

**Implications of the
World Trade Organization's
Doha Round for the Rice Sector**

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ABSTRACT

The objective of this study is to measure the effect of global policy reforms on rice trade, prices, and economic welfare. The Doha Round of multilateral trade negotiations aims to increase market access, and reduce or eliminate export subsidies and trade distorting domestic price supports. Two modeling frameworks are used to estimate trade, price and economic welfare effects of policy reforms. World rice trade is estimated to expand by 15%, export prices increase by 33%, and import prices are reduced by 14%. Global economic welfare improves by \$7.4 billion annually and the United States gains nearly \$900 million annually.

INTRODUCTION

The Uruguay Round Agreement on Agriculture represented a turning point in the history of the multilateral trading system by subjecting agricultural trade to essentially the same rules that discipline trade in industrial goods. However, with the signing of the Doha Ministerial Declaration in November 2001, objectives and deadlines for the current round of multilateral negotiations have not been met. Little compromise has been reached on core issues regarding commitments to further expand market access, reduce or eliminate export subsidies, and lower trade-distorting domestic supports.

Through the 1990s trade liberalization has had a positive impact on the international rice market because rice trade has been highly protected in both industrialized and developing nations. The relatively modest terms of agreement in the Uruguay Round Agreement on Agriculture along with regional trade agreements and national

policy reforms have contributed to a doubling in global rice trade in the latter half of the 1990s (Fig. 1). Nevertheless, rice remains with sugar and dairy products, as one of the most protected food commodities in world trade.

The major types of distortion in world rice markets are import tariffs and tariff rate quotas (TRQs) in key importing countries and price supports in key exporting countries. In 2000, the global trade weighted average tariff on all rice was 43.3%. Medium-grain rice markets are far more distorted than long-grain rice markets due to the TRQs and quotas in the major medium-grain rice importing countries of Japan, South Korea, and Taiwan. Global trade weighted average rice tariffs in 2000 for medium- and short-grain rice markets were 217% compared to 21% for the long-grain market. In addition to trade protection by rice type, an important dimension of world rice trade is protection for the domestic rice milling industry. This form of protection is expressed in tariff escalation and is especially prevalent in Central and South American nations and the European Union. Price supports for rice producers have been important in the major industrialized countries or regions including the European Union, Japan, and the United States.

The Doha Round of trade negotiations has moved slowly as countries have been unwilling to compromise on market access, export subsidy, and domestic support proposals. This paper attempts to measure the potential gains from the removal of policy distortions in the global rice economy.

PROCEDURES

Estimates of the impact of the elimination of import tariffs, export subsidies, and domestic supports were generated through the use of two modeling frameworks, a spatial equilibrium model, RICEFLOW (Durand-Morat and Wailes, 2003) and the Arkansas Global Rice model (AGRM), a dynamic econometric framework (Fuller et al., 2003).

For this study, RICEFLOW was disaggregated by rice type and degree of milling and the baseline and estimated impacts apply to trade flows and prices for the year 2000. The AGRM structure is based on equations for supply, expressed in terms of equations that estimate area harvested and yields; and for demand, expressed in equations for domestic consumption, exports, imports, and ending stocks. Rice prices are endogenized, with world reference equilibrium prices for long-grain and medium-grain rice. The effects of domestic price supports and trade policy are captured in the supply and demand framework of AGRM. For this study, policy interventions in rice supply that are trade-distorting (“amber box” in WTO parlance) were removed. To place the impacts of the removal of domestic policies on rice trade in perspective, the model was also simulated for the removal of import tariffs and export subsidies as well. This exercise provides an additional analysis to evaluate the trade impact results generated by RICEFLOW, the spatial equilibrium modeling framework. Finally, the AGRM was used to examine the net effect of complete policy reform including domestic support, import protection and export subsidies.

RESULTS

Using the RICEFLOW model, complete rice trade liberalization in 2000 would have resulted in an expansion in global rice trade of nearly 3.5 mmt, a 15% increase in trade compared to actual 2000 rice trade (Table 1). Trade weighted average export prices would be 32.8% higher and trade weighted import prices would be 13.5% lower. Because of differences in protection by rice type and degree of milling, the results presented reflect that the greatest gains in trade volume and elimination of price distortions are for the medium-grain markets. Trade in medium-/short-grain with trade liberalization would increase by 73%. Producer export prices would rise by 91% and import prices would decline by 27%. Long-grain rice trade liberalization results in a 7% increase in volume traded. Export prices increase by only 2% but import prices fall by 18%, improving consumer welfare in long-grain rice importing nations. Most of the expansion in long-grain trade occurs in the low quality markets such as Indonesia, Bangladesh, and Philippines. Global rice trade liberalization results in a total economic surplus gain of USD 7.4 billion annually. Importing countries, as a group, have a net gain of USD 5.4 billion and exporting nations gain USD 2 billion.

The magnitudes of the net gains vary considerably by country and by rice type and degree of milling. For the United States, the analysis shows that on balance U.S. rice producers would gain more than consumers would lose from higher prices by \$326 million annually. Most of these net gains however would be in medium grain rice markets. Clearly, removal of price supports for the United States rice industry is not rational unless market access for U.S. exports is negotiated in import markets. With already very low import tariffs, the U.S. would lose very little tariff revenue from the elimination of our tariffs. Elimination of price supports would improve the net benefits to the United States overall by nearly \$600 million annually. Therefore the net benefit to the U.S. economy including net gains to producers and reduced price support outlays would exceed \$900 million annually.

Using the dynamic non-spatial global rice trade model AGRM, the removal of import tariffs, export subsidies, and domestic supports are measured by separate scenarios and together. The impact on global rice trade from the removal of tariffs dominates all policy reform scenarios. The combined effect of the removal of tariff barriers, export subsidies, and domestic supports increases trade by 2.4 mmt in 2005 and by 4.9 mmt by 2012 (Fig. 2). Long-grain export prices are higher by 18 to 22%. This result differs from the RICEFLOW model result for export prices. Medium-grain prices are higher than baseline projections by 70 to 80%, a result similar to the findings reported using the RICEFLOW model (Fig. 3).

SIGNIFICANCE OF FINDINGS

Multilateral and regional trade policy reforms achieved over the past decade have contributed to an expansion in rice trade and more stable prices. The achievements of the Uruguay Round Agriculture Agreement include the opening of the previ-

ously closed Japanese and South Korean markets. Limits placed on domestic supports in the EU and the U.S. and export subsidies in the EU have yet to have a significant impact on rice trade. Regional agreements such as NAFTA and MERCOSUR have increased western hemisphere rice trade. The prospects for the Doha Round of the WTO hinge to a great extent upon continuing the expansion of market access, reduction of tariffs, and limits on export subsidies that will be effective. Continued trade policy reforms are important for the global rice economy and will have positive impacts on producers in exporting nations and consumers in importing countries. But reforms will result in losses to other market participants. The exercise of political power by specialized interests in protecting their existing benefits from a policy-distorted global rice sector cannot be underestimated. Therefore it is important to continue efforts to clearly measure and understand the consequences of protection and the benefits of moving forward.

ACKNOWLEDGMENTS

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LITERATURE CITED

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Table 1. Rice trade liberalization results from RICEFLOW model, 2000.

Rice type	Baseline	Free trade	% Change
Long-grain			
Quantity traded (MT)	19,921,516	21,319,687	7.0%
Export price (\$/MT)	206.87	210.68	1.8%
Import price (\$/MT)	287.45	236.43	-17.7%
Medium-/short-grain			
Quantity traded (MT)	2,970,823	5,108,648	72.0%
Export price (\$/MT)	352.11	671.14	90.6%
Import price (\$/MT)	950.63	690.53	-27.4%
All rice			
Quantity traded (MT)	22,892,339	26,428,335	15.4%
Export price (\$/MT)	225.71	299.69	32.8%
Import price (\$/MT)	373.51	322.97	-13.5%

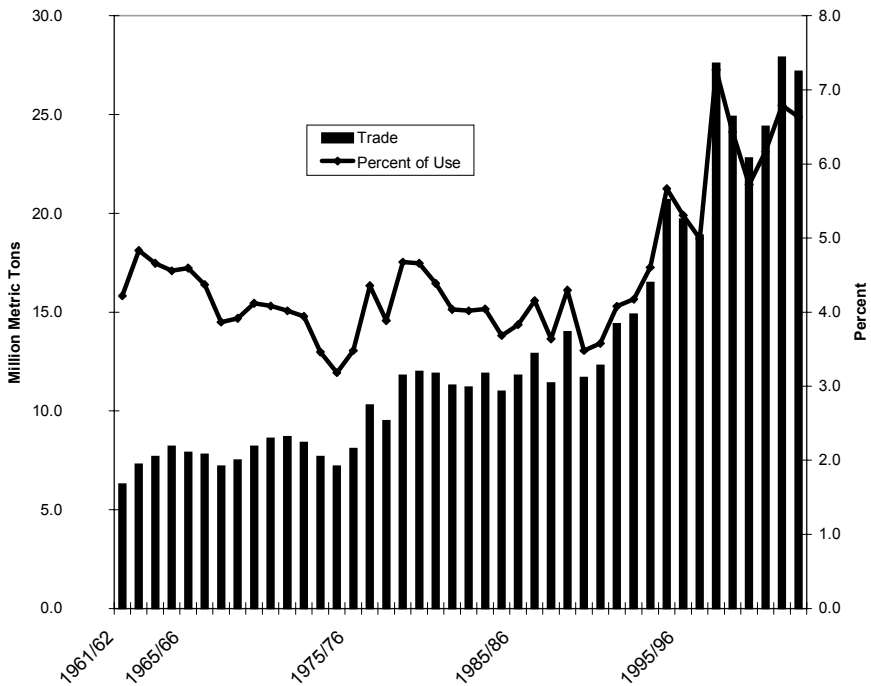


Fig. 1. World rice trade and share of trade to use, 1961-2002.

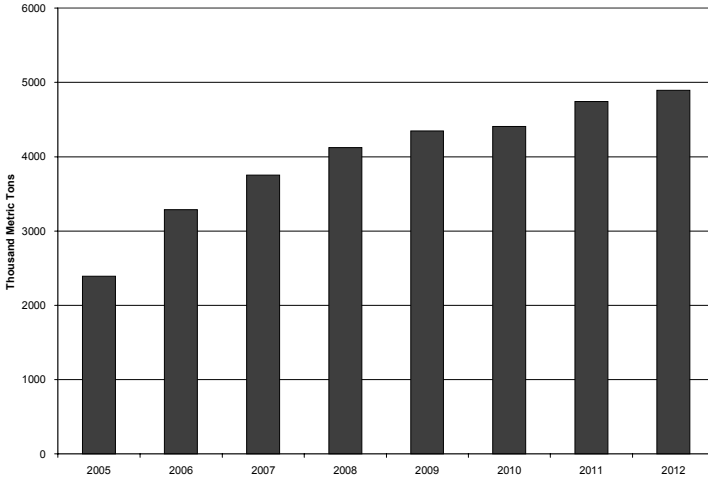


Fig. 2. Impact on world trade from policy reform using AGRM model, 2005-2012.

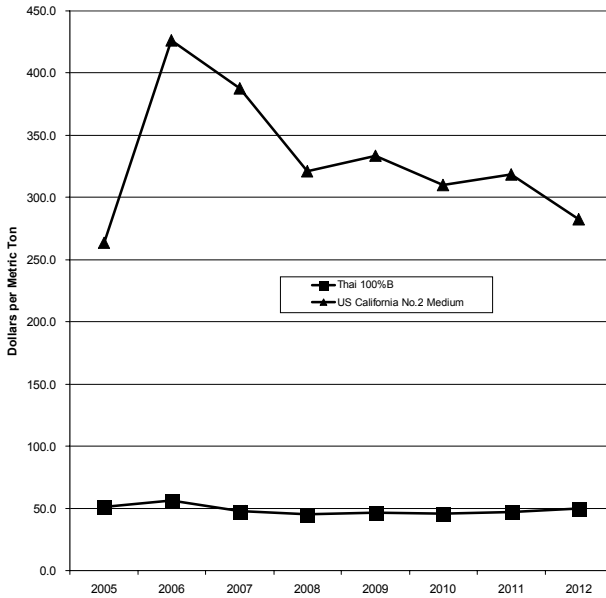


Fig. 3. Impact on long- and medium-grain rice export prices from policy reform using AGRM model, 2005-2012.