

MALAWI

Strategy Support Program



IS MALAWI'S MIX OF MAIZE MARKET POLICIES ULTIMATELY HARMING FOOD SECURITY?

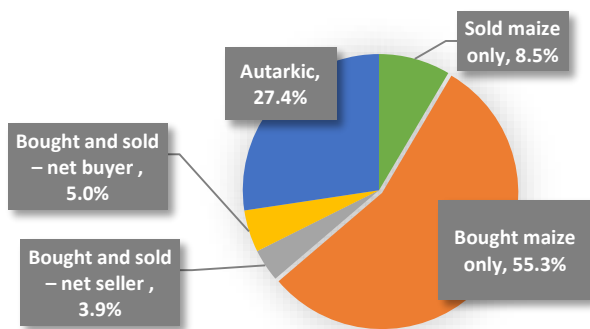
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High levels of poverty and food insecurity combined with weak food markets have prompted many African governments for political and socioeconomic reasons to assume the responsibility of ensuring adequate domestic food supply at reasonable prices. Malawi is no different, with significant government intervention in the maize market on both the production and marketing sides. Interventions include providing farm input subsidies and recommending minimum farm gate prices to encourage maize production; supporting a grain marketing board and a national food reserve agency to stabilize maize prices and provide emergency food assistance; and controlling international maize trade, mainly through restrictions on maize exports. This note explores the effects of government intervention in Malawi's maize market, and proposes medium- to long-term policy guidelines that will improve the functioning of these interventions. These considerations are timely as Malawi attempts to transform its agricultural sector into a more commercial and outward-oriented one.

MAIZE MARKET CHARACTERISTICS

Malawi's maize market is characterized as extremely thin, meaning there are few buyers and sellers relative to the number of producers. Estimates by Jayne et al. (2010) show that about 8.5 percent of farmers are outright sellers of maize; a further 8.9 percent operate as buyers and sellers; 55.3 percent only purchase maize to supplement own stocks; and 27.4 percent are autarkic, i.e. they neither buy nor sell maize (Figure 1). The implication is that only a relatively small share of maize produced—perhaps about 10 percent according to the Grain Traders and Processors Association—is formally traded. Thin markets are associated with significant price volatility since prices are sensitive to offers or bids of market agents, particularly larger private traders or government.

Figure 1. Farmers' engagement in maize market transactions (2006/07–2008/09)



Source: Authors' estimates based on Jayne et al. (2010)

Price volatility is made up of two components: a seasonal component that follows a regular, predictable pattern over the course of the marketing season, and an unpredictable component. While some degree of seasonality is tolerable—and even expected for crops that are only harvested once per year—the unpredictable component of price volatility is undesirable as it raises storage risks.

Evidence shows that maize prices in Malawi are particularly volatile, more so than elsewhere in the region (Chapoto and Jayne 2009). By some accounts, maize price volatility has increased since the introduction of the Farm Input Subsidy Programme (FISP) in 2005/06 (Chirwa and Dorward 2013). What is especially concern-

ing about the Malawi case is that 60 percent of overall intra-seasonal volatility in maize prices is due to unexplained (unpredictable) factors rather than to seasonal factors (Kaminski et al. 2013).

In the face of significant uncertainty, risk-averse or resource-poor farmers will avoid producing a surplus for the market and instead simply aim to be self-sufficient in staple crops (Fafchamps 1992; Alwang and Siegel 1992). Uncertainty also curtails productivity-enhancing investments (see World Bank 2015). The one-in-six farmers in Malawi that do market some of their maize (Figure 1) tend to do so in the early post-harvest period when prices are generally low: By August each year two-thirds of farmers have completed the bulk of their sales, even though prices, on average, are expected to rise another 25 to 30 percent between August and February (Edelman et al. 2014). While this behavior reflects in part a lack of adequate storage facilities or access to credit, it also reflects farmers' risk averseness: Having cash in hand provides more security than having to second-guess an unpredictable market.

Traders, who perform the important role of regulating maize supply throughout the year through engaging in temporal arbitrage transactions, are also adversely affected by unpredictable fluctuations in maize prices. Whereas transport and storage costs can be budgeted for in advance, unpredictable future prices impart a risk to traders. The more unpredictable maize prices are, the higher the risk premium traders charge for their service, which results in higher consumer prices or lower producer prices. The latter creates a further disincentive to farmers to produce for the market, which may adversely affect food security. However, when prices follow predictable seasonal patterns, temporal arbitrage is encouraged, which itself will eventually reduce price seasonality and stimulate production as farmers can expect better prices during the early post-harvest period.

WHAT IS THE ROLE OF GOVERNMENT?

In light of market failures, high transaction costs, and significant risks to producers, traders, and consumers, government's challenging role is to minimize price unpredictability and encourage seasonal storage that will ensure reliable food supply throughout the marketing season. Few will disagree that government's role in staple food markets should always include investing in physical infrastructure, providing regulatory oversight and market information, providing extension services, and promoting or supporting

market institutions, such as commodity exchanges. There is less consensus over whether government should actively engage as a buyer or seller, control prices directly, or regulate international trade. In this regard, international evidence has shown that purely market-based institutions in developing countries, such as commodity exchanges, cannot guarantee that prices will remain within an acceptable range (Rashid et al. 2010). If a more active role in staple food markets for developing country governments is warranted; the question then becomes what this role entails, and to what extent government should have freedom to decide how it engages in the market.

One approach has been for government to permit itself unregulated or broad discretionary engagement in food markets. Discretionary interventions may include imposing export or import bans, changing trade tariffs, procuring grain (often at artificially high prices), disposing of grain (often at subsidized prices), or setting prices directly (e.g., minimum farm gate prices). Most governments in eastern and southern Africa, including Malawi, tend to intervene in staple food markets in this manner. Unfortunately, since these interventions are often unanticipated by producers, consumers, and traders, they have been an important contributor to price volatility: Evidence shows that prices are more volatile and market outcomes less certain in countries where government intervention has been highly discretionary, such as Malawi and Zambia, compared to countries where government intervention has been more predictable, such as Uganda, Mozambique and South Africa (Chapoto and Jayne 2009). As a result government interventions in staple food markets often undermine the very rationale for putting these interventions in place, namely stabilizing food prices.

A more appropriate model is to permit certain forms of government intervention which are bound by strict rules and pre-commitments from government (Jayne 2012). In its simplest form, such a rules-based approach allows government to engage as a buyer or seller in domestic or international markets only when the market is unable to contain prices within a pre-determined price band. Furthermore, market prices should only be influenced through supply and demand rather than directly through price controls. Rules may also be put in place to ensure transparency and predictability of government involvement in trade, i.e., as importer or exporter (see Abbink et al. 2011), or in regulating private sector trade. The ultimate objective is to ensure that when government does intervene, it does so only in response to specific, pre-defined, undesirable market outcomes, and its subsequent actions are entirely predictable, thus allowing other market agents—producers, consumers, and traders—to factor government actions into their own decision-making and planning processes.

DISCRETIONARY POLICY IN MALAWI

Malawi's government intervenes in the national maize market in multiple ways. Although the Farm Input Subsidy Program (FISP) is not a maize marketing policy per se, it is certainly the most prominent government intervention in the maize sector. FISP has been delivered more or less consistently since its inception in 2005/06, which has contributed to market stability. Unfortunately, however, many of government's other market interventions have been highly discretionary and inconsistently implemented, leading to major uncertainty in the market.

One example of discretionary policy is the government's management of the National Food Reserve Agency (NFRA). NFRA acquires maize stocks for government's Strategic Grain Reserve and oversees releases from this reserve to serve as a buffer against food shortages. In recent years, however, price setting processes have

lacked transparency and the timing of the purchases have changed drastically from one year to the next, making it hard for private traders to anticipate when, how much, and at what price government will procure and release maize stocks.

The government also supports the Agricultural Development and Marketing Corporation (ADMARC), a parastatal agricultural marketing board. Once the sole market for smallholder produce in Malawi, it is perhaps now less prominent than before. However, ADMARC continues to attempt to stabilize maize prices by procuring from smallholder farmers, particularly those in more remote areas, often at above-market prices, and selling maize again at subsidized prices, normally in small quantities to discourage traders from engaging in arbitrage. At times ADMARC also procures maize on behalf of NFRA. However, as there are no published or transparent rules governing ADMARC's procurement or marketing activities, the timing, magnitudes, and locations of purchases and sales are inconsistent across years.

In addition to buying and selling maize, the government also announces minimum farm gate prices. These prices, based on production cost estimates, are announced together with an instruction to traders to offer prices at or above the stated levels for the various crops. Minimum prices are meant to encourage production by ensuring farmers get a fair price for their produce. While the method for calculating minimum prices is clear and consistently applied, government discretionarily revises prices based on market and political economy considerations, or at times withholds their release altogether. Indications are that minimum prices are seldom enforced in practice.

Finally, government bans the exports of maize. As in many other countries, Malawi's export bans are meant to "fend off any perception of food scarcity" (Chirwa and Chinsinga 2013:24). The export bans are also considered necessary to protect the "the huge investment that government is making in the agricultural sector" through the FISP (Face of Malawi 2013). Often mistrust in the annual estimates of crop production compels governments to take a cautious approach to allowing exports (Jayne and Rashid 2010). Crop production estimates in Malawi are considered particularly weak, and those for maize are also said to be biased upwards due to political interference (Chirwa and Dorward 2013).

The decision-making process behind the imposition and lifting of export bans is not officially documented. In practice, the policy process exhibits characteristics of ad hoc policy making, including an absence of official government announcements, inconsistent timing from year-to-year, and susceptibility to unilateral private sector pressure. Furthermore, enforcement of export bans appears to lack consistency: Provisional analysis of trade data shows the existence of informal and formal exports during periods in which export bans have been in force. However, these exports have been small relative to exports during periods in which the ban was lifted (Figure 3). When comparing domestic prices against the South African Futures Exchange (SAFEX) price, it is also evident that trade is only likely to take place when market prices make it profitable to do so. During periods of domestic shortage, local prices will typically be above export parity prices, traders will have no incentive to export maize, and there will be no economic rationale for officially imposing an export ban.

In summary, while policies such as FISP and export bans will tend to suppress maize prices early on in the season, minimum farm gate prices, although not necessarily enforced, are an attempt to support prices and encourage production. Although FISP has boosted production among beneficiary farmers (Pauw and Thur-

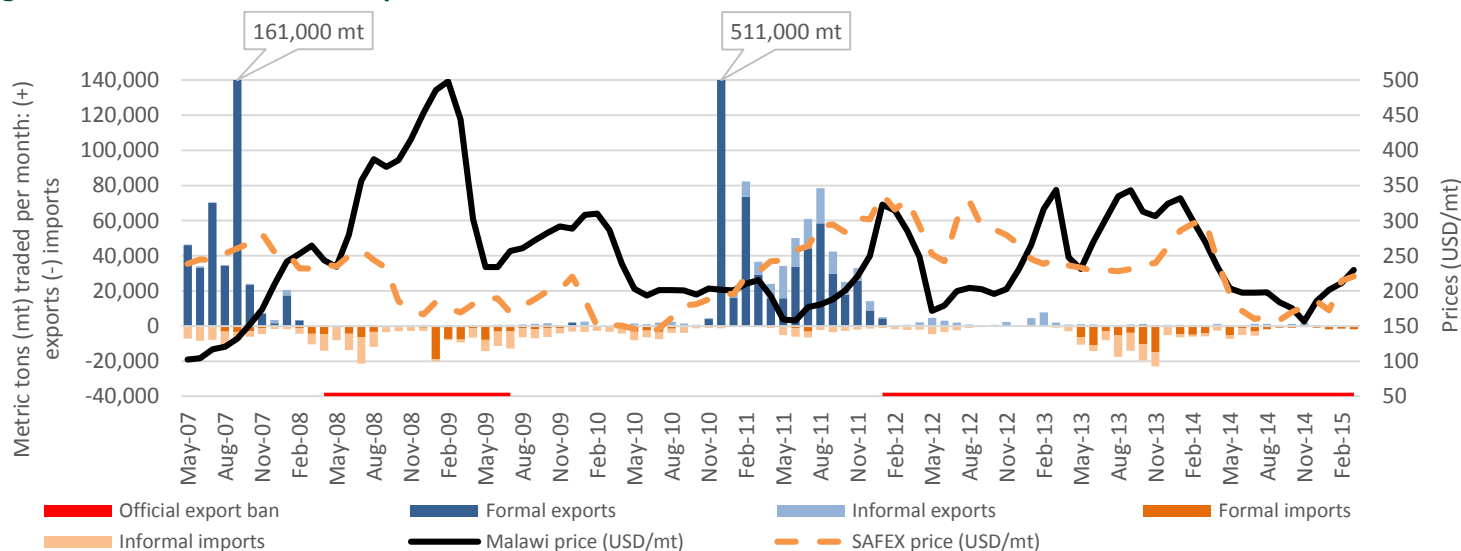
low 2013), the current mix of policies more likely discourages farmers—particularly commercially oriented ones—to produce surplus maize. With a small buffer stock, the country is not only vulnerable to food deficits during drought or flood events, but government’s maize market policies contribute to the “thinness” of the market and, hence, increase price instability. Government transactions through NFRA and ADMARC further fuel price instability, thus acting as a disincentive to traders to engage in temporal arbitrage, given the large risks involved. This in turn fuels a vicious circle where declining private stock levels ultimately cause prices to vary more over the course of the season. The next section considers price movements during the most recent marketing season.

THE 2014/15 MAIZE MARKETING SEASON

While it is difficult to infer causality between discretionary policy and maize price volatility across years, the 2014/15 season has been a particularly unusual one in terms of price movements. Maize market prices averaged around MK78/kg during the early post-harvest period (April to August) when the majority of farmers sell their produce. After accounting for inflation (20 to 25 percent per annum; NSO 2015), this price was already 33.7 percent lower in real terms than during the same period in 2013/14. Moreover, while prices traditionally rise throughout the marketing season—with an average peak around 69 percent above the harvest season price (see “expected price” in Figure 2)—they remained remarkably stable at around the MK80/kg mark in real terms throughout most of 2014. Prices strengthened somewhat with the onset of the lean season early in 2015, but remained well outside of the expected price band until March 2015.

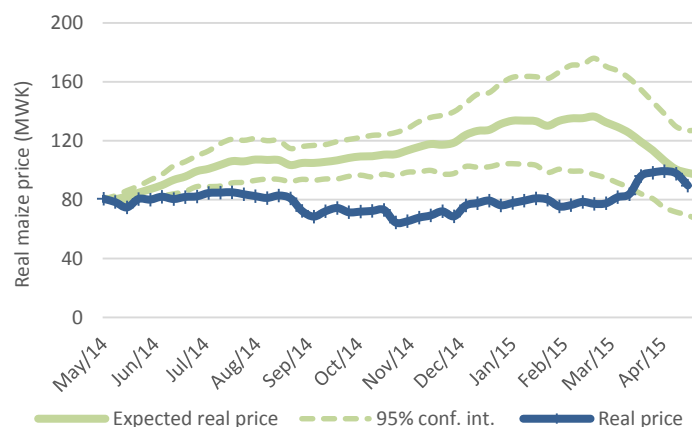
Prices spiked in March 2015 with speculation of a 40 to 50 percent drop in production, but later stabilized somewhat when production declines in the order of 30 percent were confirmed, together with a commitment from the Minister of Finance to import maize to cover any domestic shortfall. While droughts and floods have been blamed for the production deficit in the 2014/15 season, the second round agricultural production estimate figures indicate that estate farmers allocated 17 percent less land to maize. Further analysis is required to determine whether this negative supply response from commercially-oriented farmers was in fact due to the unusual price behavior during the previous season, but it is likely given their profit-maximizing motive. Smallholder subsistence farmers, who have different objectives, planted as much as in the previous year.

Figure 3. Trade flows and maize prices, 2007–2015



Source: Malawi retail maize market prices from Agricultural Market Information System (AMIS), SAFEX prices from www.grainsa.co.za. Exchange rates from www.oanda.com. Trade data from FEWSNet and International Trade Centre.

Figure 2. Maize prices in the 2014/15 season



Source: Authors’ estimates based on Agricultural Market Information System (AMIS) and National Statistics Office (NSO). May 2014, MWK 385 = USD 1.00.

The unusual price behavior may become a major deterrent to traders to keep maize stocks in future seasons. While most traders would have bought maize during the early post-harvest period when prices averaged MK78/kg, real prices only recovered to around MK80/kg by February 2015 when prices normally peak. Once storage and interest costs are taken into account, traders are unlikely to profit from temporal arbitrage during the 2014/15 marketing season, unless they decide to roll over stock into the new 2015/16 marketing season and prices rise sufficiently to cover these additional costs and the ones already incurred in the 2014/15 season.

Several factors may explain the unusual market price behavior during 2014/15. Even though government recommended a minimum farm gate price of MK100/kg, market prices stayed below this level for almost the entire season. NFRA subsequently offered to procure maize during October and November 2014 at MK95/kg, which, although significantly higher than the prevailing market prices at the time, was below the government’s own minimum farm gate prices. ADMARC, in turn, reportedly sold maize between November 2014 and February 2015 at MK80/kg. Although Malawi’s borders are officially closed, low prices domestically may also reflect low prices regionally; SAFEX prices were generally lower during the 2014/15 season as compared to the relatively high prices of the 2013/14 season (Figure 3).

CONCLUSIONS AND RECOMMENDATIONS

With just one-in-six farmers selling maize and only a small share of the maize produced traded commercially, Malawi's maize prices, which are already more volatile than any in the region, are highly sensitive to market transactions of large market agents such as government or major private traders. While some degree of price seasonality is expected for a crop with a single harvest season, evidence shows that 60 percent of maize price volatility in Malawi's markets is due to unpredictable factors rather than seasonal ones. Unpredictable markets force farmers to become subsistence oriented—leading to even less supply in the market—while traders will only operate if they are able to charge a high risk premium for aggregating, storing, and releasing stock later in the marketing season.

Price volatility is at least in part associated with discretionary government interventions in the Malawi maize market, including ill-timed procurement or stock releases; mixed signals from government concerning price controls; and the unanticipated implementation or lifting of export bans. The 2014/15 season provides at least circumstantial evidence for this claim: While price levels may have been generally low due to regional factors, the unusual seasonal price pattern imparted undue risk onto traders and may have discouraged commercial producers to grow maize.

In order to reverse this cycle of uncertainty and unpredictability, Malawi needs to develop a rules-based approach to government intervention in the maize market. Policies aimed at encouraging production and stabilizing prices remain justifiable for Malawi as it transitions to a more open, market-based economy, but the discretionary nature of many of the market interventions of government appears to be doing more harm than good. As a first step, open dialogue and information sharing between government and private sector firms should be encouraged to ensure transparency in policy setting. A second equally important step is to improve data collection systems and improve the quality and timely, public release of data on crop prices and production. Strong market information systems are fundamental to the success of a rules-based policy system.

If government follows the rules, its policy interventions will build trust and serve as an incentive to smallholder and commercial farmers to increase maize production. Eventually, maize will be seen not only as a food security crop, but also potentially as a cash crop for which markets and fair prices will always be available, even when the domestic market is saturated. Ultimately, a market with fewer restrictions and increased opportunities for small and large producers would enhance national food security and bring about price stability and food security in a more effective and cost-efficient way than under the current mix of policy interventions.

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