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EXECUTIVE SUMMARY

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Executive Summary

International trade policies and government intervention through subsidies and indirect forms of support influence agricultural production choices such as type of crop or livestock, mode (technology and inputs) and output. Such trends can result in global effects in trade level, industry structure and production location, which in turn may affect the state of the environment. Recently, the adoption of the US Farm Bill and the launch of negotiations on agriculture in the Doha Round have brought the issue of agricultural subsidies to the forefront of trade policy discussions.

Agricultural trade liberalization has been one of the most sensitive of all trade issues since agriculture was integrated in the multilateral trade regime during the Uruguay Round negotiations. The Uruguay Round agreement on Agriculture (URAA)[1] brought world agricultural production and trade under a rules-based regime that not only governs market access, but also domestic support and export subsidies in the agricultural sector. This new regime has resulted in a re-engineering of domestic support systems during the 1990s. As a new round of negotiations is opening at the World Trade Organization (WTO), negotiations on agriculture are once again addressing the issue of domestic support in agriculture.

The purpose of this study is to assess the environmental impacts of agricultural subsidies, using wheat as an illustrative example. This is done through an analysis of the economic impacts generated by the quantitative and qualitative shifts in agricultural subsidies induced by the 2002 US Farm Bill and the Doha Round. This is completed by an analysis of the environmental impacts associated with various forms of agricultural subsidies. By contrasting the potential economic and environmental impacts of the Farm Bill and Doha Round, this study highlights some of the most important effects of agricultural subsidies, and derives some policy implications.

The first section of this study provides some important definitions and classifications for subsidies, based on the work conducted by the Organization for Economic Co-operation and Development (OECD) and on the categories of domestic support established pursuant to the URAA. Section II assesses the economic impacts of the 2002 US Farm Bill on US and world agricultural production and trade. This section concludes that the 2002 Farm Bill provides incentives for increased agricultural output through an intensification of production. The Farm Bill also reduces cropping flexibility by giving incentives to increase the total cultivated area for such crops as soybean, wheat or corn. The magnitude of this support, combined with the reintroduction or extension of programs or payments that are coupled to output or price, are likely to lead to an increase in US agricultural production over the levels that would normally characterize free markets. This production surplus will, in turn, flow onto world markets with the support of export credit and food aid programs, thus depressing

[1] The Agriculture Agreement in *The Final Act of the 1986–94 Uruguay Round of Trade Negotiations, Annex 1A—Multilateral Agreements on Trade in Goods.*

commodities prices and distorting agricultural trade flows.

The third section analyzes the potential impacts of the Doha Round on world agricultural markets. This section concludes that the reduction or elimination of domestic support and export subsidies—combined with market access liberalization—as a result of the Doha Round would increase world prices for agricultural products and increase agricultural trade. In addition, it can be expected that such liberalization would lead to a relocation of world production, resulting in increased production in developing countries and some OECD countries. This relocation of production, resulting from the new interplay of comparative advantages, would be small on the aggregate, but could be more important for some commodities such as wheat. Developing countries would benefit from this new competitive environment and capture an increasing share of world trade.

This section also analyzes the impacts of the URAA on agricultural subsidies, in order to provide a benchmark for anticipating the effects of the Doha Round. This analysis leads to the conclusion that the Doha Round is likely to result in a re-engineering of domestic support policies in OECD countries, away from trade-distorting Amber Box support towards Green Box support. This has major implications for both trade and environmental policies, as the results of the Doha Round will condition the transformation of domestic support policies in the next 15 years. It is also important because it will certainly lead OECD countries to reassess their agricultural subsidies system in this new context.

The last section analyzes the environmental impacts of agricultural subsidies. Some theoretical challenges are presented, along with the analysis of the scale, product, technology, structure and equity effects of agricultural subsidies, and a classification of subsidies according to their environmental impacts. Based on an analysis of current subsidies in OECD countries, it is suggested that there would be considerable environmental benefit from redirecting domestic support away from the most environmentally harmful subsidies towards more environmentally neutral support measures, which also happen to be less trade-distorting and more equitable. Some policy implications are derived from this analysis, including an analysis of the potential for developing agro-environmental programs in the context of a re-engineering of agricultural domestic support.

Three major conclusions can be drawn from this study, acknowledging that the implementation of the Farm Bill and the outcomes of the Doha Round are still characterized by much uncertainty. First, higher subsidies, such as provided for in the 2002 US Farm Bill, lead to an intensification of agricultural production in OECD countries which can generally be considered detrimental to the environment in terms of exposure to pesticides and fertilizers, habitat destruction and land degradation, to mention just a few. In addition, subsidies may have a technology "lock-in" effect which might impede the shift to less environmentally harmful policies. They may also lead to increased specialization and reduced agro-biodiversity. A decrease in domestic support would favor diversification of production, thereby improving agro-biodiversity.

Second, the phasing out of Amber Box policies as a result of the Doha Round would benefit both trade liberalization and environmental protection. Indeed, decoupling subsidies from production levels and price reduces incentives to intensify or extend production, thereby reducing environmental pressures. Moreover, OECD's work shows that the replacement of production-based support with direct income payments can improve the efficiency of agricultural support, thus freeing resources that could be redirected towards agro-environmental programs. Lastly, such reforms would improve the performance of agro-environmental programs by removing counter-incentives.

Third, OECD agricultural support remains largely concentrated in market price support and output/input-based payments, which are the most environmentally harmful categories of subsidies,

while agro-environmental programs still represent less than five percent of OECD Green Box support. This highlights the challenge in conducting an environmental reform of domestic support programs. Provided that they are well designed, efficient and consistent with WTO provisions, agro-environmental programs hold the promise of a more sustainable and economically sound agriculture. Eco-conditionality also appears to be a promising approach in that regard.

The Doha Round opens the door for a major re-engineering of agricultural support programs to generate optimal trade and environmental outcomes. This constitutes an opportunity to initiate such a multilateral re-engineering through the phasing out of Amber Box policies and the tightening of criteria for complying with Green Box support requirements. This opportunity should be seized by initiating a multilateral sustainability assessment of domestic support programs in OECD countries. The conclusions of this process could orient the redeployment of agricultural domestic support in OECD countries, and ultimately help changing the mix of OECD domestic support measures.

In addition, a cooperation program should be designed to help developing countries face the additional environmental pressures that will be generated by the extensification/intensification of their agricultural production in the wake of the Doha Round. Such cooperation would not only ensure better environmental management in developing countries, but would also ensure long-term sustainability of world food supplies and would prevent transboundary environmental spillovers.

This outlines an ambitious agenda for agricultural policy reform. It is highly probable, though, that the Doha Round will induce new reforms in the design, magnitude and delivery of agricultural subsidies. This represents a unique opportunity to orient the next generation of agricultural policies to promote a more efficient, less trade-distorting, and environmentally sustainable agriculture. Ultimately, one goal of agricultural policies should be to internalize the environmental costs associated with agricultural production. Agricultural subsidies have an important potential to support such a transition as a complement to adequate regulatory frameworks.