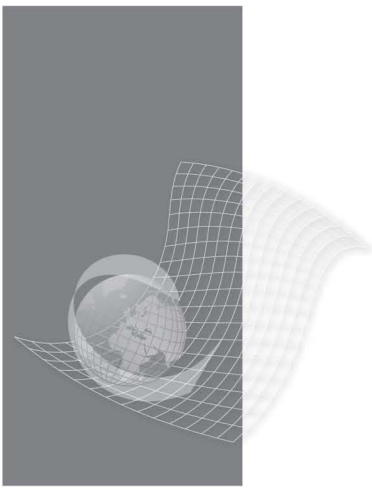


# NON-DISTORTING FARM SUPPORT TO ENHANCE GLOBAL FOOD PRODUCTION





# **NON-DISTORTING FARM SUPPORT TO ENHANCE GLOBAL FOOD PRODUCTION**

edited by

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and

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TRADE AND MARKETS DIVISION

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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# Preface

This book is the culmination of a two-year project on non-distortionary support to farmers initiated at FAO. The papers contained in this volume were commissioned for this project and two expert consultations were held, the first in December 1-2, 2008 and the second in May 19-20, 2009. The papers were presented and discussed at the consultations; initial versions were reviewed externally, revised and resubmitted.

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# Introduction and Overview

*Aziz Elbehri and Alexander Sarris*

The recent world food crisis highlighted the critical issue of global food security and the need to enhance global agricultural production capacity to meet current and future food demand. Increased investment in agriculture and adequate incentives to farmers are required to meet this global challenge. A key challenge is how to shape and design support to farmers in both the developed as well as the developing world while minimizing those distortions to global markets that are potentially harmful to developing countries, and at the same time promoting global food supply adequacy, food security for the undernourished, and poverty reducing and growth incentives for the farmers in low income food deficit countries. The objective of the book is to explore options for shaping farm support in a non-distortionary manner in both developed and developing countries.

The first part of the book tackles the thorny issue of developed countries' support to agriculture and its distortionary implications. Developed countries (largely represented by the OECD) heavily subsidize their farmers to support their incomes, but also create distortions in world markets, inducing disincentives in developing countries' agricultural production in the long run. However, the global situation has changed recently, as excess supply and falling prices, which were the characteristics of earlier periods, have given way to strong demand for agricultural commodities - driven in part by the rising demand for biofuels in response to environmental impacts of climate change. Still, high farm subsidies in OECD countries continue to be hotly debated and can be effectively confronted only through a new Doha Agreement that places greater discipline and binding limits on current and future farm support.

The second part of the book turns to developing countries, who confront other impediments that slow their agriculture and weaken their abilities to raise rural incomes and provide for food security. There are many strategies developing countries can implement to support their own farmers in non-distortionary ways. All require a rekindled drive for more robust investments in agriculture after more than two decades of relative neglect. There are myriad market failures hampering agriculture and faster productivity growth that call for justified interventions.

Legitimate areas of support can range from input supply systems, accessibility of credit to institutional reform and human capital investments. Trade policies also must be designed to complement domestic investment policies and development strategies.

Together these issues form the core theme of this book. Running through all the chapters is the central question of how to forge policy that maintains legitimate or politically desirable support to farmers in both developed and developing countries, but is less trade distorting, and, at the same time, promotes global food adequacy and food security.

The first chapter by **Elbehri** and **Sarris** is an overview of the issues examined individually in the following chapters. After reviewing the salient features of policy support in OECD countries and evidentiary information on their relative distortionary degree, the chapter takes up a few key issues for in-depth discussion. Key issues include shifts in policy support to decoupled payments, rising interest in the role of policy in managing farm price and income risks, the critical issue of border policies and the significance of seriously reducing market access restrictions, and the implications for agricultural commodities from providing subsidies and tariff protection for biofuels.

In the second part, the chapter turns to developing countries' diminished attention to agriculture, starting with a range of policy options that qualify as legitimate non-distortionary support. The paper then argues for the critical importance of re-energizing public investments toward agriculture. It also discusses the merits and conditions under which appropriate input support could be designed to stimulate production and enhance productivity. The chapter then shifts to trade policy and argues that any policy should be designed in a way compatible with an open trading system, and should ultimately harmonize with domestic developmental policies and goals. Developing countries too, have a way to go to reduce their own border restrictions, and doing so could stimulate regional and south-south trade, an area still largely unexplored. The chapter also addresses the prospects of new sources of investments to agriculture tied to climate change and greenhouse gas emissions. Potential benefits could be substantial, especially if these new investments flow are accompanied by improved technologies with positive spillovers on the agricultural sector. Nevertheless, there are still many unresolved technical and institutional questions that warrant much work. Finally, the chapter ends with a list of policy recommendations as a response to the central question of this book.

In chapter 2, **Skully** reviews broadly the major OECD farm policies and conceptually examines the degree of their distortionary effects. The starting argument is that OECD policies in general encourage production and discourage consumption of agricultural products within developed countries, and this tends

to increase their net exports and reduces world prices. Consequently, as non-OECD agricultural production and trade are reduced, investment and agricultural development are inhibited. Using the OECD farm support database from 1986 through 2007, Skully calculates the aggregate indicators of support (relative to the value of production) and distortions (relative to the default market support price) and finds these indicators to slowly decline over this period, but from a high starting point. For example, the ratio of producer support to the gross value of production declined from 40 percent to 29 percent, while the overall aggregate indicator of policy distortions declined from 0.96 in 1986 to 0.74 in 2007.

Skully attributes much of these declining trends to a re-instrumentation of support policies in OECD countries and to the rising share of decoupled support (payments based on non-current farm attributes and that do not require agricultural production) relative to total support. Decoupled payments are thought to generate little or no distortions compared to subsidies tied to production. Decoupled payments channel their effects via income or wealth effects and the analysis of their economic and distortionary effects must be examined using a household perspective instead of using agricultural production models. The latter part of Skully's paper is devoted to household-related literature that examines the linkages between decoupled payments and the effects on farm credit, risk reduction and increased land value (since payments are tied to agricultural land). The last section of Chapter 2 is devoted to biofuel policies, their demand-boosting effect for agricultural commodities, potentially offsetting some of the market and price effects of conventional distortionary farm policies.

Chapter 3 by **Orden and Blandford** examines U.S. farm policies from 1995 to the most recent legislation for 2008 and covering the period up to 2012. The authors highlight three interacting components of recent policies: commodity price and income support, long-term land idling and other agri-environmental programs, and crop and revenue insurance and disaster relief. The authors also assess implications for support of a new policy instrument in the 2008 bill, ACRE—an optional new state revenue guarantee program, as well as biofuel mandates whose effects interface with the more traditional programs. The authors highlight how the relative importance of various policy instruments has also changed, as the demand-boosting instruments (Biofuel mandates and tax credits) lead to higher commodity prices and consequently reduce the price-linked commodity support. Also highlighted are the increased support agri-environmental payments (for long-term land idling) and subsidies for crop and revenue insurance. The authors offer a detailed analysis of the implications of an eventual Doha agreement (along the lines of the July 2008 proposals) on the levels of current US farm support and the level of binding disciplines such an agreement could have. The authors also argue that strengthened disciplines in the 2008 draft agricultural modalities under the Doha Round WTO negotiations would reduce the U.S. leeway for providing trade-distorting support. Also, proposed product-specific caps on the Aggregate Measurement of Support



(AMS) when fully implemented might prove limiting for some politically sensitive commodities such as cotton and sugar. At the same time, the new ACRE program could make it more difficult for the United States to meet the proposed Doha commitments on support since payments can be triggered even when prices are high. The authors show under what price conditions farm payments under the new ACRE program could exceed the Doha Round draft modalities of 2008.

In Chapter 4, **Bureau** and **Gohin** review the European Union's (EU) Common Agricultural Policy (CAP) and examine the empirical evidence for production and trade distortion impacts of the CAP. The CAP policy is complex, targeting many objectives and involving interrelated instruments. The series of reforms since the early 1990s are due largely to budgetary pressures, environmental concerns and foreign pressure through the WTO. The Uruguay Round negotiations, for example, were a crucial factor in prompting the 1992 MacSharry reform, and subsequent CAP reforms have been largely driven by the WTO and accommodation of its *Everything but Arms* (EBA) initiative for least developed countries. The authors then detail the decoupling of EU farm support and the introduction of the Single Payment Scheme to compensate for cuts in support prices. As implemented, decoupling is by no means uniform across agricultural commodities or between Member States. The latter can opt for partial decoupling, or can choose to make payments on the basis of a farm's historic entitlements or on a flat-rate regional basis. Despite being decoupled from agriculture, single farm payments remain linked to land since the recipients must be 'farmers' and the requisite area of farmland must be at the farm's disposal.

In response to production and trade-distorting impacts of the CAP, Bureau and Gohin argue that the EU farm support policy has generated a significant externality by stabilizing its own domestic prices at the expense of net food importing countries. For example, the authors posit that during the 2007-2008 food crisis, the overall effect on world prices of the EU tariff cut was likely to have been comparable in magnitude to the much criticized decision of rice exporting countries who had implemented export restrictions. In terms of policy impact on developing countries, the authors emphasize the complexity of the effects and the heterogeneity of the developing countries own positions. The authors point out that there are many methodological challenges facing empirical studies on policy impacts and that current models are inadequate to account for all the necessary interrelations between policy instruments. On the possible evolution of the CAP, the authors conclude that the future outlook for CAP is uncertain and that its fate will depend more on post-2013 budgetary decisions than on an eventual Doha agreement. Finally, the authors address the impact of EU bioenergy policies on developing countries and stress that future biofuel policies will likely be shaped not only by economics but equally by sustainability criteria related to climate change and GHG emission goals.

Chapter 5 by **Anton and Moreddu** presents the OECD framework for the analysis of risk management in agriculture and applies it to measure the magnitude of risk-related measures in the Producer Support Estimates (PSE). In most OECD countries farm policies affect considerably the risks faced by farmers, and these policies may have distorting effects, but perhaps smaller or more indirect ones than more output or price based support measures. The authors indicate the types of risk management instruments normally utilized and how they can affect farm decisions and outcomes. They also review a series of policy dilemmas concerning risk related measures, such as, for instance, the possible crowding out of private sector risk management providers, and whether risk measures indeed increase farmer welfare.

Chapter 6 by **Bouet and Laborde** addresses the issue of market access of agricultural trade and the likely impacts of cutting border restrictions under a Doha agreement. The main argument of the paper is that market access restrictions (mostly tariffs) can be shown to be more distortive than domestic support on world welfare and on developing countries' agricultural trade. This is because an import tariff is equivalent to a combination of a production subsidy and a consumption tax; because import tariffs are much more prominent than domestic support, and because tariff dispersion is much larger than domestic support dispersion. Tariff escalation is still sizeable and the importance of the specific component makes protectionism volatile. Market access restrictions are particularly severe for developing countries. For example, the 70 countries most penalized by agricultural protectionism are developing countries. However, market access restrictions vary widely across countries and between products. They depend not only on developing countries' income and development levels but also on whether countries are subject to MFN or preferential tariffs, on countries' product specialization, and on their net trade position. Agricultural protection is particularly high for a small number of commodities such as sugar, meat products, dairy, and tobacco and beverages. The authors carried out a model-based assessment of the Doha round and compared the trade and welfare effects on several developing countries under the Doha modalities of July 2008 to complete trade liberalization. The authors conclude that the impact of the Doha July 2008 proposal on developing countries agriculture will remain modest due to numerous flexibilities.

**Anderson** in the following chapter (7) uses a World Bank study that estimated agricultural distortions as the basis for arguing for trade liberalization and removal of policy interventions that could hinder freer trade. In the World Bank study, agricultural distortions were proxied by the Nominal Rate of Assistance (NRA), which measure the percentage by which government policies have raised gross returns to farmers above what they would be without the government's intervention. The study covered 75 countries from the period of 1955 to 2007. For each country, the NRA was estimated separately for import-competing, exportable, and nontradable farm products. Overall, the NRA estimates show that aggregate farm support for

High Income Countries (HIC) rose steadily from the 1950s to the late 1980s before declining slightly over the 15 years to 2004. In contrast, developing countries followed broad trade and price policies that taxed farming in aggregate from the early 1960s to the late 1970s/early 1980s before gradually reducing that taxation. By the mid-1990s, they switched to slightly positive assistance to agriculture in the aggregate. Rice, sugar and milk are the most assisted products in both HIC and developing countries, followed by beef and poultry meat and cotton (for HICs). Such tariff dispersion implies greater welfare costs from distortions than would be the case if NRAs were equal across products. When expressed on a per farmer basis, the gross subsidy equivalent (GSE) of these distortions varies greatly between high-income and developing countries. In 1980-84 the GSE in high-income countries was already around \$8,000 and by 2000-04 it had risen to \$10,000 on average, or \$13,500 when 'decoupled' payments are included. In contrast, the GSE in developing economies was minus \$140 per farmer in the first half of the 1980s and rose to around \$50 per farmer by 2000-04- or about less than one percent of the support received by the average farmer in high-income countries.

Anderson argues that the policy reforms undertaken by developing countries since the 1980s, while contributing to removing taxation of agriculture, nonetheless remain unfinished. For example, developing countries, while cutting agricultural export taxes, are also raising agricultural import restrictions. Trade measures at the border (already dominant in the NRA estimates) are still too high and their reduction will greatly benefit countries via trade expansion. Moreover, there are still high tariff peaks for some commodities, implying a need for larger proportional reductions in high tariffs and a commitment to place a cap on farm tariffs. In addition, insulation of domestic food markets from international volatility has changed little, so the latter continues to be exacerbated by the former. International food markets remain 'thin' and adjustments to shocks, such as in 2008, take longer than if markets were freer to adjust and participants did not have to guess how governments might alter their interventions. Anderson argues that developing countries should not use the flexibilities allowable under WTO rules to keep high tariff protections. Instead, they should equalise the treatment of agriculture versus non-agriculture sectors. Rather than providing direct support to farmers, developing countries should rely on more-efficient domestic policy measures for raising government revenue (e.g., income and consumption or value-added taxes in lieu of trade taxes) and to assist farm families through public investments in rural education and health, rural infrastructure, and agricultural research and development.

Chapter 8 by **Conforti** reviews agricultural insurance in developing countries and concludes that most government (public) supported insurance schemes suffer from lack of financial sustainability, crowding out of private insurances, inefficiencies and lack of demand from farmers. The author applies the concept of "risk layering", borrowed from a study by World Bank, to categorize different types of risks facing farmers from the perspective of their insurability. Three risk layers were distinguished:

retention layer (non-insurable risks absorbed by producers), insurance market layer, and tail risks layer (catastrophic type losses beyond the ability of insurance firms to viably cope with). Layers are determined by the specific risks of each environment but their size also depends upon the market for agricultural services, and government's policies which affect decision making. The author then reviews index-based or parametric insurance, whereby disbursements to insured are made once the target level of indicator is reached. This approach has been proposed as an alternative to the many failures of traditional insurance programs which have rarely worked adequately under developing country conditions given the lack of necessary information to ascertain the level of damages. These index-based insurance schemes are often supported by governments and assisted by international donor and development institutions such as the World Bank. Finally, the author reviews a number of insurance programs in developing countries distinguishing between those that are privately run (rare cases), from cases where governments re-insure against catastrophic cases, to cases where governments subsidize premiums (most common). There are few success stories among these programs, leading the author to conclude that agricultural insurance may not be a panacea and that it must be viewed as part of a broader risk management strategy, which include enhanced access to agricultural services. Also, avoiding premium subsidization and/or granting support only temporarily (exit strategy) may contribute to counteract some of the problems encountered in the existing agricultural insurance programs.

In the following chapter (9), **Dorward** discusses input subsidies targeted to small farmers growing staple foods in developing countries. In this detailed study, Dorward reviews the economics of subsidies and provides an overview of the arguments for and against subsidies. In particular, the author reviews the various reasons behind the many failures of input subsidy programs in the past by developing countries. These past failures stem primarily from the large size of these programs which are costly due to large transfers to recipients, many of whom are not in need of such support. These programs also encourage rent seeking behaviour from various powerful stakeholders (usually not the small poor farmers).

Dorward then lays out the conditions he sees as necessary for effective use of input subsidies: input subsidies are likely to succeed best when they are applied to overcome market failures constraining their use; when they are applied to production of staple crops (grains and tubers); when they can be targeted to farmers who otherwise wouldn't or couldn't use inputs without subsidies, and when they can be rationed to limit costs. Implementation should be with the aim of creating market thickening, building farmers' know-how and capital, improving supply systems, and dynamic spill over effects on rural economies and other agricultural activities beside the targeted commodities. At the same time, Dorward cautions that input subsidies entail substantial risks in terms of costs and ineffective implementation, especially if input subsidies are not accompanied by large complementary investments, and by other necessary output market development policies and institutional support.

Another weakness inherent in all past government-run input subsidy programs is the political economy considerations due to “leakages” (subsidies not going to those producers targeted and not the staple commodities but to high-value cash crops, often grown by larger producers less likely to need a subsidy). Finally, the author reviews several fertilizer subsidy programmes in Africa and shows that often these input subsidy programs tend to over-emphasise production target objectives without due consideration to consumer interests or to wider pro-poor economic growth. As a result, input subsidies programs, as currently implemented in many African countries, are rarely implemented with necessary complementary investments in input market infrastructures and other market instruments (such as institutional support to farmers organizations) needed to ensure effective, long-term implementation of such programmes.

The final chapter (10) by **de Gorter** addresses the issue of carbon offsets and targeted agricultural subsidies for climate change and greenhouse gas mitigation. This is a new topic with potentially large consequences for shaping agricultural development, especially among developing countries. The author argues that carbon offsets and targeted subsidies will largely benefit developing countries on the simple premise that developing countries agriculture contributes close to  $\frac{3}{4}$  of all agricultural sourced GHG emissions. The author also argues that most of the mitigation potential in developing country agriculture will be from emission abatement activities resulting in changes in production practices and not from reducing fossil fuel consumption and output. Technology-led change can be facilitated with carbon offsets in the form of targeted subsidies for abatement activities. However, because of market failures in the development and diffusion of technologies in developing countries, large amounts of public expenditures in R&D, extension services and technology transfer packages are required. Using a highly stylized and simplified conceptual model, the author argues why targeted subsidies for abatement (e.g., subsidies for clean technologies) are preferable to a tax on emission such as cap-and-trade. His main line of argument is that a targeted subsidy for abatement induces less leakages (i.e. transfer of GHG emitting activities within a country or internationally) than a tax on emission such as cap-and-trade. Finally, the author argues that the Clean Development Mechanism (CDM) as currently designed (and little used in developing country agriculture due to high transaction costs) needs to be modified and preferably changed from project-based to sector or regional based. The author concludes that new financing mechanisms, such as a Climate Fund, may be needed to achieve the desired goals of GHG emission reductions.