Market Risk Management in the Rice Sector

This FARMD Featured Topic provides a brief introduction to some of the key market risks faced by rice sector participants globally. This Topic shares the experience, insight and research of practitioners and academics working and researching in this space. Authors include representatives from the University of Arkansas, the National Center for Agricultural Economics and Policy Research (ICAR) in India, the University of Manchester and the University of Cocody-Abidjan in Côte d'Ivoire.

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FARMD Featured Topics are a series of original articles from members and experts focused on selected topic areas related to agricultural risk management.

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WHAT IS MARKET RISK IN RICE?

Many of the world's poor depend on rice for their livelihood and approximately 3.5 billion people are reliant on rice as their staple food source. As such, market risks including price volatility, exchange rate fluctuation, and counterparty / default risks are a major concern for rice sector participants.

COUNTRY FOCUS: INDIA

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Rice production in India has a very strong market orientation and the price received by farmers for their produce plays a crucial role in farmers' production decisions. Rice is the most important crop in the country both in terms of area under cultivation as well as in terms of consumption. About 80 per cent of the total production of rice (paddy) is marketed by the farmers with the rest retained for self-use as food, feed, and seed. Over time, the proportion of marketed surplus in total production has gone up.

Farm harvest prices in India show high inter and intra year variations. Price variation is most pronounced in those regions where price support mechanisms for rice are not operative. With the increased commercialization of agriculture, these fluctuations have become highly significant in affecting the income of farmers.

One way to highlight price risk in India is through the following example. About 90 per cent of rice in India is produced in the summer (kharif) and the surplus is brought to market for sale within just a two month period. The result is a glut in the market and in many cases forces producers to accept a price lower than at other times of the year. Similarly, when there is a bumper crop, the farmers find themselves in the buyer's market during the peak marketing season. This has the possibility to inflict significant losses on farmers, even when they have adopted the best available technology and are producing efficiently.

RICE FUTURES CONTRACTS TO MITIGATE PRICE RISK

Andrew McKenzie, University of Arkansas

The economic benefits of the US rice futures market are twofold. First, it provides a trading forum by which the

Picture courtesy of Jean-Martin Bauer

collective actions of buyers and sellers result in fair and transparent futures prices that efficiently reflect expected supply and demand conditions for a range of future time periods. This function, known as price discovery, allows all participants in the US rice industry, from farmers to rice mills, dryers and elevators, to make informed marketing decisions about when to buy, sell, and store rice. Second, the US rice futures market provides a risk management or hedging tool by which rice mills, dryers and elevators can offset the daily price risk associated with storing rice. The economic benefits bestowed by the US rice futures market have made the US rice marketing system the most efficient in the world with tight handling, storing and milling margins.

A natural question to ask is "To what extent can this US futures success story be replicated in developing countries?" To this end, a recent study by McKenzie (2012) examined the feasibility of developing a successful rice futures contract for the Association of Southeast Asian Nations (ASEAN) region.

The US rice futures experience would suggest, from a developing country standpoint, that policies should focus on promoting the economic development of the merchandising sector. An active and well developed merchandising sector is important to the successful development of any grain futures contract. To the extent that a new rice futures contract – established and traded in a developing country – would allow merchandisers in that developing country to exploit seasonal patterns in rice prices, there is a greater chance that the economic benefits of price discovery and price risk management could be realized.

COUNTRY FOCUS: CÔTE D'IVOIRE

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The rise of global food prices by approximately 50% between April 2007 and March 2008 stimulated heated policy debate on the welfare implications of price risk. In Côte d'Ivoire, the average yearly food price index increased from 117.51 in 2006 to 123.77 in 2007 and to 137.78 in 2008. This was despite pre-emptive government intervention in the form of reduced import tariffs and value added taxes, direct price regulation and attempts to reduce excessive speculation in the trading of food commodities.

Following riots in the streets of Abidjan in 2008, President Gbagbo embraced a policy stance in favor of achieving self-sufficiency in staple foods. Such a policy stance in the face of severely fluctuating food prices today is especially pertinent to explore in the context of Côte d'Ivoire's economic structure and historical experience.

Dimova and Gbakou (2012) provide robust estimates of the welfare implications of rice price changes across quintiles in Cote d'Ivoire's welfare distribution and separately for predominantly food producing Northern regions and predominantly cash crop producing Southern regions. They then explore the consumption smoothing effects of (i) consumption and production of local food varieties and (ii) the production of key cash crop commodities: cocoa, coffee, palm oil, cashews and banana. They find that for middle-income households the negative welfare effect from a change in the price of rice is significant and not sufficiently alleviated by the consumption or production of alternative foods. However, it is seen that the poorest households' reliance on self-subsistence assures immunity to food price shocks in both rural and urban areas. Furthermore, when both cash and food crop production are taken into account, the negative impact of a food price shock becomes negligible and is restricted solely to a small fraction of the middle-income range of the urban sector.

There is no convincing evidence favoring re-specialization out of cash crops into food crops such as rice as a viable welfare-enhancing and inequality reducing strategy. Although the analysis of Dimova and Gbakou (2012) does not show clear evidence in favor of the consumption smoothing effect of the demand and supply of local staple food varieties such as millet and sorghum, the consumption smoothing effect of export crops is evident and not restricted solely to the rural sector. Recently declared government policy stances of assuring self-sufficiency in rice, should be looked upon with particular caution.

ABOUT FARMD

The Forum for Agricultural Risk Management in Development (FARMD) is a network of practitioners seeking to enhance the sharing of experience and knowledge in agricultural risk management. In time, the network will evolve from being a platform for sharing experiences and information to become a forum for learning, capacity building, and advancing knowledge in agricultural risk management. By improving the practice of agricultural risk management, the network seeks to optimize investments in the agricultural sector and reduce vulnerabilities of stakeholders. As a moving and constantly evolving forum, FARMD aims to provide an ever-changing platform for the exchange and promotion of knowledge on various subjects linked to agricultural risk management.