



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

## **POLICY SYNTHESIS**

### **FOOD SECURITY RESEARCH PROJECT – ZAMBIA**

*Ministry of Agriculture and Cooperatives, Agricultural Consultative Forum, Michigan State University  
and the Market Access, Trade, and Enabling Policies (MATEP) Programme, Lusaka, Zambia.*

No. 14 (Downloadable at: <http://www.aec.msu.edu/agecon/fs2/zambia/index.htm>) August, 2006

## **TRENDS IN BREAKFAST MEAL AND MAIZE MARKETING MARGINS IN ZAMBIA**

**Antony Chapoto and T.S Jayne**

### **Major Findings:**

- Maize market reform in Zambia appears to have brought tangible benefits to consumers by reducing maize meal prices without reducing grain prices for farmers.
- The wholesale-to-retail maize marketing margins have been trending downwards most regions of Zambia.
- Based on estimates of 3.5 million urban “adult equivalent” consumers purchasing 120 kg of breakfast meal per year, the declining maize meal milling and retailing margins have saved Zambian consumers roughly US\$29.4 million (123 billion kwacha) each year.
- Low-income consumers access to food would be greatly improved if grain could be sold onto informal local markets at times when imports are required (instead of channeling all imports to large millers only).
- The ability of the small-scale milling sector to keep competitive pressure on the large milling sector will depend on ensuring the availability of maize grain in local markets.

**INTRODUCTION:** There has been much debate in Zambia and in Africa more generally about the effects of food market reform on the welfare of low-income consumers. It has often been contended that market reform has given traders and millers the ability to increase their marketing margins after control prices were eliminated, thereby exposing farmers and consumers to increased exploitation for a strategically important commodity. These debates can be better informed by reviewing the empirical record on changes in food prices and marketing margins in countries having undertaken food market liberalization programs.

**OBJECTIVES:** This policy synthesis analyzes the trends in retail maize meal prices and the wholesale-retail margins enjoyed by

millers and retailers in Zambia since maize and maize meal prices were decontrolled in the early 1990s. This note summarizes material from a broader study on Zambia’s maize supply chain.<sup>1</sup> The findings from this paper are designed to inform policy discussions aimed at improving household food security and maize market performance in Zambia.

**DATA AND METHODS:** The study uses monthly wholesale maize grain and retail breakfast meal price information for the period May 1994 to April 2005, collected by the Agricultural Marketing Information Centre (AMIC). Econometric analyses is used to analyze the determinants of maize marketing margins and the trends in these margins over time after controlling for

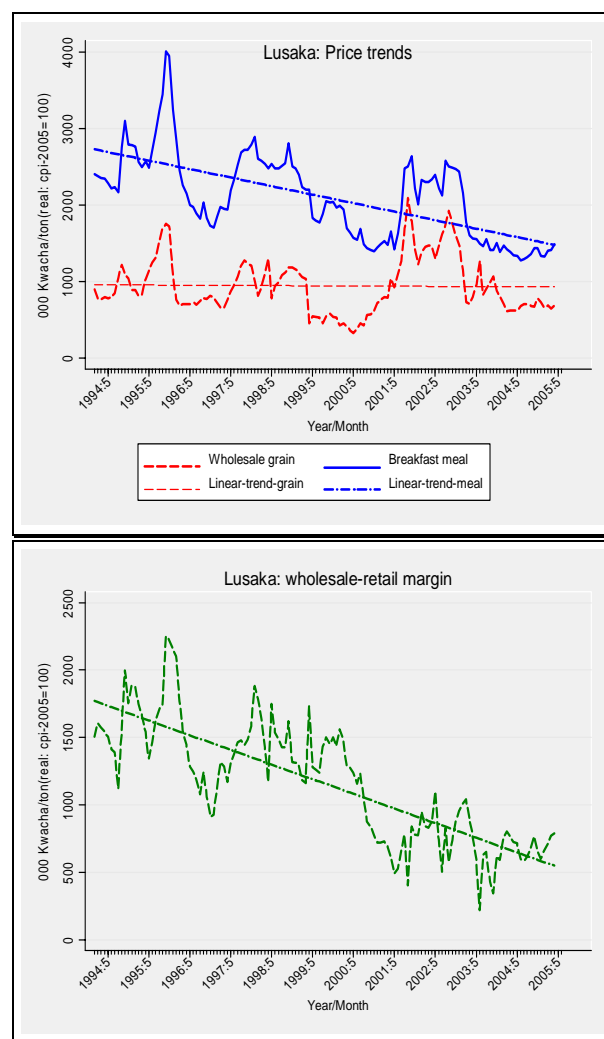
exogenous demand and supply factors such as rainfall, changes in technology, government policy, seasonality in prices and margins and macroeconomic variables. All prices were adjusted by the 2005 consumer price index. Data were available for six markets (Lusaka, Choma, Kasama, Kabwe, Ndola, and Chipata).

**MAIN FINDINGS:** The wholesale-to-retail maize marketing margins have been trending downwards in 5 of the 6 markets for which data was available (the exception being Chipata). On average the wholesale-to-retail margin declined by 9.30 Kwacha/tonne per month (Table 1, column C). Ten years into the reform process, real breakfast meal prices have declined by 35%, while milling/retailing marketing margins have been cut in half (Figure 1 and Figure 2A-E in appendix). Based on estimates of 3.5 million urban “adult equivalent” consumers purchasing 120 kg of breakfast meal per year, the declining maize meal milling and retailing margins have saved Zambian consumers roughly US\$29.4 million (123 billion kwacha) each year.

There are two explanations for the finding that market reform reduced maize milling/retail margins in Zambia. First, the reforms brought about a more competitive market structure. Prior to market liberalization, a few officially registered maize-processing firms had a *de facto* oligopoly on milling maize and supplying the retail sector. Regulations made it difficult for non-registered millers and traders to transport grain into urban areas or acquire grain from the marketing board. Market reform opened this system to greater competition as small-scale millers and retailers who were previously excluded from entering the market were now allowed to procure and transport grain freely across district boundaries. Rapid investment in medium- and small-scale milling and retailing networks occurred almost immediately after the reforms were implemented. In response to greater competition, the registered large milling companies cut their prices in an attempt to

regain lost market share. Greater competition in milling and retailing exerted downward pressure on the milling/retailing margins of the large-scale firms’ products, thereby benefiting consumers.

**Figure 1. Trends in Lusaka wholesale maize grain prices, breakfast meal prices and marketing margins, May 1994 to April 2005. -(Kwacha/kg, CPI 2005=100)**



The second explanation for declining maize meal prices has to do with the expanded range of maize meal products available to consumers. The small millers who rapidly entered the market after the reforms produced a range of refined and unrefined maize meal products. *Mugaiwa*, or straight-run meal produced by small millers, appears to be a common and relatively inexpensive staple food product among the urban poor. Before the reforms, small millers were unable to

operate in urban areas, because the controlled marketing system prohibited informal grain flows into urban areas.

**POLICY IMPLICATIONS:** Maize market reform in Zambia appears to have brought tangible benefits to consumers by reducing maize meal prices without reducing grain prices for farmers. The lower processing costs charged by small-scale hammer millers have exerted competitive pressures on the large-scale milling and retailing industry to cut costs in order to retain market share. Cost reduction may also be due to efficiency improvements within the large-scale milling and retail sectors as well.

However, the ability of the small-scale milling sector to keep competitive pressure on the large milling sector will depend on ensuring the availability of maize grain in local markets. In certain years during the liberalization process (e.g., 2001/02 and 2005/06), the government has unintentionally subverted this objective, by announcing that it would import maize to sell at subsidized prices (thus discouraging the private sector from doing so) but then delaying doing so until after supply shortages emerged, which forced market prices to exceed import parity levels. These are the only periods in the liberalization process when breakfast meal prices rose above import parity. In such cases, due to the scarcity of maize grain in local markets, poor households have no choice but to purchase more expensive industrial maize meal. Low-income consumers' access to food would be greatly improved if grain could be sold onto informal local markets at times when imports are required (instead of channeling all imports to large millers only). The evidence over the past decade indicates that open regional trade for both large and small-scale traders will promote this important food security objective.

\*\*\*\*

The Food Security Research Project is collaboration between the Agricultural Consultative Forum, the Ministry of Agriculture and Cooperatives, and

Michigan State University's Department of Agricultural Economics, and is funded by the United States Agency for International Development in Lusaka. Supplemental funding is also acknowledged from the Market Access, Trade and Enabling Policies Programme. The Zambia FSRP field team is comprised of J. Govereh, S. Haggblade, S. Kabwe, A. Mwanaumo, M. Nyembe, and B. Zulu. MSU-based researchers in the FSRP are C. Donovan, T.S. Jayne, D. Tschirley, M. Weber, A. Chapoto, N. Mason and .

Please direct all inquiries to the Country Coordinator, Food Security Research Project, 86 Provident Street, Fairview, Lusaka; tel: 234-539; fax: 234-559;

<sup>1</sup> T.S Jayne, A. Chapoto, B. Zulu, S. Haggblade J. Shaffer, J. Shawa, H. Haantuba, 2006. Zambia's Maize Value Chain: Toward National and Regional Food Security. Working Paper 20, Food Security Research Project, Lusaka, jointly published by the World Bank and the Rockefeller Foundation.

\*The authors are, respectively, Assistant Professor and Professor, International Development in the Department of Agricultural Economics, Michigan State University, East Lansing MI 48824-1039, USA

## Appendix

**Table 1: Summary of linear trend results on wholesale maize grain and retail breakfast meal prices in Zambia<sup>a</sup>**

Market	Wholesale maize grain prices	Retail breakfast meal prices	Wholesale-retail margin
	Linear trend [Average monthly Kwacha increase or decrease]		
	(A)	(B)	(C)
National-Average	1.11	-12.50*	-8.93**
Lusaka	0.46	-9.76*	-9.41**
Choma	1.88	-10.86*	-10.16**
Kabwe	-0.36	-10.66**	-7.20**
Chipata	-4.16	-4.48	-0.28
Ndola	4.26*	-14.84**	-9.60**
Kasama	-0.71	-12.83	-10.03**

Source: AMIC -various years

Notes: + significant at 10%; \* significant at 5%; \*\* significant at 1%. <sup>a</sup>See Jayne et al. 2006 for the complete set of results.

**Figure 2A-E: Trends in wholesale maize grain prices, breakfast meal prices and marketing margins, May 1994 to April 2005 -(Kwacha/kg, CPI 2005=100)**

