

Food Prices, Nutrition, and the Millennium Development Goals

Using Trade Policy to Overcome Food Insecurity

Summary and main messages

Trade is an excellent buffer for domestic fluctuations in food supply. There is no global food shortage: the problem is regional or local—one of moving food, often across borders, from surplus production areas to deficit ones—coupled with affordability. World output of a given food commodity is far less variable than output in individual countries. Thus increased trade integration holds considerable potential to stabilize food prices, boost returns to farmers, and reduce the prices faced by consumers.

Trade liberalization protects national food markets against domestic shocks by allowing more food to be imported in times of shortage and exported in periods of plenty. However, historically—and despite a host of regional trade agreements—most countries have chosen to take the opposite approach by restricting imports of food and discouraging exports in often-failed attempts to keep domestic markets isolated from international shocks by ensuring self-sufficiency in food production.

Self-sufficiency should be weighed against the benefits of cheaper imports. A country that is a natural exporter should not hinder its comparative advantage with export bans. A country that tends to import food should

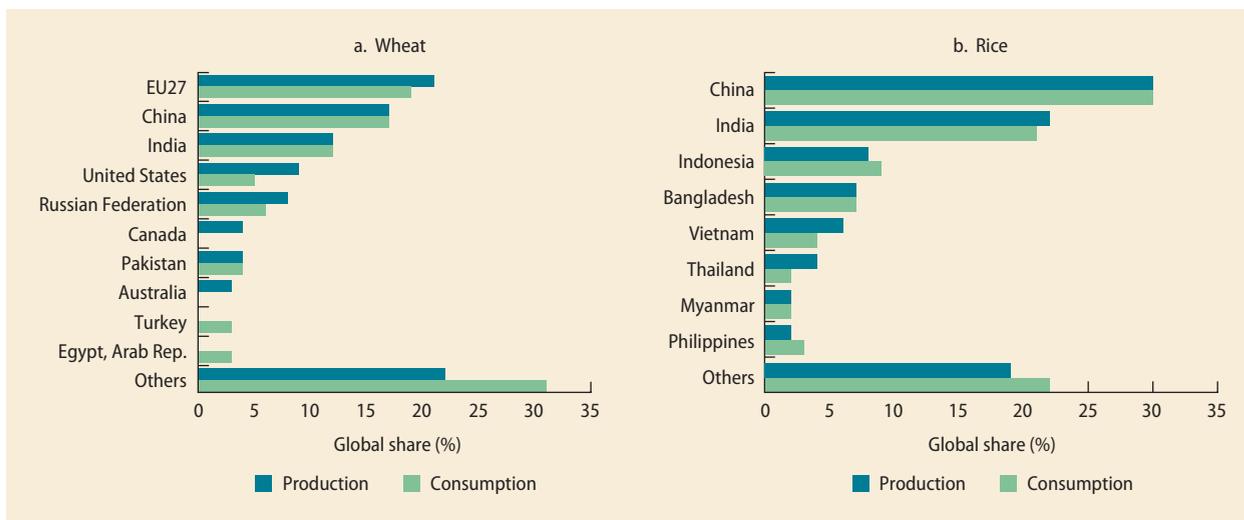
allow its domestic market to remain linked to the world market. Food security therefore requires encouraging more trade through a more open, rules-based multilateral trade regime, best achieved by concluding the Doha Round of WTO negotiations, and supported by further work toward developing disciplines on export restrictions.

Efforts to extend trade integration to developing countries should also focus on promoting more effective regional integration among them, including for food products. Facilitating food trade is also important through increased Aid for Trade to promote frictionless borders and to induce a supply response from developing countries, particularly in Sub-Saharan Africa.

Trade in food

Global production of cereals has almost trebled in the past 50 years, outpacing the twofold rise in world population. Yet over a billion people in the world remain hungry. Cereals form the staple diet of poor people and are also their main imported food item. In 2010, cereals made up 40 percent of the food imports of least developed countries. Increasing consumption of vegetables and meat is indicative of growing incomes, and

FIGURE 4.1 Most cereal production is consumed domestically and not traded



Source: Kshirsagar and Baffes 2011 (U.S. Department of Agriculture, 2006–10 averages).

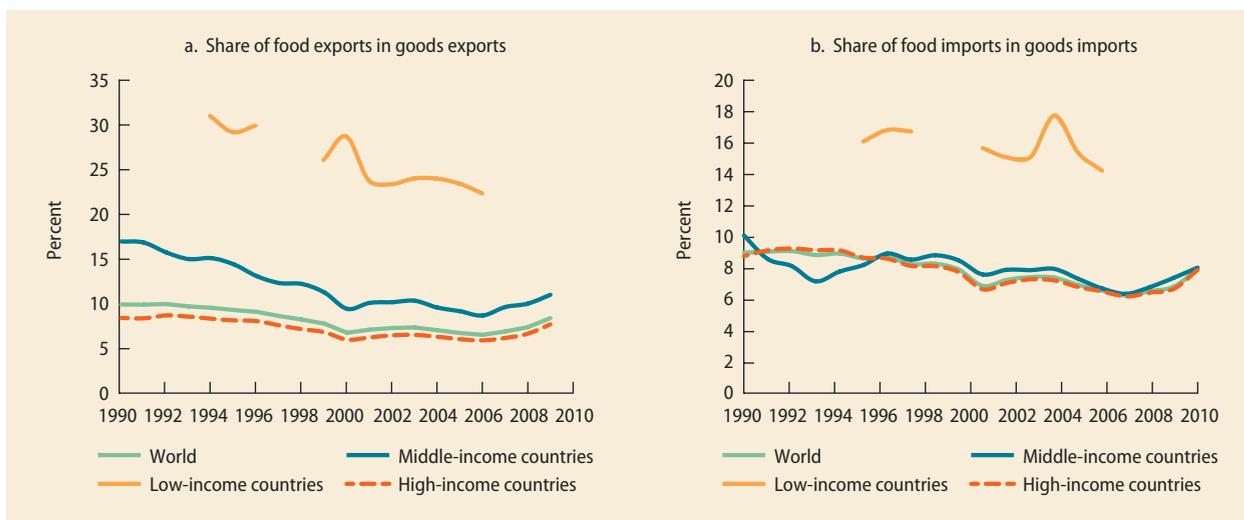
these items typically account for half of the food imports by developed countries.

Wheat, maize, and rice account for the majority of trade in cereals; maize and other coarse grains are not only consumed by humans but are also used as animal feed in the production of meat and for the manufacture of biofuels. Most cereal production is for domestic consumption (figure 4.1), with just

10 percent of world production traded globally: over the past decade, only one-fifth of all wheat produced globally was traded, while rice trade accounted for 6 percent of global rice production (Kshirsagar and Baffes 2011).

In value terms, approximately two-thirds of world food exports go to developed countries, and just under one-third to middle-income ones, with the poorest countries being

FIGURE 4.2 Food trade matters most for low-income countries



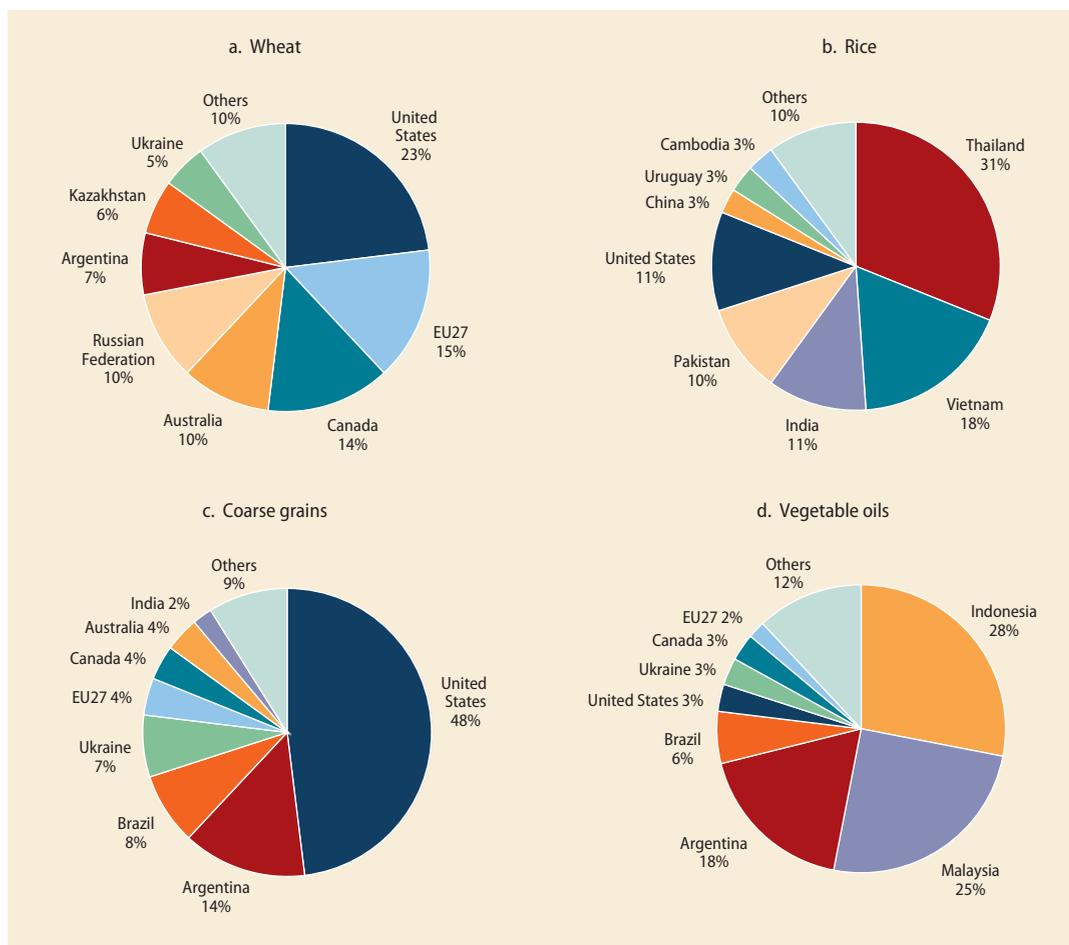
Source: World Bank DDP and COMTRADE data.

Note: Food = SITC rev. 4 codes 0+1+22+4: food, livestock, alcohol/tobacco, oilseeds, edible oil.

insignificant in world food trade: the share of the least developed countries in world food trade is just 1 percent. However, food trade forms a higher share of the *total* trade basket of developing countries compared with developed countries (figure 4.2) (FAOSTAT 2010 Yearbook). Sub-Saharan African countries, especially some in the Horn of Africa, also have high shares of food imports in total imports, compared with other parts of the world. Although not all developing countries depend on food imports, how food is moved within and across borders has clear implications for poor farmers and consumers, who spend a large share of their household income on food.

Markets in key cereals are often dominated by just a few players among developing countries (figure 4.3); India and China are the largest producers and consumers of these crops. Exports of wheat are mainly from developed countries, exports of rice from developing ones. More than 62 percent of all wheat is exported by the United States, the European Union (EU), Canada, and Australia, and these countries have highly protected agricultural sectors. South and East Asian economies are the leading rice exporters, but only 6–7 percent of global production is traded. Market concentration in cereals has declined over time, with an increasingly diversified export base, although the United

FIGURE 4.3 Trade in key cereals is dominated by just a few countries



Source: Kshirsagar and Baffes 2011.

Note: U.S. Department of Agriculture, 2006–10 averages; coarse grains are those used as feed (maize, millet, sorghum, and barley).

States continues to dominate trade in maize (Kshirsagar and Baffes 2011). Import markets are, and have historically been, less concentrated than export ones.

Trade policy actions by exporting and importing countries can have knock-on effects in food markets, and food commodity prices are often highly correlated. For example, an export restriction by India on rice exports, even one that does not directly influence the world price, can still lead to market behavior that indirectly affects the world price, as happened in 2008 when other rice exporters also started to impose restrictions. Wheat, rice, and maize share a positive relationship: price changes due to temporary production or export disruptions can affect the price of substitute products (Ivanic, Martin, and Zaman 2011).

Higher world food prices and their trade impacts

Food prices remain at historically high levels, contributing to differing terms-of-trade effects across developing countries as well as distributional impacts within them. The impact of global food inflation on external

balances, growth, and welfare depend critically on the terms-of-trade effects of higher food prices. The increase in world food prices implies terms-of-trade gains for net-exporting countries of food products and losses for food-deficit, net-importing ones (figure 4.4). For example, net-food-importing countries in the Horn of Africa such as Ethiopia, Kenya, and Somalia currently face drought, famine, and humanitarian emergency situations affecting more than 13 million people, with domestic food prices soaring (between 30 and 240 percent for red sorghum and maize in Somalia), while Tanzania and Uganda have gained because they remain net exporters (mostly for maize).

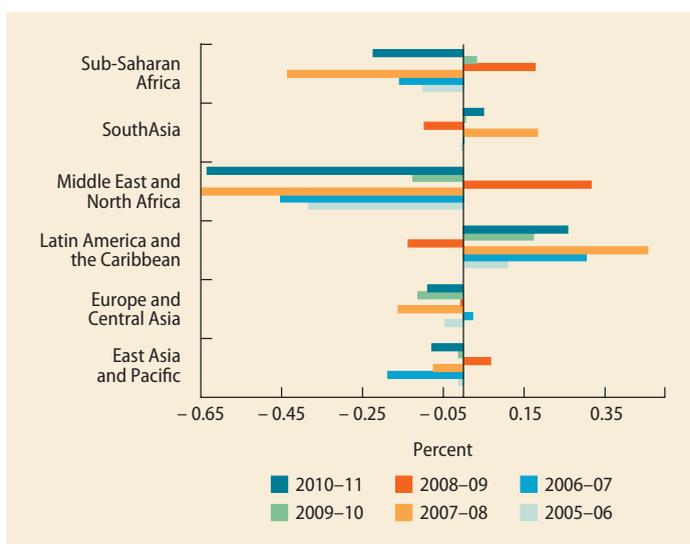
Increases in global prices have not always translated into equivalent increases in food prices prevailing in domestic markets for various reasons, including a weakened dollar (commodity prices are often expressed in dollars); local transport costs (often arising from inadequate competition in road transport markets); market distortions and price controls set by governments; the persistence of trade barriers; and good harvests in some developing countries (notably for maize, sorghum, millet, and cassava in some African countries that have allowed for substitution away from imported wheat and rice) despite bad yields in several of the largest grain-exporting economies. These factors explain stark differences in domestic price fluctuations across countries even when world food prices decline or remain unchanged.

Differences in aggregate food trade balances can also be deceptive and conceal large variations at the product level (Canuto 2011). For example, in the Andean region, Venezuela is the only net importer of food whereas Bolivia, Colombia, Ecuador, and Peru are all net food exporters. However, Bolivia is the only net exporter of cereals and vegetable oils, whose price increases have dramatically spiked; coffee and bananas drive the other three countries' net exporting positions.

Protectionist responses

Protectionism should be avoided as global trade slows and food prices remain high.

FIGURE 4.4 Net-food-importing regions lose from higher food prices while net-exporting regions gain



Source: World Bank, Datastream.

Note: Terms-of-trade changes in food commodities, by developing region, year over year changes as share of GDP.

Trade in food is currently subject to fewer policy interventions than has historically been the case, but since 2011 trade protection is once again increasing. Given renewed economic uncertainty in 2012, however, coupled with higher food prices and the tendency for countries to insulate their domestic markets from world price shocks, governments must continue to keep their markets open to avoid pushing domestic food prices higher.

For a number of staple food commodities, many governments intervene in their food markets in attempts to reduce the volatility of domestic prices relative to world prices. In developing countries, the various interventions reflect the sensitivity of governments to volatile prices for important staples, either to protect consumers against high prices or to maintain higher domestic prices for producers. Such measures can be shown to be second-best complements to storage policies for individual small and open developing countries concerned about the adverse impacts of high prices for staple foods on risk-averse consumers and farmers, when insurance against price volatility is unavailable and more direct measures to target poor households (in periods of high prices) and fragile producers (in periods of low prices) are not feasible (Gouel and Jean 2011). But such trade restrictions are not a cooperative way to address price volatility and can actually exacerbate it.

Trade restrictions have both direct and indirect impacts on world food prices. Trade-distorting policies displace and reduce the efficiency of agricultural production globally and make it less resilient to exogenous shocks: policies that distort production and trade in food commodities also potentially impede the achievement of long-run food security, by promoting production in areas where it would otherwise not occur and by obscuring the transmission of price signals to efficient producers elsewhere. Furthermore, a collective action problem may emerge: many countries simultaneously insulating their domestic markets against global price shocks through restrictive trade measures may well create higher volatility for global food prices (Martin and Anderson 2011).

Traditionally, it has been the trade policies of developed countries that were responsible for pushing down the world prices of agricultural products, including those exported by developing countries. However, over the past two decades there has been a shift in agricultural protection to developing countries, with reductions in export taxes but increases in protection on import-competing goods. Tariffs on food trade are highest for goods from middle- and high-income countries, averaging 22 percent (Boumellassa, Laborde, and Mitaritonna 2009). In developed countries, agricultural protection remains high but has declined from its peak level during the 1980s. While lowering global protection can be expected to raise demand and therefore increase world food prices by a relatively small degree, global trade liberalization is actually likely to lower prices faced by consumers in developing countries, with the rise in world prices offset by reductions in domestic ones.

Cooperative options to lowering domestic food prices therefore include *permanently* reducing import tariffs and other taxes on key staples and agricultural inputs. Instead, however, countries often tactically lower import barriers on food *temporarily* during periods of domestic food scarcity only to reimpose them later when yields have improved, again exacerbating world price volatility (Martin and Anderson, 2011). “Water” in the tariff (the difference between bound and applied rates) can leave significant room for countries to raise their applied tariffs on food imports, also compounding global price volatility. Lowering bound tariffs has been a core part of the Doha agenda.

Other trade measures such as export restrictions and non-tariff measures (NTMs), including domestic policies such as price support, also influence the extent to which price changes in domestic markets accurately reflect world prices. The World Trade Organization (WTO) reports that trade restrictions over the past year have spiked, particularly since July-August 2011 when the debt crises in the Euro Area and the United States began to intensify (WTO 2011b). Protection measures by the Group of 20 (G-20) countries—the main users of trade restrictions—now

affect a little over 2 percent of world trade. Approximately 1,000 trade-restrictive measures were introduced between September 2008 and October 2011, with increasing use of NTMs, especially quantitative import restrictions (Datt, Hoekman, and Malouche 2011). One-third of all NTMs were on exports, with increased use of export restrictions for agricultural products, in part as a result of higher world food prices.

Since September 2008, new trade-restrictive measures on food products (that is, all products within SITC Rev. 4—food and live animals, beverages and tobacco, oil-seeds and edible oils), has accounted for one-quarter of all new trade restrictions, and the share is rising. Export restrictions have been used in attempts to stabilize domestic food prices (figure 4.5). But these same policies have exacerbated global food price volatility, raising the price of rice by 45 percent and that of wheat by almost 30 percent between 2006 and 2008 (Martin and Anderson 2011). New trade restrictions adopted between September 2008 and October 2011 were applied

most frequently to meat, livestock, and grains (concern over pandemics drove the restrictions applied to livestock). The most frequent users of protection measures for food over the period were China, India, Indonesia, and the Russian Federation, which together accounted for almost one-third of all trade restrictions introduced on food items since the beginning of the financial crisis. Non-G-20 countries, most notably Belarus, Bolivia, and Ukraine, have also imposed trade restrictions on food products.

Notably, since the 2008 financial crisis, countries have also pursued trade liberalization as well as protection in efforts to lower domestic prices for households and industries (figure 4.6). Although some countries have increased their import tariffs on food products—for example, Russia increased its tariffs to 50–80 percent on imports of pigs, pork, and poultry—tariff reductions on food imports were far more frequent over this period. In some cases the reductions in import tariffs were significant. For example, Turkey lowered its tariffs on livestock from

FIGURE 4.5 The most frequent users of trade-restrictive measures on food products are G-20 countries

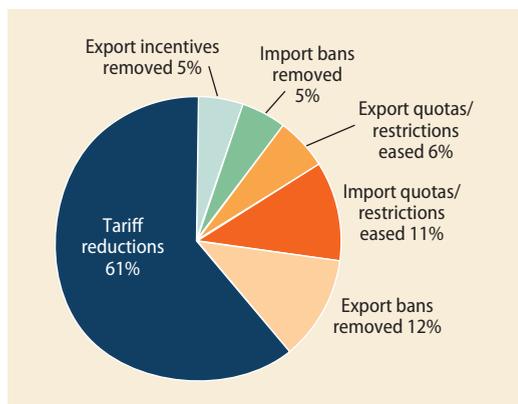


Source: Authors' calculations using data from WTO Trade Monitoring Reports, 2009, 2010, 2011.

Note: Total restrictions = 177; restrictions depicted exclude pandemic-related measures; trade remedies = antidumping, countervailing duties, safeguards.

a. In G-20 countries, "cereals" are mainly wheat; in non-G-20 countries, "cereals" are mainly wheat and rice.

FIGURE 4.6 Some countries have also sought to lower domestic food prices by temporarily lowering trade restrictions



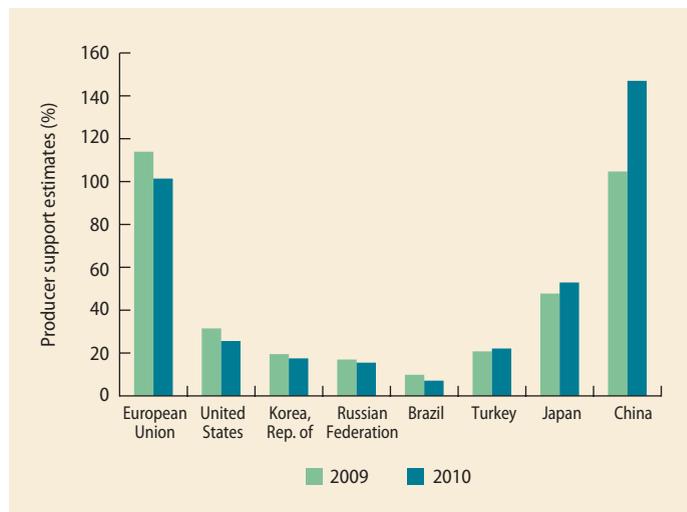
Source: Authors' calculations using WTO data from 2009, 2010, 2011.
 Note: Trade liberalizing measures on food products, September 2008–October 2011; total number of observations = 148.

135–225 percent to 0–20 percent. Most food tariff reductions were on grains and sugar, followed by meat, edible oil, and dairy products. Additionally, some countries have tried to stimulate exports with various incentives: Brazil, through duty drawback schemes on meat exports; and the European Union and the United States with refunds and other incentives to their dairy industries.

Direct subsidies to farmers in developed countries remain a major source of support, disadvantaging producers in other countries and distorting world trade. Producer support estimates (PSEs) produced by the Organisation for Economic Cooperation and Development (OECD) provide a measure of the extent to which developed country governments are assisting their farmers over time through various payments and price support policies. PSE expresses the monetary value of policy transfers from consumers and taxpayers to producers and can also be expressed as a percentage (%PSE) of gross farm receipts. Support to producers in developed countries was estimated to be \$227 billion in 2010, accounting for 18 percent of gross farm receipts—the lowest %PSE on record (OECD 2011).

PSEs have increased in China, Japan, and Turkey (figure 4.7). In China support has been increasing rapidly and is actually nearing the

FIGURE 4.7 Producer support to farmers in most developed countries has fallen but is rising in emerging economies



Source: OECD 2011.

OECD average %PSE. For OECD countries, rice, sugar, milk, and livestock receive the highest level of support through price protection policies and payments based on output, although large declines in price support in recent years have been associated with high world prices for these products. Milk, sugar, and rice also feature prominently among the commodities receiving specific support in emerging economies. As mentioned in chapter 1, biofuel policies in developed countries, which consist of subsidies, tax credits, and legislative mandates, have further distorted agricultural trade.

Developing countries also use policies that adversely affect food trade and are highly restrictive; such measures include food marketing boards, oligopolistic market structures in key parts of the food value chain such as milling, price controls, and trade bans. Countries that are net exporters of food may face political pressures to restrict food exports in periods of high domestic prices. Not only do these policies tend to have a limited impact on domestic price levels, however, but they also can have a significant negative effect on earnings from export production (box 4.1). Countries that insulate their domestic markets also export instability onto international markets,

BOX 4.1 Russia's export ban on grains

In August 2010, in response to escalating grain prices, the Russian Federation imposed a temporary export ban on wheat, barley, rye, maize, and wheat and rye flour until the end of December 2010. In October 2010, the export ban on grain was extended until the end of June 2011; the ban on flour was allowed to expire.

The export bans were originally a response to a drought that caused a shortfall in the grain harvest and associated rapid grain price increases in both domestic and international markets. According to official estimates, farmers harvested almost 37 percent less grain than they did in 2009. The export ban was intended to insulate Russia from highly volatile

grain prices by reducing exports in 2010–11 to the 3 million tons already shipped at that time, resulting in a drop of nearly 12 million tons of exports initially projected for the year.

The export restrictions had unintended and undesirable consequences such as undermining Russia's long-term policy of becoming an even more important player in the global grain market, encouraging hoarding in expectation of the bans' removal, distorting prices, and affecting the investment and production decisions of its farmers.

Source: World Bank 2011d.

especially if they are major producers or consumers of food. For example, the introduction of export restrictions on food exports by Argentina, Kazakhstan, Russia, and Ukraine for wheat and China and India for rice, in attempts to decouple domestic markets from global markets to keep domestic food prices low, have in the past compounded the food price problem.

Smaller developing countries (such as Malawi, Tanzania, and Zambia) also routinely impose strict controls on food trade, especially if their agricultural sectors remain highly regulated by various interventions at local and national levels. For example, some countries often ban imports during good harvest years to ensure domestic production is consumed first and limit exports during periods of low yields to contain domestic price increases. While these policies are often implemented ostensibly to promote food security in the form of self-sufficiency, they rarely work and can exacerbate food insecurity rather than reduce it (box 4.2).

Some restrictive barriers to trade are not always as visible as outright bans but come in more nebulous, less apparent forms that nevertheless increase trade costs.

Trade costs between Maghreb countries in North Africa—Algeria, Libya, Mauritania, Morocco, and Tunisia—are two to three times higher than those faced between countries just north of the Mediterranean rim (such as France, Italy, and Spain). This differential is partly attributable to more NTMs and constraints to intraregional trade versus interregional trade, such as more border controls and limited cross-border cooperation to facilitate trade across land borders (box 4.3). These regional barriers to trade drive up the costs of trading agricultural products, with significant implications not only for food security, but for political stability and economic development more generally.

The persistence of NTMs on trade in food reduces trade in these products. New research at the World Bank suggests that the ad valorem equivalent of NTMs on African cross-border trade in food is very high (Gourdon and Cadot 2011). For example, sanitary and phytosanitary (SPS) regulations on imports of rice raise prices by as much as 42 percent in Kenya and 30 percent in Uganda (box 4.4).

Bans and other restrictions on food trade as well as government interventions that

BOX 4.2 Government imports of maize during the Southern Africa food crisis

In 2001–02, the Zambian government publicly announced that it would import 200,000 tons of maize from selected South African suppliers to cover the national food deficit and sell it below market price to a small number of large formal-sector millers. The subsidy was intended to limit consumer price increases, paid directly to the South African suppliers and also to the importers. Because of liquidity problems, the subsidy payment was made late, causing the maize imports to be delayed. When the government instead imported only 130,000 tons very late in the season, maize and maize flour shortages occurred and local market prices exceeded import parity. Zambian traders and millers who had not been selected to benefit from the scheme, including informal traders from Mozambique, refrained from commercially importing maize for fear of not being able to sell it once the subsidized maize reached the market. Because grain was channeled only to the largest millers, consumers had to pay a higher price for already-refined flour instead of being able to source grain and mill it themselves or through the informal network of small hammer mills.

In the same year, Malawi also faced a modest maize production deficit—8 percent below the country's 10-year average. In September 2001, its grain-

trading parastatal (ADMARC) announced a fixed price for maize sold at its distribution centers and declared its intention to import maize from South Africa to maintain this price. The selling price was set considerably lower than the landed cost of imported maize, leaving private traders with no incentive to commercially import. As with Zambia, the government imports also arrived late and were insufficient to meet demand, so prices soared to a peak of \$450 a ton in early 2002. To make matters worse, the late-to-arrive ADMARC imports arrived during the good 2002 harvest and were then released to the market, resulting in 16 months of continuously falling maize prices, to the detriment of farmers. At other times, the sourcing of grain from South Africa and subsequent release onto the domestic market through government contracts with South African suppliers has also depressed informal maize trade with Mozambique. Because Mozambique is the source of informal trade in maize to southern Malawi, these government imports also add greater risks and price instability for Mozambique's smallholder farmers.

Sources: Nijhoff et al. 2002; Jayne, Chapoto, and Govereh (2007); Rubey 2005; Nijhoff et al. 2003.

foment distortions might allow a country to shield consumers from the initial implications of a price hike. However, they do not provide the incentive for a domestic supply response, and these implications should be considered when implementing policies that restrict international trade. Encouraging more trade in food, not less, is essential for achieving food security. Increased reliance on trade for production and consumption of food, as well as for inputs, increases farm gate prices without necessarily inflating consumer prices—a win-win for farmers and consumers alike. Indeed, those developing countries that have adopted more-open trade policies for food have seen benefits through higher production, exports, and trade in these products, together with lower domestic price volatility (box 4.5).

However, national self-sufficiency in food remains a highly sensitive issue in both developed and developing countries in which political struggles are sometimes played out in food marketing and trade policies. Price shocks on net-food-importing countries can also widen current account deficits, put additional pressure on exchange rates, cause a shortage of foreign reserves, and increase social safety net expenditures. For example, during the Arab Spring, the government of Jordan overturned the food subsidy cuts it made in 2008 and introduced tax exemptions on 13 foodstuffs. In the Arab Republic of Egypt, the bread subsidy is estimated to reach around 85 percent of the population (World Bank 2011a). The risk with such measures, however, is that they can become entrenched, incurring high fiscal costs.

BOX 4.3 The Middle East and North Africa region faces high trade costs in food

The Mediterranean basin, including its northern European and southern North African rims, has been an active trading area for more than three millennia. Yet trade and logistics patterns between the two rims vary considerably, with the cost of trading among Middle East and North African countries being inordinately high. Trade costs between countries on the developing, southern rim are higher than those experienced between the wealthier, European counterparts (such as France, Italy, and Spain), by as much as three times for agricultural goods. Moreover, trade costs *within*, for example, the Maghreb region or between the Levant countries in the Eastern Mediterranean exceed those the region incurs *externally* with Europe. Three explanatory factors stand out, in order of restrictiveness: NTMs that constrain trade processes; the low quality and fragmentation, by country, of logistics services such as trucking; and less developed intraregional infrastructure, such as ports that easily connect the Maghreb to the Mashreq, and few active transport corridors between countries. (Trucking and railway movement

are still suspended or heavily controlled at several borders in part because of security concerns but also because of mutual lack of trust regarding standards or origin, especially in the context of the Pan Arab Free Trade Agreement, which will remove tariffs on all goods of Arab origin.) A 2009 World Bank mission counted as many as 10 separate control stops at the Syria-Jordan border, equally distributed on either side. Container dwell time in Morocco and Tunisia is about one week, longer than the OECD benchmark of 3 days and that in emerging Asia—4 days in Malaysia, 2.5 days in Shanghai. Small reductions in trade costs can result in considerable trade expansion: reducing trade costs by just 5 percent could increase trade between the Maghreb and Western Europe by 22 percent, and intra-Maghreb trade by 20 percent. Lower trade costs would also facilitate production sharing within a larger market resulting in more competitive exports to Europe.

Sources: Shepherd 2011; Arvis 2012; Hoekman and Zarrouk 2009.

BOX 4.4 Quantifying the effects of non-tariff measures on trade in African food staples

Quantifying the price-raising effect of non-tariff measures (NTMs) was, until recently, constrained by the availability of comparable data across countries. Thanks to a collaborative effort between the World Bank and other agencies, including United Nations Conference on Trade and Development (UNCTAD) and the African Development Bank, a new wave of data collection was undertaken in 2009–10. So far, 30 countries have been covered, with NTMs coded for each of the Harmonized System's 5,000 product lines. Combining this data with price data collected as part of the World Bank's International Comparison project (for a smaller set of products) has made it possible to estimate directly, using econometric methods, the price-raising effect of NTMs on African food staples.

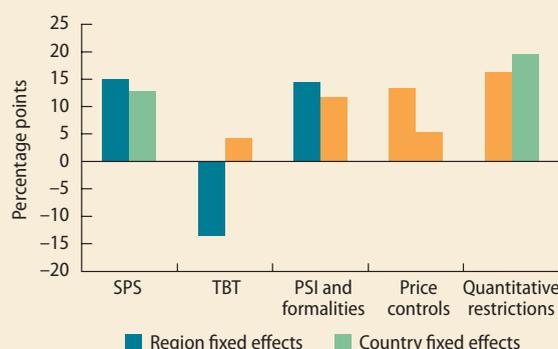
The approach consisted of running regressions of country-level product prices on “dummy” (binary)

variables marking the application of NTMs of various types, using a panel of 1,260 country-product pairs. The regressions control for systematic differences in cost-of-living across countries, as well as in market-structure diversity across products, with a full array of country and product fixed effects. Interaction terms between NTMs and either region or country dummies provide tentative estimates of their price-raising effect in Africa or in specific countries.

As is usual with this type of exercise, results should be interpreted with caution, because many confounding influences can affect estimates. Although many controls are used in the regressions to limit these confounding influences, they put heavy demands on the data and result in many coefficients being estimated with large confidence intervals. Be that as it may, results, shown graphically in the figure below, are telling. On average Africa's SPS measures, which often

BOX 4.4 Quantifying the effects of non-tariff measures on trade in African food staples (continued)

Price-raising effect of NTMs, Africa average (all affected products)



Note: SPS = sanitary and phytosanitary; TBT = technical barriers to trade; PSI = pre-shipment instructions.

suffer from lack of harmonization, poor design, and haphazard enforcement, raise the price of food staples by 13–15 percent. Quantitative restrictions, where they are applied, add another 20 percent. Such price increases have the potential to affect significantly the real income of poor households.

Product-specific estimates suggest substantial effects of SPS regulations in Kenya on rice prices (+42 percent), meat (+34–37 percent), fish (+33 percent), and edible oils and fats (+29 percent). Rice prices seem to be similarly affected in Uganda (+30 percent), as are meat and fish prices (+41 percent).

Source: Gourdon and Cadot 2011.

BOX 4.5 Open border policies for trade in food

Unlike many other countries in the region, Uganda and Mozambique have consistently retained liberal border policies for food staples. Uganda's open trade policy for food staples enables traders to offer products and services competitively, reliably, and on a sustainable basis. Uganda is able to serve as a food basket for East Africa. There is no export restriction on agricultural products, nor has the government instituted any recent ban on trade in food. Consequently, the flow of maize from Uganda to Kenya is one of the larger and more consistent cross-border flows in the region (approximately 120,000 tons a year). There is also cross-border trade with Rwanda (50,000 tons), and southern Sudan is also becoming a growth market for Ugandan products. Nevertheless, the most distinct feature of the Ugandan market is the significant presence of the World Food Programme (WFP) and its procurement program. Ugandan maize accounts for the largest proportion of maize the WFP procures in Africa (21 percent in 2010), excluding South Africa (which accounted for 24 percent in 2010). The WFP buys Ugandan maize as well as beans for distribution to internally displaced people in the country but also sends shipments to Burundi, the Democratic Republic of Congo, Kenya, Rwanda, Sudan, and Tanzania, all

of which periodically face food shortages. The volumes purchased reached 109,000 tons in 2010. The maize policy of the Ugandan government has been to allow and encourage cross-border trade, and the WFP procurement program has encouraged a supply response of more maize and beans from farmers who are able to meet WFP's quality and quantity requirements.

Mozambique, since the end of its civil war in 1992, has also freely allowed both imports and exports of maize. Because northern Mozambique is typically a maize surplus area, and because Malawi offers better prices than southern Mozambique (because of longer distances and higher transport costs to Maputo), traders in northern Mozambique routinely sell their grain to Malawi and eastern Zambia. The open border policy enables the resulting deficits in Mozambique's southern cities to be met by large millers who import grain from South Africa and mill it for domestic sale. Trade (coupled with the 30 percent subsidy on flour for wheat and bread production) has therefore helped to stabilize prices in Maputo compared with other capital cities in the region.

Sources: Haggblade et al. 2008; World Bank 2009a.

Moreover, consumer subsidies that are met by price controls and trade restrictions can be counterproductive and create disincentives for domestic food producers.

Policy recommendations for opening food trade in the pursuit of food security

Concluding the Doha Round would bring more predictable market access for food products

A conclusion to the Doha Round of WTO negotiations would contribute to food price stability by reducing distortions and strengthening disciplines on food trade restrictions, thereby limiting the scope for countries to impose policies that destabilize world food markets. It would also provide a boost to the world economy, generating a potential stimulus of \$160 billion in real income (Laborde, Martin, and van der Mensbrugge 2011). The primary deliverable would be enforceable policy commitments by member governments to provide greater security of market access by not raising support for domestic agricultural sectors above a given level (high commodity prices could dissipate resistance by farmers in developed countries to an agreement on this); to place greater restrictions on the level of permitted tariffs for food imports; and to refrain from using certain policies at all (such as export subsidies). The topics on the table are therefore important, and in principle there is enough substance for all countries to gain from an agreement. However, too much emphasis has been placed on the gains from market access alone. The Doha Round is about much more than market access. Concluding the negotiations arguably requires greater recognition of the value that new trade policy disciplines could bring as part of an agreement (Hoekman 2011). For example, while a complete ban on export subsidies for crops such as cotton would be a major step forward, it should not be quantified by estimating the impact

of removing extant subsidies—especially in a period where high prices have reduced the prevalence of their use. The ban would be more significant if world prices fell in the future because the decline would not trigger an increase in export subsidies.

Developing disciplines on the ability of governments to use import and export barriers to insulate domestic markets, and hence make world markets less thin, would also be a major source of welfare gain for developing countries (Martin and Anderson 2011). WTO disciplines for food export restrictions are currently considered to be insufficient and weak (FAO and OECD 2011). Export taxes are covered under the WTO and must comply with the most-favoured-nation clause. Article XVIII of the General Agreement on Tariffs and Trade (GATT) also provides for the negotiation of tariffs on both imports and exports. And while export taxes do not have an institutional anchor equivalent to import tariff bindings, which are addressed specifically in the GATT (Article II), there is no legal impediment to negotiating their reduction or elimination (Mavroidis 2007). However, there are very few export tariffs that have already been negotiated by WTO members. This means that most export tariffs are not yet bound.

Quantitative restrictions, including for exports (bans), are generally prohibited by Article XI of the GATT but an exception allows members to restrict food exports as long as the measures are “temporarily applied to prevent or relieve critical shortages of foodstuffs. . . .” (GATT Article XI, 2 (a)). Export restrictions relating to food must also conform with the Agreement on Agriculture (Article 12) that requires WTO members to maintain transparency in using such measures by considering the effects on importing members’ food security, give notice in writing, and consult with other WTO members as far in advance of implementation as is possible. The provisions of this article exempt developing countries, unless they are net food exporters of the specific food staple concerned. However, since June 2010, only four

notifications by three WTO members have been submitted (Saez 2011).

One policy option, therefore, would be to ban export restrictions altogether in the WTO if this could be agreed and enforced. Commitments by the larger exporters of food not to impose export restrictions would especially help maintain world price stability in periods of food stress. Reinforced multilateral trade rules for notification and transparency of export restrictions would also be useful. Developing a code of conduct to exempt food aid from export restrictions is an important priority for the international community. Food and Agriculture Organization (FAO) member countries have already agreed to remove these on food consignments purchased for humanitarian purposes, first at the Group of Eight (G-8) Summit in L'Aquila, Italy, in July 2009 and then at the World Summit on Food Security in Rome in November 2009. If met, these commitments would allow food to be shipped to where it is most needed in times of severe shortage.

Greater opening of regional markets to trade would promote food security and price stabilization

The potential for faster agricultural growth in many developing countries could be unlocked by deeper regional trade integration to complement multilateral liberalization efforts. In the absence of a Doha package, increased regional trade can also be a powerful instrument for stabilizing food supply and food prices. The distribution of food crop cultivation between neighboring countries, coupled with possibilities, where they exist, for staggered harvesting within the same commodity, offers substantial opportunities for regional trade. Because production variability is not often highly correlated among countries in most regions, integration through regional trade can reduce the effects of small country size on production volatility.

Examples of regional trade in food, both recorded and unrecorded, are numerous and include northern Zambia, where cassava

production ensures domestic food security, even in drought years, enabling the region to export maize to the Democratic Republic of Congo, Malawi, and elsewhere in Zambia; eastern Uganda, where bananas and cassava ensure food security, thereby enhancing maize exports to chronically food-deficit Kenya; northern Mozambique where cassava and Irish potato cultivation provide local food, enabling regular maize exports both north into Kenya and south into Malawi; most of Tanzania where a combination of rice, cassava, bananas, and maize enable regular cereal exports both north into Kenya and south into Malawi; and South Africa where large-scale commercialization and mechanization combined with modern inputs and irrigation enable high yields for the export of cereals northward to Zimbabwe, southern Mozambique and Malawi (Haggblade 2008). Indeed the scope for increased cross-border trade in Africa is enormous, but various obstacles remain (box 4.6). Elsewhere, Thailand, the world's largest producer of cassava, has recently witnessed dramatic increases in its exports of this crop on the back of sales to China for biofuel production.

To better exploit these opportunities, more effective regional trade policy and regulations must be developed to link smallholder farmers to urban demand centers across borders. Groups of developing countries have been actively pursuing regional trade agreements (RTAs), including the formation of free trade areas and customs unions, which for the most part have largely succeeded in reducing *tariffs* on most goods traded among them. As with global trade, however, the gradual removal of tariffs has meant NTMs have become more visible. For example, export bans, country-specific standards, complex rules of origin, and cumbersome customs requirements across countries often serve to reduce regional trade and destabilize regional food prices.

Additionally, governments have retained the use of safeguards under their various RTAs to exclude food from open regional trade on the grounds of health and public safety. As a result, governments retain a

BOX 4.6 Defragmenting Africa: What will stimulate regional trade integration?

Africa's potential for regional trade remains unexploited because of the high transaction costs that face those who trade across borders in Africa. A wide range of policy-related barriers drives up costs and limit trade. To escape the current straitjacket of trade fragmentation, Africa needs to pursue changes in three key areas:

- Facilitating cross-border trade, especially by small poor traders, many of whom are women, by simplifying border procedures, limiting the number of agencies at the border and increasing the professionalism of officials, supporting traders' associations, improving the flow of information on market opportunities, and assisting in the spread of new technologies, such as cross-border mobile banking, that improve access to finance.
- Removing a range of nontariff barriers to trade, such as restrictive rules of origin, import and export bans, and onerous and costly import and export licensing procedures.
- Reforming regulations and immigration procedures that limit the substantial potential for cross-border trade and investment in services.

The main message is that to deliver integrated regional markets that will attract investment in agroprocessing, manufacturing, and new services activities, policy makers need to move beyond signing agreements that reduce tariffs to drive a more holistic process to deeper regional integration. An approach is needed that reforms policies that create nontariff barriers; puts in place appropriate regulations that allow cross-border movement of services suppliers; delivers competitive regionally integrated services markets; and builds the institutions that are necessary to allow small producers and traders to access open regional markets. The appropriate metric for successful integration is not the extent of tariff preferences but rather reductions in the level of transaction costs that limit the capacity of Africans to move, invest in, and trade goods and services across their borders.

While there have been many initiatives to integrate regional markets in Africa, effective implementation of commitments has been sorely lacking. Hence, there is a need to help countries understand the political economy behind resistance to integrative reforms. How is it that leaders publicly and, by and large, genuinely pledge support for integration, but actual barriers to trade persist? For example, most of the nontariff barriers identified in the East African Community for immediate removal in 2008 are still in place. Opening up food staples to regional trade will create winners and losers. Therefore, political consensus on agricultural reform is required to create new institutional arrangements that moderate the impact of future shocks and instability in agricultural markets. Two related factors can help governments build constituencies for reform and provide a predictable and stable policy environment:

1. *An inclusive dialogue on food trade reform informed by timely and accurate data on global, regional, and national markets.* Food trade policy is rarely subject to open discussion, and the interests and views of relevant stakeholders in food staples trade policies are seldom represented. And when there is open discussion about trade reform, decision makers rely most on the input of those with political influence.
2. *A reform strategy that provides a clear transitional path to integrated regional markets rather than a single but politically unfeasible jump to competitive markets.* A reform strategy will have to take place in incremental steps that encourage investment by reducing uncertainties about policies for the private sector and deliver real and visible benefits. At the same time, it will allow policy makers to move at a pace consistent with their political risk calculations and their capacity to address the concerns of those who will lose from the reform process.

Source: World Bank 2012.

great deal of discretion over food-related trade policy, particularly in cases of food security and when there is a perceived risk to human health. Consequently, regional trade

policy for agricultural products has essentially become a patchwork of rules implemented unevenly across different countries and enforced inconsistently, generating an

opaque policy environment that severely limits trade in food.

Improved transport logistics and trade facilitation would improve links to markets and promote cost-effective access to food and food inputs

Trade policy restrictions are not the only impediment to the free movement of food across borders. Efficient transport and logistics are critically important to agricultural marketing and are a key component of prices. Yet in developing countries, particularly landlocked least developed countries, transport and logistics costs are generally far higher than OECD benchmarks of around 9 percent. For example, on average transport and logistics costs account for 18 percent of the value of firms' sales in Latin America, reaching 32 percent for Mercosur (Southern Cone Common Market) and Chile (World Bank 2005). In the case of African countries, improvements in logistics services (as measured by the Logistics Performance Index) would provide greater benefits than changes in other components of trade costs (Hoekman and Nicita 2008).

Transport and logistics costs are also an important determinant of food costs for importing countries as well as of food price variations within them. For example, maize prices in Guatemala have increased significantly more than in the rest of Latin America because of higher transport costs. Similarly, sharp increases in the prices of wheat-related products in Azerbaijan, the Kyrgyz Republic, and Tajikistan over the past year partly reflect increased transport costs from Kazakhstan (World Bank 2011b). While individual countries cannot do much to reduce ocean freight costs, which may be a significant part of the final price for bulk, relatively low-value commodities such as grains and edible oils, they can pursue proactive policy initiatives to lower costs associated with regional and domestic distribution. Investments in transport infrastructure have a proven track record of reducing consumer prices, especially in remote locations such

as Nepal. However a stronger focus on the "software" (regulatory) dimensions of transport, logistics, and trade facilitation projects is also needed (Arvis, Raballand, and Marteau 2010).

Improving trade facilitation and logistics reforms, as well as streamlining regulatory frameworks in the context of simplified border management procedures, can have significant benefits for consumers, while generating a favorable supply response. When moving formal consignments of food across borders, traders in developing countries often face a host of repetitive fees, permissions, redundant documentation procedures, and uneven certificate of origin requirements. As a result, customs clearance in many developing countries involves long delays, even for perishable goods such as food that should be cleared quickly. Individually most of these requirements may constitute a small delay or expense to traders but collectively they represent a significant barrier to trade. Even where single entry documents have been introduced, the information and accompanying documents (such as import declaration forms, origin certificates, invoices, import permits and standards compliance) required from traders can be burdensome, and small cross-border traders may be unable to provide all of the information for the entry document. For example, in Tanzania all certificates and permits can be obtained only in person in Dar es Salaam. In Kenya permits to legally import grain are available only in Nairobi (Nyameino, Kagira, and Njuki 2003). And traders wanting to export food staples from northern Mozambique to southern Malawi are required to get an export permit from Quelimane on the central coast of Mozambique (Tschirley, Abdula, and Weber 2005). Consequently, food trade can be effectively prohibited; subjected to tariffs (even if undertaken within the context of an RTA); or, as already discussed, pushed into informal channels.

Simple, structured, stable, and predictable trade regimes are needed that are based around harmonized and easy-to-satisfy border procedures that reflect the capacities of farmers and traders; the provision of

information on rules and regulations that are easily available and well known; and clear notification procedures for new rules and regulations that allow traders, other governments, and agencies to contest proposed changes and give producers time to adjust.

Increasing the productivity of food production also requires an assessment of the problems that affect the whole value chain, particularly those relating to infrastructure and links to markets. The prices that farmers receive and consumers pay for food are influenced by the quality and availability of a range of services including extension services, transport and logistics services, storage and distribution, and water. Increasing competition in these services can play a positive role in boosting agricultural productivity and improving cost efficient access to food.

Positive policy measures to promote food security should be developed though increased Aid for Trade

Policy makers are often reluctant to open up to food trade because they are keenly aware that food price shocks can lead to food insecurity and consequently to social unrest. This is certainly the case if at the country level no social safety nets or other instruments are available to mitigate the adverse effects on the poor and vulnerable. At the same time, it is not always immediately clear whether a food price shock is permanent or transitory. Policy makers often treat shocks as transitory and use trade policies to protect their consumers. Those policies do not necessarily provide incentives to producers to increase productivity and production. As various improvements in the food value chain will require time to materialize, for example, in trade-related infrastructure, it is important to work simultaneously on enhancing social safety nets.

While rising world food prices are currently perceived as a “crisis” and are clearly a burden to poor net consumers of food, over the long term, they could bring significant opportunities to stimulate food production in developing countries, thus improving food security for the poor. They could also

enhance the contribution of agriculture to economic growth through attracting investments in agricultural research and more productive agricultural techniques, thereby harnessing the gains for small-scale farmers as well. Countries such as Brazil, Malaysia, and Thailand have made significant progress in agricultural commercialization in recent years and have undertaken investments in research and extension services while other countries such as India and Mali have improved their market information systems (World Bank 2009b). However, exploiting these opportunities requires an open and predictable trade policy environment for food and food inputs. For example, those policies that seek to control domestic food markets through price controls, direct government involvement in marketing activities, and trade restrictions are all likely to lower the food supply response over the medium term. In contrast, the development of market-based mechanisms to manage food price risks (such as futures and options markets, facilitation of private storage or warehouse receipts systems, market information systems, and weather-indexed insurance) are all likely to mobilize significant new investments from the private sector. Aid for Trade could be used to support the policy reform and supply-side upgrade processes that are needed for developing countries to better tap the opportunities created by more open multilateral and regional markets for food.

In 2009 Aid for Trade commitments reached approximated \$40 billion—a 60 percent increase from the 2002–05 period. The share of Aid for Trade going to least developed countries has also increased from 26.5 percent during the period 2002–05 to 30.4 percent in 2009. Furthermore, support for multicountry programs (both global and regional) reached \$7 billion in 2009, more than three times the amount during 2002–05. The World Bank is the largest provider of Aid for Trade. Based on the OECD/WTO definition of Aid for Trade, the Bank provided an average of \$15 billion a year in Aid for Trade between 2001 and 2011 and accounts of 20 percent of all Aid for Trade

expenditures globally. Lending for transport infrastructure is a critical component of the World Bank's efforts to help developing countries achieve their trade integration and policy reform objectives. Almost two-thirds of World Bank support for transport infrastructure is for roads and highways, with South Asia being the largest recipient of funds for transport projects. Excluding infrastructure, the World Bank provided a total of \$2.6 billion in trade-related lending in 2010–11, an almost fivefold increase over 2002–03; the share of trade-related lending in total Bank lending also showed a rising trend, from an average of 2 percent during 2001–03 to an average of 6 percent during 2008–11. Africa is the largest recipient of World Bank Aid for Trade and now accounts for more than one-third of disbursements.

With uncertainty in the global economy and fiscal pressures in key donor countries, a key challenge will be to sustain current levels of financing. Monitoring by the OECD and WTO as part of the self-assessment exercise for the Third Global Review of Aid for Trade indicates that the outlook for Aid for Trade appears stable, although the previously high growth rates have declined. Aid for Trade grew by 2 percent between 2008 and 2009, compared with annual increases of 10 percent between 2006 and 2008 (WTO 2011a). Existing Aid for Trade pledges should therefore be honored and new pledges encouraged.

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