MASSP POLICY NOTE 25 • June 2016

MALAWI
Strategy Support Program

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IFPRI
A member of the CGIAR Consortium

ARE MALAWI'S MAIZE AND SOYA TRADE RESTRICTIONS CAUSING MORE HARM THAN GOOD? A SUMMARY OF EVIDENCE AND PRACTICAL ALTERNATIVES

Brent Edelman and Bob Baulch

Since the early 2000s, the government of Malawi has used trade restrictions, export bans in particular, to control trade flows for maize and soya, among other crops. Maize export bans, justified in the name of national food security, have been in place more or less continuously since 2005, with the ban lifted temporarily in 2007-08 and 2009-11. Export bans on soya, used to benefit domestic vegetable oil processors and the poultry industry in the form of lower input prices, were imposed several tim

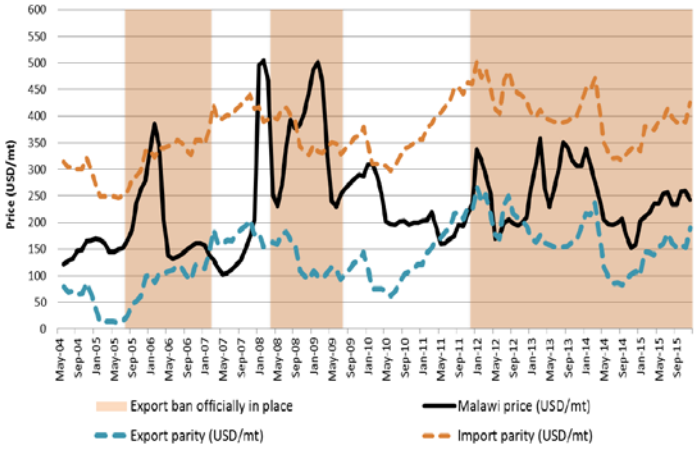
es for a few months at a time between 2010 and 2012. In 2013, government scrapped soya export bans as a trade policy tool, but since 2015 has explored other measures to limit soya exports, including an export levy and a mandate that all soya exports be processed through a single trading company.

This note explores how effective maize and soya export bans have been in achieving their stated goals. It also considers the unintended side effects of export bans, including price volatility and limited engagement of large-scale commercial producers. Next, it proposes modifications to how export bans are implemented that could enhance food security and promote value-addition by encouraging increased private sector engagement in the maize and soya sectors. Finally, it provides short-term recommendations for how to implement these modifications.

HAVE EXPORT BANS BEEN EFFECTIVE?

A ban on exports of maize from Malawi has not resulted in lower domestic maize prices relative to prices in neighboring countries. Econometric analysis of maize export bans in twelve countries in eastern and southern Africa, including Malawi, concludes that export bans do not lower domestic price compared to neighboring markets (Porteous 2016). Furthermore, comparisons of price movements in border and neighboring markets in Zambia, Mozambique, and Tanzania show that export bans often do not lower the price in Malawi's markets relative to prices just across the border.

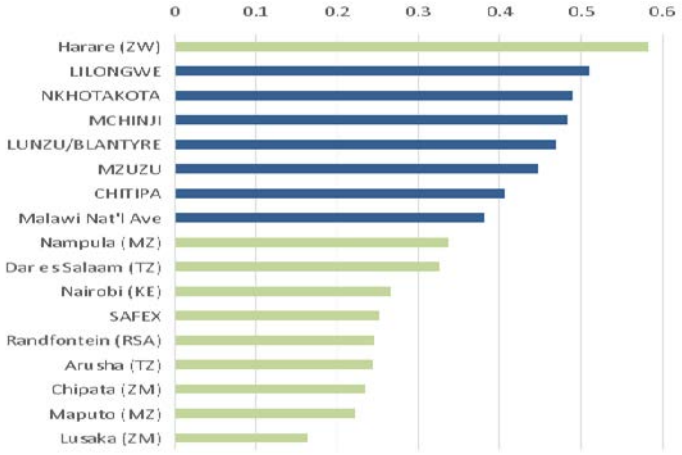
Figure 1. Maize export bans and prices, 2004-15



Source: Sources: Authors' estimates based on data from the Agricultural Market Information System (AMIS) of Malawi and the South African Futures Exchange (SAFEX). Malawi price is the Malawi national average retail price. Exchange rates from www.oanda.com.

At national level, the Malawi maize price has typically been high enough relative to regional prices to make the export ban redundant from a price incentive perspective: In the 85 months that export bans on maize were in place from May 2004 to December 2015, the Malawi maize price fell below the export parity price in only seven months (Figure 1). In other words, high domestic prices relative to regional prices made it more profitable for traders to sell maize domestically rather than export it for almost the entire time that maize export bans have been in place.

Figure 1. Maize price volatility in regional markets, 2005-15, coefficient of variation



Sources: Authors' calculations based on various sources.[1]
Note: Malawi markets are in all caps with dark bars. (SAFEX is also in all caps but with a light colored bar.)

Furthermore, the past decade of Malawi's ad hoc export bans coincides with higher levels of maize price volatility in domestic markets relative to regional markets. Ethiopia, Kenya, Tanzania and Zambia have also adopted maize export bans in the last decade (Porteous 2016). Nonetheless, except for Harare, Malawi's markets exhibit the highest measures of maize price volatility in the region from 2005 to 2015 (Figure 2). These findings fit with other analyses of price volatility in the region, including work done by Chapoto and Jayne (2009), who find that Malawi had the highest staple food price variability in eastern and southern Africa from 1994 to 2009, and Porteous (2016), who finds that export bans "appear to destabilize domestic markets rather than stabilizing them."

What is especially concerning about the Malawi case is that only 40 percent of the overall variability in maize prices is due to seasonal factors (Kaminski et al. 2014). While some of the other 60 percent of the variability in prices can be attributed to longer-

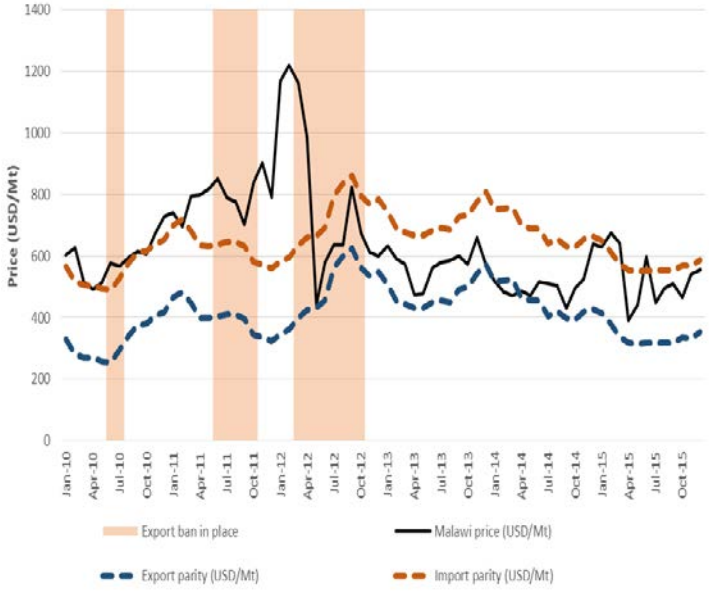
[1] Sources include AMIS of Malawi; the Central Statistics Office of Zambia;, the Ministry of Agriculture of Mozambique; the Ministry of Industry, Trade, and Marketing of Tanzania; FEWSNET-Zimbabwe, the Ministry of Agriculture and Livestock of Kenya, and the Statistical Agency of South Africa.

term price trends, such as inflation, much of the rest is due to unpredictable factors, including the effects of policy interventions, such as maize export bans.

Unpredictable, volatile prices and markets can negatively affect maize producers and consumers alike. In a review of evidence on smallholder market participation in staple food markets in eastern and southern Africa, Barrett (2008) concludes that volatile markets limit farm-level incentives to increase production and to generate surpluses for the market. Perhaps not surprisingly, commercially marketed surpluses in Malawi are quite low. A relatively small share of maize produced -- 10 percent, according to the Malawi Grain Traders and Processors Association – is traded commercially. Furthermore, few farmers engage in maize marketing: Just 12 percent of Malawi's farmers are net sellers of maize and 17 percent sell any maize at all (Pauw and Edelman 2015; Jayne et al. 2010). Unpredictable prices also hurt Malawi's consumers of maize, especially when one considers intra-seasonal price movements: average per capita purchases are almost three times higher in the lean season (January to March), when the maize price is on average 60 percent higher, than in the post-harvest period (May to July).[2]

For soya, export bans meant to lower the price for processors coincided with higher and more volatile domestic prices relative to regional prices (Figure 3). From June 2010 to September 2012, during which government put in place and then lifted three successive export bans, the Malawi soya price was considerably higher and more volatile than the export parity price and routinely higher than even the import parity price. By contrast, from October 2012 to December 2015, a time period during which there were no bans, the Malawi price remained more or less within the import/export parity price band and was significantly less volatile. For soya, free trade coincides with lower, more stable prices compared to time periods when export bans are imposed and lifted frequently.

Figure 2. Soya export bans and prices, 2004-15



Sources: Authors' estimates based on Agricultural Market Information System (AMIS) and South African Futures Exchange (SAFEX). Malawi price is the Malawi national average retail price.3 Exchange rates from www.oanda.com.

Government trade policy interventions, like export bans, have economy-wide implications as well. Computable general equilibrium analysis shows that export bans in the short run benefit urban consumers at the expense of rural farmers. For urban consumers, however, export bans benefit the relatively more affluent households more than they help poorer households. And export bans hurt the poorest rural farmers more than they hurt the relatively better-off farmers. In the long run, export bans become self-defeating as they reduce incentives to produce maize or soya and thus constrain supplies (Aragie et al. 2016). Interviews with commercial agricultural producers support the long run economy-wide analysis findings: a study of the planting decisions of fifteen of Malawi's large-scale commercial farmers finds that unpredictable government interventions are major deterrents to their increasing investments in maize production in particular (Edelman et al. 2016).

Because soya makes up a relatively small share of activity in Malawi's agricultural sector[4], soya export bans have negligible effects on the economy as a whole. A recent simulation of the effects of export bans on the soya sector itself, however, estimates that the ban could cost Malawi 12 percent of the overall economic activity generated by the soybean sector and reduce soybean farmers' net revenue by 56 percent in a given year (USAID 2013). A farm-level risk model for smallholder farmers finds that unstable soya markets contribute to Malawian farmers' reluctance to diversify from tobacco to soya production (Johnson et al. 2016). Moreover, research to simulate an oilseed export levy of 15 percent, another trade policy tool recently considered by government, concludes that the levy actually contributes to virtually no change in domestic value addition for the cooking oil and other food processing sector oilseed sector in the short run and a decline in domestic value addition for that sector in the long run. Furthermore, by diverting production away from oilseeds to traditional export crops (primarily tobacco), an oilseed export levy would reduce the overall supply of oilseeds by approximately 20 percent with an increased share of that supply coming from imports, given the significant disincentives to produce the crop locally (Aragie et al. 2016).

WHAT CAN MALAWI DO DIFFERENTLY?

If export bans are failing to achieve their goals, what alternatives do policymakers have to support food security and promote value addition in Malawi? **For soya, evidence indicates that Malawi simply needs to stay the course charted over the past three years: Abandon soya export bans in favor of a policy environment conducive to free trade.** During this time period, prices have been lower on average and more stable compared to when export bans have been used as a policy instrument. More stable soya prices result in increased soybean production by smallholder farmers, according to farm-level simulations (Johnson et al. 2016). This is a finding supported by government production figures. Since the lifting of the last export ban on soya in September 2012, land allocated to soya has increased by 34 percent.[5] This growing and increasingly dependable domestic supply of soya directly benefits processors who would otherwise have to import crude vegetable oil to maintain their production levels.

For maize, policymakers should develop transparent, predictable criteria to guide market interventions like export bans. A large body of international evidence shows that predictable policy for agricultural commodity markets is associated with more

[2] A 20 percent reduction in intra-annual price volatility would result in a 5.5 per cent decrease in annual per capita expenditure on maize in a typical season (Source: Authors' calculations based on National Statistics Office (2012)).

[3] Because soya is less traded than maize and fewer markets report soya price data on a consistent basis, the national average price is calculated as the average of the five markets reporting soya prices most consistently from 2010 to 2015.

[4] Oilseeds make up 0.6 percent of national GDP and 1.9 percent of agricultural GDP (Aragie et al. 2016)

[5] Authors' estimates based on Agricultural Production Estimate Survey (APES).

stable prices and increased investment in production (Timmer 1986; Chapoto and Jayne 2009; Abbink et al. 2011). Making transparent and predictable the decision-making criteria used by government when it puts such bans in place would limit their deleterious effects on private sector engagement in maize markets.

In the immediate term, **Malawi should develop a transparent, predictable policy alternative to ad hoc maize export bans**. In particular, Malawi should develop a framework to govern maize exports for future production seasons. This policy alternative could take the following form:

- ***Establish a maximum maize price and allow maize exports as long as the domestic price is below that level.*** In conjunction with private sector and civil society, government should determine a maximum maize price that it deems tolerable.[6] If the domestic maize price stays below this maximum price, government should allow maize exports, but monitor these exports through the tracking of export licenses, letters of credit, and official trade statistics. If the domestic maize price threatens to exceed this maximum price, government can restrict exports until the domestic price falls below the maximum again.

This policy alternative to ad hoc export bans will require close collaboration between government and the private sector. Specifically, Malawi should take the following two steps to facilitate the development of this policy framework:

1. ***Convene a formal platform for communication on maize production, prices, and trading.*** This platform should meet regularly to share information on issues relevant to maize marketing and food security in Malawi.[7] Initially, this platform should consultatively arrive at a maize price range that is agreeable to both government and the private sector. After the range has been determined, the platform should meet monthly to discuss price and production trends and intentions to engage in regional trade.

The effective operation of this platform will also require timely, public release of data on crop prices, production, and trade flows in order to have accurate information on which to base decision-making. Specifically, this platform should also do the following:

2. ***Develop a market maize monitoring tool.*** The platform could leverage existing information systems and data sources to construct a monitoring tool that tracks domestic and regional price as well as national maize stock estimates. Such a tool could alert the platform to price spikes and help actors anticipate shortages and surpluses. In addition, this monitoring tool could provide insight into incentives for private sector trade and simulate the impact that policy interventions – such as incentivizing production of winter maize – would have on maize stocks and national food security.

The resources required for this policy alternative would be minimal relative to other interventions intended to address national food security, including the Farm Input Subsidy Program (FISP), the humanitarian responses coordinated by the Malawi Vulnerability Assessment Committee (MVAC), and Agricultural Development and Marketing Corporation (ADMARC) market interventions. In addition, the risks are minimal: government reserves the right to close the borders as soon as the domestic price exceeds the maximum price. Furthermore, as noted above, the domestic price has historically been higher than the export parity price, meaning that commercially-oriented traders have had little incentive to export maize anyway.

Yet the potential benefits of such a policy approach could be significant, especially if this policy alternative serves as a first step towards rebuilding trust between government and the private sector. According to interviews with commercial maize and soya processors, lack of trust between government and the private sector is a major contributor to the reluctance of the private sector to engage in commercial maize and soya production, as well as one reason that soya processors ask for export bans in the first place (Aberman and Edelman 2015; Edelman et al. 2016). For government's part, it is extremely reluctant to rely solely on the private sector to fulfill its food security mandate (Chirwa and Chinsinga 2013). This lack of trust and uncertainty regarding strategic interactions between government and the private sector has contributed to virtually all of the recent food crises in Malawi since 2000 (Tschirley and Jayne 2010). If Malawi can manage to increase trust between government and the private sector through transparent policy setting and follow through on these policies, food market stability will improve, benefitting government, producers, private sector traders, and consumers.

An additional related possible benefit of such a policy framework is that it would create an environment in which the private sector would be more willing to invest in maize production. A recent study of 15 large-scale commercial farmers in Malawi finds that these producers behave much like smallholder farmers when it comes to maize: they produce just enough for their "own" consumption (for staff and tenants' rations), but are reluctant to invest in producing maize surpluses for the market (Edelman et al. 2016). This reluctance to invest in large-scale commercial maize production is a direct result of unpredictable government interventions. If allowed to export, however, these large-scale producers would increase investment in maize production. A policy approach that specifies the conditions under which large-scale producers can access the export market could increase commercial maize production, resulting in larger tradable surpluses of maize for both the domestic and the export market, a more stable and predictable maize price, and increased foreign exchange earnings.

With open dialogue, clearer rules concerning government interventions in trade, and more dependable information, government and the private sector can work together to improve food security and increase value addition, while at the same time making maize and soya commercially viable crops for smallholders and commercial producers alike. These actions will contribute to making Malawi less vulnerable to price and weather-related shocks and will result in a more prosperous and dynamic agriculture sector.

[6] This maximum maize price should be adjusted regularly for seasonality and inflation.

[7] Open dialogue and information sharing between government and private sector is an action recommended by panel discussants from government, private sector, and civil society at the October 2015 "Making maize markets work for all Malawians" symposium.

REFERENCES

Abbink, K., Jayne, T. S., and Moller, L. C. 2011. The Relevance of a Rules-based Maize Marketing Policy: An Experimental Case Study of Zambia. *Journal of Development Studies*, 47 (2): 207–230.

Aberman, N., and Edelman, B. 2015. *Challenges to Soya Export Promotion: An Institutional Analysis of Trade Policy in Malawi*. Malawi Strategy Support Program Working Paper No. 11. Lilongwe: International Food Policy Research Institute.

Aragie, A., K. Pauw, and V. Pernechele. 2016. *Achieving Food Security and Industrial Development in Malawi: Are Export Restrictions the Solution?* Rome: Food and Agriculture Organization of the United Nations.

Chapoto, A., and T.S Jayne. 2009. *The Impact of Trade Barriers and Market Interventions on Maize Price Predictability: Evidence from Eastern and Southern Africa*. International Development Working Paper No. 102. East Lansing, MI: Michigan State University.

Chirwa, E., and Chinsinga, B. 2013. *Dealing with the 2007/08 Global Food Price Crisis: The Political Economy of Food Price Policy in Malawi*. WIDER Working Paper No. 30. Helsinki: UNU-WIDER.

Edelman, B., and K. Pauw. 2015. *Discretionary Policy Interventions in Malawi: An Impact Analysis of Export Bans and Minimum Farm Gate Prices*. Project Inception Report. Lilongwe: International Food Policy Research Institute.

Edelman, B., A. Mabiso, Z. Nyirenda, and C. Kazembe. 2016. *Have Maize Market Policies Turned Malawi's Large-scale Farmers into Subsistence Producers?* Malawi Strategy Support Program Policy Note 24. Lilongwe: International Food Policy Research Institute.

Jayne, T. S., N. Sitko, J. Ricker-Gilbert, and J. Mangisoni. 2010. *Malawi's Maize Marketing System*. Project Inception Report. East Lansing, MI: Michigan State University. Retrieved from http://fsg.afre.msu.edu/malawi/Malawi_maize_markets_Report_to-DFID-SOAS.pdf

Kaminski, J., L. Christiaensen, and C.L. Gilbert. 2014. *The End of Seasonality? New Insights from Sub-Saharan Africa*. Policy Research Working Paper No. 6907. Washington, DC: World Bank.

Johnson, M., B. Edelman, and C. Kazembe. *A Farm Level Perspective of the Policy Challenges for Export Diversification in Malawi: Example of the Oilseeds and Maize Sectors*. Project report. Lilongwe: International Food Policy Research Institute.

Pauw K. and B. Edelman. 2015. *Is Malawi's Mix of Maize Market Policies Ultimately Harming Food Security?* Malawi Strategy Support Program Policy Note 22, August 2015. IFPRI. Lilongwe.

Porteous, O. 2016. *Empirical Effects of Short-Term Export Bans: The Case of African Maize*. Unpublished manuscript. Berkeley, CA: University of California Berkeley.

Timmer, C.P. 1986. *Getting Prices Right: The Scope and Limits of Agricultural Price Policy*. Ithica, NY: Cornell University Press.

Tschirley, D. and T.S. Jayne. 2010. "Exploring the Logic behind Southern Africa's Food Crises." *World Development*, 38 (1): 76-87.

USAID. 2013. *Cost and Impact of Restrictions on Soybean Trade in Malawi*. Project report. Lilongwe: United States Agency for International Development.

This Policy Note has been prepared as an output for the Malawi Strategy Support Program (MaSSP) of the International Food Policy Research Institute (IFPRI). The note is intended to promote discussion and has not been formally peer reviewed.

MaSSP works closely with the government of Malawi and other development partners to provide information relevant for the design and implementation of Malawi's agricultural and rural development strategies. This MaSSP publication is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents of this publication are the responsibility of the authors and do not necessarily reflect the views of USAID, the United States Government, or IFPRI.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
2033 K Street, NW • Washington, DC 20006-1002 USA
Tel: +1-202-862-5600 • Skype: IFPRIhomeoffice
Fax: +1-202-467-4439 • E-mail: ifpri@cgiar.org

MINISTRY OF AGRICULTURE, IRRIGATION AND WATER DEVELOPMENT
Capital Hill, • Lilongwe , Malawi
P. O. Box 30134 • Lilongwe 3, Malawi
Tel: +265-1-789033 • Fax: +265-1-788003
Contact: Alex Namaona, Director of Agricultural Planning Services (namaonaalex@gmail.com)

IFPRI- LILONGWE
P.O. Box 31666 • Lilongwe 3, Malawi
Tel: +256-1-771780 • E-mail: ifpri-lilongwe@cgiar.org
Contact: Bob Baulch, Country Program Leader (b.baulch@cgiar.org)