin, W. (2008). "Implications of Higher Global Food Prices for Poverty in Low-Income Countries." Policy Research Working Paper No. 4594. World Bank, Washington DC.
- Kovak, B. (2011). "Local Labor Market Effects of Trade Policy: Evidence from Brazilian Liberalization." Carnegie Mellon U.
- McCaig, B. (2011). "Exporting Out of Poverty: Provincial Poverty in Vietnam and U.S. Market Access." *Journal of International Economics*, 85 (1): 102–113.
- McMillan, M., Zwane, A. and Ashraf, N. (2007). "My Policies or Yours: Does OECD Support for Agriculture Increase Poverty in Developing Countries?" In: Harrison, A. Ed. *Globalization and Poverty*. Chicago and Cambridge MA: University of Chicago Press and National Bureau of Economic Research.
- Nicita, A. (2009). "The Price Effect of Tariff Liberalization: Measuring the Impact on Household Welfare." *Journal of Development Economics*, 89 (1): 19–27.
- Panagariya, A. (2006). "Agricultural Liberalization and the Least Developed Countries: Six Fallacies." In: Greenaway, D. Ed. *The World Economy: Global Trade Policy 2005*. Boston: Blackwell Publishers.
- Pavcnik, N. (2008). "Trade and Poverty." In: Durlauf, S.N. and Blume, L.E. Eds. *The New Palgrave Dictionary of Economics*. 2nd Edition. UK: Palgrave Macmillan.
- Porto, G. (2006). "Using Survey Data to Assess the Distributional Effects of Trade Policy." *Journal of International Economics*, 70 (1): 140–160.
- Porto, G. (2010). "Food Prices: Household Responses and Spillovers." In: Aksoy, M. and Hoekman, B. Eds. *Food Prices and Rural Poverty*. World Bank, Washington DC.
- Ravallion, M. (2001). "Growth, Inequality, and Poverty: Looking beyond Averages." *World Development*, 29 (1): 1803–1815.
- Rocha, N., Giordani, P. and Ruta, M. (2012). "Export Policy and Food Price Escalation." *Vox* [online], 9 May 2012. Available at: <http://www.voxeu.org/article/world-food-prices-and-protectionism>.
- Rodriguez, F. and Rodrik, D. (2001). "Trade Policy and Economic Growth: A Skeptic's Guide to Cross-national Evidence." In: Bernanke, B. and Rogoff, K. Eds. *NBER Macro Annual 2000*. National Bureau of Economic Research, Cambridge MA.
- Topalova, P. (2007). "Trade Liberalization, Poverty and Inequality: Evidence from Indian Districts." In: Harrison, A. Ed. *Globalization and Poverty*. Chicago and Cambridge MA: University of Chicago Press and NBER.
- Topalova, P. (2010). "Factor Immobility and Regional Impacts of Trade Liberalization: Evidence on Poverty from India." *American Economic Journal: Applied Economics*, 2 (4): 1–41.
- Topalova, P. and Khandelwal, A. (2011). "Trade Liberalization and Firm Productivity: The Case of India." *Review of Economics and Statistics*, 93 (3): 995–1009.
- Tran, T.C., Do, H.L. and Le, M.N. (2013). *Who Has Benefited From High Rice Prices in Vietnam?* Oxfam International, Hanoi.
- Valdes, A. and McCalla, A. (1999). "Issues, Interests, and Options of Developing Countries." Paper presented at the World Bank Conference on Agriculture and the New Trade Agenda in WTO 2000 Negotiations. Geneva, 1–2 October.
- Winters, A., McCulloch, N. and McKay, A. (2004). "Trade Liberalization and Poverty: The Evidence so Far." *Journal of Economic Perspectives*, 62 (March): 72–115.