

# OECD Support for Agriculture: Has it Historically Harmed Poor Countries?

*Alix Peterson Zwane and Margaret McMillan*

This article summarizes recent research that assesses the impacts of the agricultural policies of rich countries on poverty in developing countries. A central message of this research is that, because of the diversity both within and among developing countries, the extent to which rich-country support policies translate into lower incomes in poor countries varies on a country-by-country basis. Many least-developed countries, especially in Africa, are net importers of food. As net food importers, they may be hurt by higher commodity prices.

**R**ich countries are under increasing pressure from around the world to end support to agriculture. Agricultural subsidies and price supports (mainly given to bulk-commodity producers and dairy farmers in the U.S.) allow the industrialized countries that are members of the Organization of Economic Cooperation and Development (OECD) to sell their agricultural products on world markets at prices that are below the cost of production. California farmers have often complained that such support policies make it difficult for them to compete in foreign markets, as many European specialty-crop producers receive government assistance that they do not get. Competitive producers of bulk commodities in countries like Australia have made similar complaints about U.S. cotton and corn producers. Consumer advocates and agricultural economists have often emphasized the perverse effects of these policies on land and food

markets here at home. Many observers outside of the agriculture sector, on the other hand, have focused on the concern that these policies are likely to hurt the poorest residents of poor countries. Because many poor people in developing countries are farmers, eliminating support for rich-country farmers will raise world prices and thus the incomes of the poor. This argument for agricultural policy reform has been particularly common in recent years as the current round of trade talks at the World Trade Organization (WTO) has been dubbed the “development round,” and the chance for developing countries to experience benefits from increased trade and globalization.

In recent work, we have evaluated these development-related arguments for trade liberalization systematically by measuring the impact of OECD agricultural policies on poverty in developing countries. A central message of this research is that, because of the diversity both within and among developing countries, the extent to which rich-country support policies translate into lower incomes in poor countries varies on a country-by-country basis. Many least-developed countries, especially in Africa, are net importers of food. As net food importers, they may be hurt by higher commodity prices. Some countries may import cereals, such as maize and rice, but export other agricultural products such as sugar or cotton. Higher prices for exports and imports will have net effects that are difficult to predict *ex ante*. Even within importing countries, the poorest members of society may be net sellers of food.

In this article, we review some of our analysis documenting the relation-

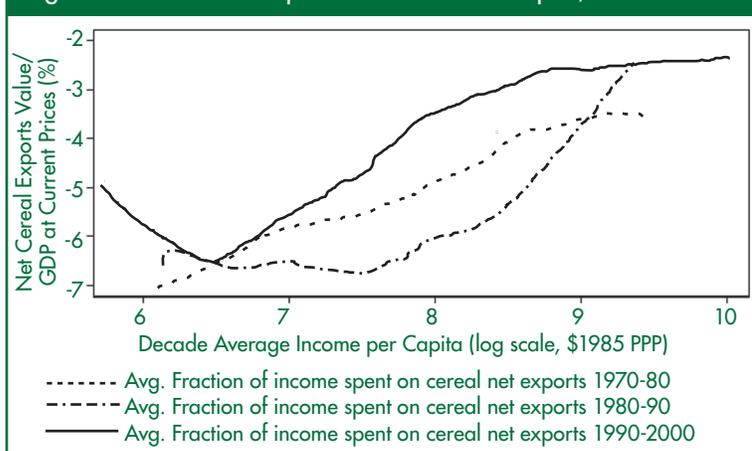
ship between income per capita and the value of net cereal, food, and agricultural (food plus non-food) exports for each of the three decades leading up to 2000. We find that—on average—the poorest countries have historically been net importers of cereals and food, the products most heavily supported by the OECD countries, just as they are today. We encourage readers to turn to our complete paper, available at [www.nber.org/papers/w11289](http://www.nber.org/papers/w11289), for a discussion of additional cross-country regression analysis and a case study of the impact of NAFTA on poor corn farmers in Mexico.

## The Agricultural Trade Position of Developing Countries

We investigate the relationship between income per capita (measured in constant 1985 dollars at Purchasing Power Parity exchange rates (which account for variations in relative prices between countries) and collected from the Penn World Tables version 6.1) and the value of net cereal, net food, and net agricultural exports including non-food products as a share of GDP (measured at current prices). This can be thought of as the fraction of current income earned from the sale of these products or spent to purchase these products. Because there is time-series data on agricultural imports and exports, as well as income, it is possible to track the behavior of the cohort of developing countries over time.

We identify the countries that may have been most affected historically by OECD agricultural policy as those that have spent (earned) the greatest fraction of income on imports (exports) of supported products. We

Figure 1. Net Cereal Exports & Income Per Capita, 1970 2000



are particularly interested in comparing how cereal importers differ from food or non-food agricultural exporters. While cereals prices are depressed by OECD agricultural support policies, the prices of most other food products (with the important exceptions of dairy and sugar) and non-food products (with the important exception of cotton) are largely unaffected by OECD support.

Figures 1, 2, and 3 present data on income earned from agricultural exports in three different ways. First, we use data from the FAO to calculate the value of annual net cereal exports as a percentage of GDP for a sample of 99 developing countries and take the average value of this number for the period 1970-1979, 1980-1989, and 1990-2000. We show the cross-sectional income profile for these three time periods in Figure 1 by using a

locally-weighted regression of decadal average cereal export share on the decadal average of the log of income per capita (bandwidth = 0.8). We run the same regressions for food export share and present those results

in Figure 2. Figure 3 shows the regressions for agricultural export shares (including non-food products such as green coffee and fibers). Figure 1 shows that, in each decade, the poorest countries spend the largest fraction of their incomes on cereal imports, suggesting that they may experience net benefits as a result of depressed cereal prices. In fact, so few developing countries are net cereal exporters in any decade that the predicted net cereal export share is negative even at the highest income levels observed in the data.

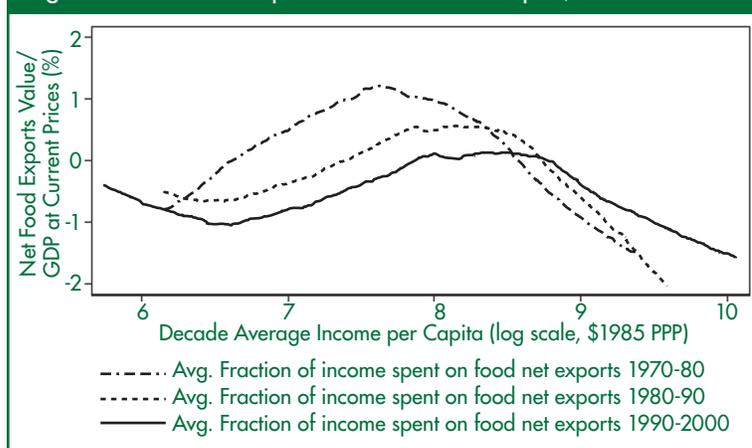
Since 1970 the poorest countries have also experienced the smallest reduction in net expenditures on cereal exports as a share of GDP. To trace the average cereal export share of a given country experiencing economic growth, points should not be connected within years, but across the regression lines, linking up the experience and behavior of a like country in the following decade. Thus, the fact that the regression lines are very close to each other at the lowest levels of income suggests that net export

increases experienced at higher income levels largely bypassed the poorest countries in the post-colonial era.

These data suggest that depressed prices for food products may hurt middle-income countries but help the poorest and richest developing countries. As shown in Figure 2, and unlike in the case of cereals alone, among non-OECD countries only middle-income countries earn income from food exports. The cross-sectional relationship between net earnings from all food exports as a share of GDP is non-monotonic. This production category includes non-cereal products that receive high levels of support in the OECD, including sugar, beef, and dairy products, as well as unsubsidized products such as cocoa and most fruits and vegetables.

Poor countries are most likely to be net exporters of agricultural products in total, as shown in Figure 3. We run the same regressions to create this figure, but consider all agricultural products, including fibers, industrial seeds, green coffee, and tobacco. In this case we find a downward-sloping relationship between net export earnings and income. Relatively well-off developing countries import agricultural products as a whole. This suggests that depressed prices for non-food agricultural products like cotton are particularly damaging to the poorest countries.

Figure 2. Net Food Exports & Income Per Capita, 1970 2000



that net export

## Summary and Conclusion

Figures 1, 2, and 3 together provide evidence that many poor countries import cereals but export agricultural products as a whole, and have been in this position throughout the post-colonial era. Many poor countries, and even many middle-income countries, that export food products also import cereals, particularly in the 1990s. Depressed commodity prices as a result of domestic support

for agriculture in the OECD could lower the value of both imported products and exported products for these countries. While it is true that a majority of poor countries are net exporters of agricultural products today, among the non-food products cotton stands out as the only non-food commodity whose price is likely to be significantly depressed by OECD agricultural support.

Of course the experience of developing countries is diverse and, because they are regressions, Figures 1 through 3 obscure differences in countries' experiences at any income level. However, these results suggest that it is unlikely that broad agricultural liberalization, which is likely to result in higher world prices for cereals as well as dairy, sugar, and cotton, will benefit the majority of the poorest countries. On the other hand, country-level average values of net cereals or food exports tell us little about what happens to the poor within a country. Even in countries that are net importers of food, the poor may be net exporters of food. Thus, a poor country might be hurt by higher food prices while the poor within that country benefit from higher food prices.

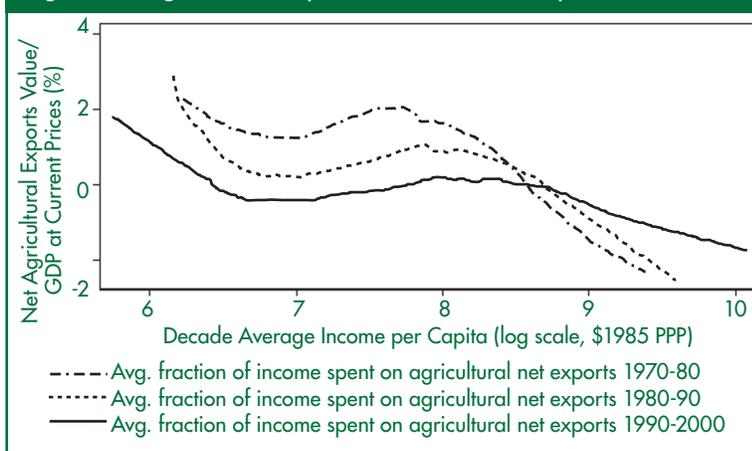
In our research we find no support in cross-country regression analysis for the claim that OECD policies have worsened poverty in developing countries on average or for the particular claim that liberalizing U.S.-Mexico agricultural trade has harmed poor corn farmers in Mexico. Our results stand in stark contrast with the large body of literature that has been devoted to examining the potential impact of agricultural trade liberalization on developing countries using computable general equilibrium (CGE) models. While the magnitudes of CGE estimates vary, agricultural trade liberalization is typically predicted to increase world commodity prices to the overall benefit of devel-

oping countries. Probably the most important reason for the differences in results is that other studies have not focused explicitly on poverty, but rather on developing countries as a whole. Additionally, many studies combine liberalization by developing countries with liberalization by developed countries when estimating welfare impacts. We focus solely on the impacts of rich-country policies on poor countries and the poor residents of these countries. Nonetheless, our work suggests that hopes for important income gains in poor countries, as a result of broad-based agricultural trade liberalization by rich countries, may be misplaced. Rather, most of the benefits of this trade liberalization will be captured by growers and consumers in a handful of well-off, agriculturally competitive economies.

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*Alix Zwane is an assistant Cooperative Extension specialist in the agricultural and resource economics department at UC Berkeley. She can be contacted by e-mail at [zwane@are.berkeley.edu](mailto:zwane@are.berkeley.edu). Margaret McMillan is an associate professor in the Department of Economics at Tufts University.*

Fig 3. Net Agricultural Exports & Income Per Capita, 1970 2000



**For additional information, the authors recommend the following sources:**

- McMillan, M., A. Zwane and N. Ashraf (forthcoming) My policies or yours: Does OECD support for agriculture increase poverty in developing countries?" In *Globalization and Poverty*, A. Harrison (ed.), University of Chicago Press for National Bureau of Economic Research (forthcoming). Available: [www.nber.org/papers/w11289](http://www.nber.org/papers/w11289).
- Panagariya, A. (2002), "Trade and food security: Conceptualizing the linkages." Paper prepared for presentation at the Conference on Trade, Agricultural Development, and Food Security: The Impact of Recent Economic and Trade Policy Reform, Food and Agricultural Organization, Rome, July 11-12.
- Oxfam (2003), "Dumping without borders: How US agricultural policies are destroying the livelihoods of Mexican corn farmers," Oxfam Briefing Paper 50, London: Oxfam.