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Monitoring price incentives for cotton in Mozambique

Meizal Popat, Emílio Tostão, Francisco Fontes, and Orcídia Chiziane Vilanculos

OVERVIEW

Cotton is an important export crop in Mozambique as it accounts for a sizeable share of foreign currency earnings and has a direct impact on the incomes of a large number of rural families, particularly in the northern and central provinces. In Mozambique, cotton is primarily produced by rural smallholders and cotton yields in Mozambique remain amongst the lowest in the region. With regards to the demand side, the cotton sector in Mozambique is characterized by a monopsony and, in addition to processing raw cotton. Ginners play an important role as a provider of inputs and technical assistance to farmers.

During the analysed period, MAFAP indicators suggest that farmers faced highly variable price incentives. In addition, in seven of the twelve years analysed, price incentives were negative and this was particularly true in periods characterised by sharp increases in international prices. Overall, the period 2005-2016 was dominated by price disincentives for farmers. This can be explained by the presence of a floor price, which reduces the degree of price transmission from international prices to farmers and the high average annual (and intra-annual) exchange rate fluctuations (depreciation), particularly in 2010, 2015 and 2016. Furthermore, the monopsonistic structure of the cotton value chain is also likely to have reduced the bargaining power of farmers and the export tax may have had a negative effect on the Nominal Rate of Protection (NRP).

Given the large disincentives to farmers and the emergence of competing cash crops (such as sesame), it is possible that sustained price disincentives

Editor da Série

Emílio Tostão

Endereço

Praça 25 de Junho, 5º Andar
Caixa Postal 257
Maputo - Moçambique

Contactos

Tel: (+258) 21 30 72 71
Fax: (+258) 21 30 72 72
Website: <http://ceppag.uem.mz>
Facebook: <http://www.facebook.com/uem.ceppag>
Email: ceppag@uem.mz



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could induce farmers to shift to other crops perceived to be more profitable in the future. The Government faces the challenge of ensuring a balance between incentives offered to farmers and ginners, while ensuring that the price remains somewhat aligned to international market prices and competitive vis-à-vis other crops. In the medium- to long-run promoting more competition on the demand side as well as farmer organization could gradually foster the development of the cotton value chain. However, any transition away from the current system would need to be carefully assessed, as ginners also supply agricultural inputs to farmers and provide technical assistance. If there is a decision to maintain the current structure, then it is crucial to perform frequent periodic reviews of the price setting mechanism in order to ensure that farmers and ginners are equitably protected.

COMMODITY CONTEXT: PRODUCTION AND MARKET TRENDS

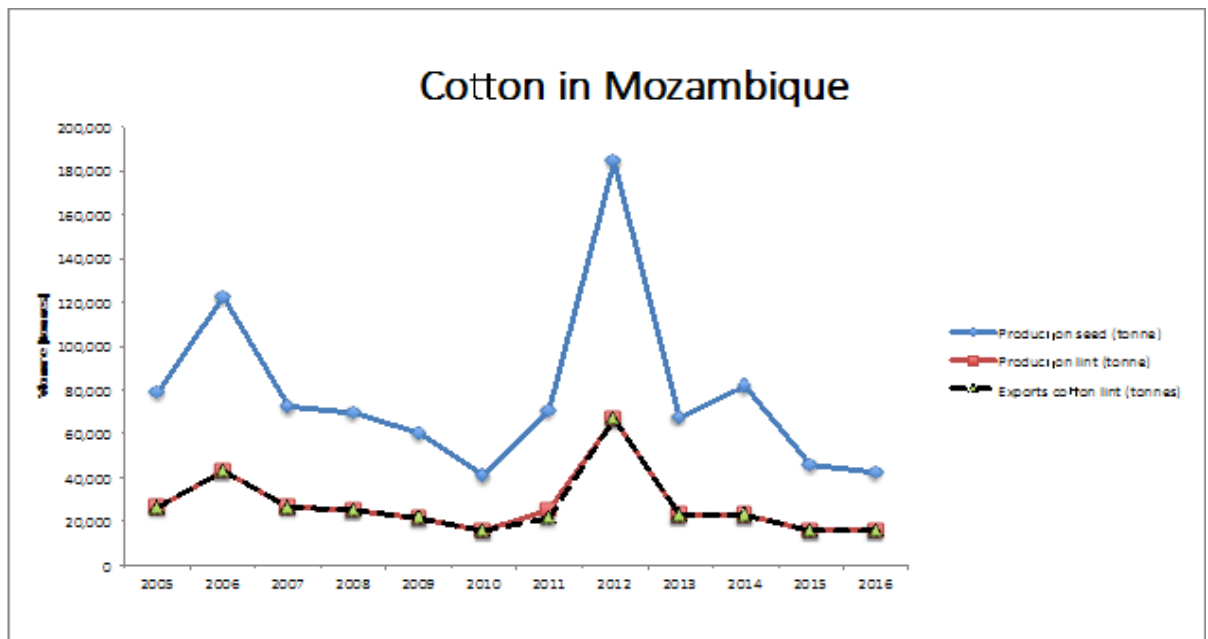


Figure 1: Cotton production and exports

Source: Data from IAM (2017)

Mozambique has a long history as a cotton producing country, which can be traced back to more than two and a half centuries ago, when the Portuguese colonial regime forced farmers to engage in cotton production (IAM, 2014). Nowadays, cotton still plays an important role in the country's economy. Specifically, over the 2003-2013 period, cotton was amongst the top-five cash crops and represented approximately 10 percent of the country's total agricultural exports value. Additionally, cotton also represented an important source of income for about 200,000 to 300,000 rural households (FAOSTAT, 2017; Sutton, 2014; Estur, 2015). Currently, cotton is cultivated under a concessionary regime, with different companies acting as sole operators for promoting and trading cotton in a specific area under the Government approval (Sutton, 2014; BCI, 2017).

Despite its importance for the country, the cotton sector remains poorly developed in Mozambique. Rural households (mostly in the northern and center provinces) are the main producers and contribute to nearly 97 per cent of the country's total cotton production. However, yields are very low compared to neighboring countries such as Zimbabwe, Malawi and Zambia (Sutton, 2014; Estur, 2015). Specifically, from 2005 to 2014, Mozambique's average raw cotton yield was about 543 Kg per hectare, whereas the raw cotton yield for Zimbabwe, Malawi and Zambia was around 703, 849 and 1,204 Kg per hectare, respectively (FAOSTAT, 2017). Moreover, over the last decade, there has been an overall declining trend in cotton production in Mozambique (figure 1).

Several factors concur to the low levels of production and yields in Mozambique. A key issue relates to the limited use of agricultural inputs. Though seed and pesticides are provided to farmers by the concessionary companies, the majority of farmers do not use fertilizers and

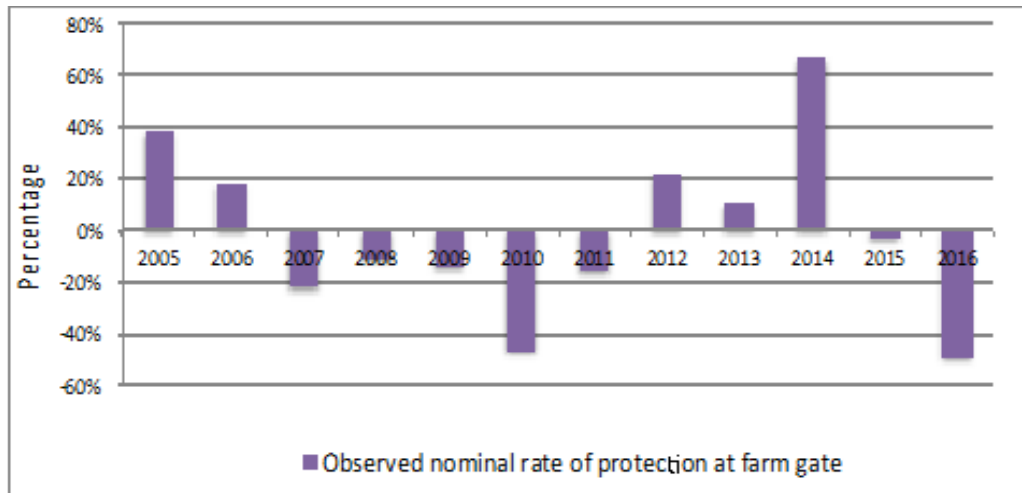
cultivate cotton under rain-fed conditions (Sutton, 2014; Silici, Bias & Cavane, 2015; BCI, 2017). Furthermore, despite the use of pesticides, it is often applied inadequately, adversely affecting cotton production in the country (Sutton, 2014). Lastly, while farmers usually allocate 30 to 50 per cent of their total land to cotton production, as a monoculture or in strip cropping systems with cereals and legumes (Silici, Bias & Cavane, 2015), cotton also competes with other crops for land use. In recent years, despite a certain internal demand for cotton, a considerable number of families have decided to stop producing cotton altogether. This shift has been sizeable and is highlighted by the fact that the total number of households involved in cotton production decreased from 300,000 in 2011 to 150,000 in 2015 (IAM, 2017). As a consequence of the decrease in supply, ginneries are unable to operate at their full capacity, turning Mozambique into a net exporter of cotton lint and a net importer of textiles (Popat & Tostão, 2017).

MAIN POLICY DECISIONS AFFECTING THE COMMODITY

Trade	<ul style="list-style-type: none"> The Government of Mozambique (GoM) has established that, within the country, cotton should be traded under concessionary regimes subject to the Government approval (MINAG, 1991); In addition to the previous point, and contrary to many other sectors, within the cotton sector it is the Government – through the National Cotton Institute (IAM) – responsible to set floor prices for raw cotton at the farm gate level in April/May before the beginning of the marketing season (Boughton et al., 2003; GDS, 2005; Del Prete et al., 2017); To support domestic ginner companies, the GoM has forbidden raw cotton exports. However, for cotton lint it is established a denominated “Cotton Development Tax” either for export or domestic sales, that ranges from 2.5 to 3.5 per cent of the FOB (in case of export) or CIF (in case of domestic sales) prices (GoM, 2015);
Domestic market	<ul style="list-style-type: none"> NA
Inputs subsidies and other support services	<ul style="list-style-type: none"> Under the concessionary regimes, ginner companies should provide agricultural inputs (seed and pesticides) to farmers (MINAG, 1991; Sutton, 2014); The GoM, through its National Plan for Investments on the Agricultural Sector (PNISA) 2013-2017, has defined several actions to revitalize the cotton value chain. Some of these include: research and technology transfer to farmers, including the introduction of GMO cotton; trainings to farmers and cotton technicians on better cotton initiatives as well as agribusiness management; branding the national cotton in international markets; improve the cotton lint classification system at the national level; improve market information access; establish risk management mechanisms, including agricultural insurance, and; promote domestic cotton lint processing. Some of these actions have already been taken in partnership with other actors. For instance, the better cotton initiatives have been introduced since 2013 through the Better Cotton Initiative (BCI) program, as well as the Cotton Made in Africa Program (Silici, Bias & Cavane, 2015; BCI, 2017). These initiatives consist of cotton production under a set of sustainability indicators from the International Cotton Advisory Committee (Silici, Bias & Cavane, 2015).
Post-harvest and processing support	<ul style="list-style-type: none"> NA
Agricultural infrastructure development	<ul style="list-style-type: none"> NA
Exchange rate policy	<ul style="list-style-type: none"> NA
Other policies	<ul style="list-style-type: none"> NA

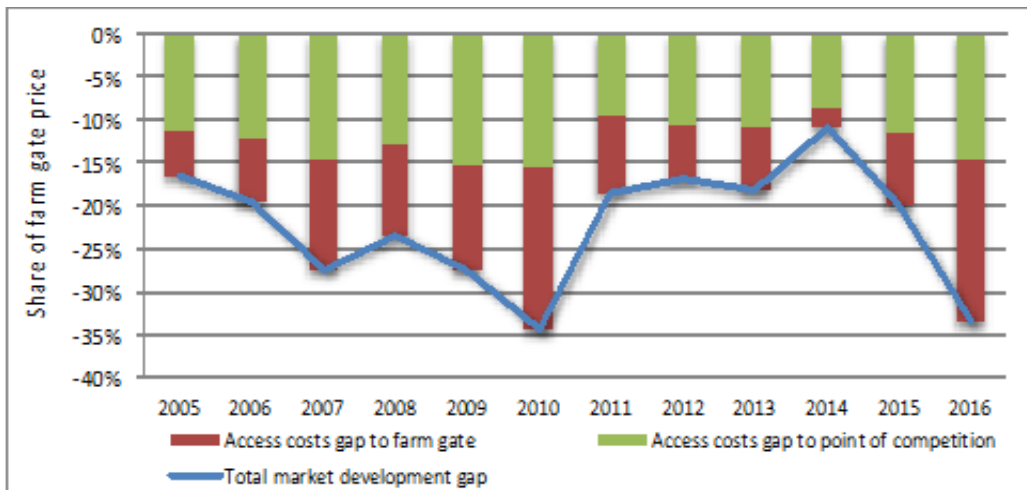
PRICE INCENTIVES INDICATORS

NRP for cotton at farm gate



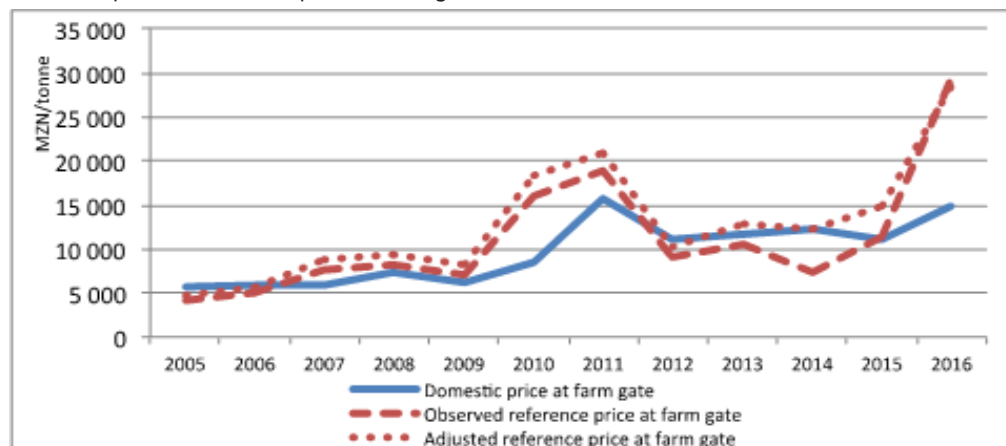
(a)

Market Development Gap (percentage of farm gate price)



(b)

Domestic price vs reference price at farm gate



(c)

Figure 2: MAFAP indicators: (a) NRP, (b) MDG, and (c) domestic and reference prices at the farm gate level

Source: MAFAP (2017)

INDICATORS INTERPRETATION

MAFAP Indicators reveal that, over the analysed period, policies and the market environment did not consistently lead to positive price incentives for cotton farmers. Although there has been a positive trend in nominal farm gate between 2005 and 2016, farmers faced price incentives in only 5 out of the 12 analysed years. In 2015 and 2016 in particular, the sharp depreciation of the metical created price disincentives for farmers. In addition to this, the negative Market Development Gap (MDG) also suggests that reducing excessive access costs could result in a farm-gate price increase for cotton producers.

Incentives for cotton farmers have been quite volatile over the analysed period. As depicted in the figure above, in 2005 and 2006 producers received positive price incentives. This is likely to be explained by the fact that the floor price may have protected domestic farmers in face of the lower international prices. The same mechanism is likely to be at play between 2012 and 2014, when the decreases in international prices did not lead to a commensurate decrease in domestic farm-gate prices. Between 2007 and 2011, when international prices were higher, farmers faced price disincentives. As pointed by Popat & Tostão (2016), the monopsony regime and the limited access to market information is likely to restrict the bargaining power of Mozambican cotton farmers. This monopsonistic structure, together with the price-setting mechanism, is likely to have dampened the degree of price transmission between 2007—2011. In addition to this, the export tax applied on cotton is also likely to have had a negative effect on the NRP. Finally, between 2015 and 2016 farmers once more faced disincentives. In this period, the Metical suffered a very sharp depreciation throughout the year, which implied that the floor price that was set in April failed to provide adequate incentives vis-à-vis the international price expressed in local units during the purchasing season (after September).

While the NRP does not speak directly to the level of prices, it is important to point out that, according to Estur (2015), cotton farm gate prices in Mozambique are the lowest across the Sub Saharan region. According to Popat & Tostão (2016), this is likely partly due to the monopsonistic structure of the cotton value chain. Together with the minimum price mechanism, this means that ginners are better able to reap the benefits from favourable fluctuations in international prices and exchange rates.

The MDG indicator also suggests that farmers could benefit from higher prices if market inefficiencies were removed. The average MDG for the entire period is around -22 percent. This suggests that from 2005 to 2016 cotton farmers could have received, on average, a price up to 22 percent higher than what they would have received if all the excessive access costs had been removed. This suggests that efficiency-enhancing investments could lead to increased incentives for cotton producers.

Driving Factors

Policy	Sector Performance
<ul style="list-style-type: none"> o Floor prices set by the Government o Concessionary regime for domestic cotton trade o 2.5 to 3.5 percent "Cotton Development Tax" on cotton lint trade 	<ul style="list-style-type: none"> o Volatile exchange rate: strong depreciation in the latest years o Supply chain inefficiencies and high market access costs

POLICY IMPLICATIONS AND RECOMMENDATIONS

Over the analysed period, the policy environment in Mozambique seems to have led to a very variable incentive structure for cotton farmers. In fact, nominal prices have increased over the period. However, in over half of the years, this increasing trend was not sufficient to compensate the farmers for the exchange rate fluctuations and international price volatility.

Mozambique is a small player in the global cotton market, which means that Mozambique is a price taker. Typically, one would have expected that the recent depreciation of the metical, in 2015 and 2016, could have benefited farmers. However, given the current market structure and price-setting policy, prices received by farmers were lower and increasingly misaligned with international prices expressed in local currency.

To overcome this, the Government could seek for alternatives to increase farmers' bargaining power. A possible step would be to gradually shift away from the concessionary regime in the medium and long-run. This would, in all likelihood, increase the internal competitiveness of the raw cotton market. A second potential policy, which could be pursued in parallel with the reform of the current concessionary regime, could be the promotion of farmers' associations to improve access of information to farmers. Nevertheless, such reform would need to be carefully assessed, as ginners also provide inputs and technical assistance to farmers. Those activities are likely to increase competitiveness of local producers. In the short-run, however, the Government could revise the pricing setting mechanism more frequently in order to ensure that farmers and ginners are equitably protected.

In the medium and long-term, investments that drive down excessive access costs along the value chain, such as improving the connectivity of critical corridors in the territory by investing in roads and infrastructure, also have the potential to substantially increase the prices received by farmers.

FURTHER ANALYSIS

Potential additional research to be undertaken in support of policy reforms for the cotton sector in Mozambique includes:

- a. Analysis on the impact of abandoning the concessionary regime;
- b. More frequent revision analysis on the pricing mechanism in order to consistently create positive expectations to farmers to produce, whilst ensuring also enough protection to all stakeholders along the value chain.

DATA SOURCES

Benchmark price: FOB cotton lint and seed data gathered at IAM

Domestic price at point of competition: No price at point of competition was used for the analysis

Domestic price at farm gate: National Cotton Institute

Access costs from border to the point of competition: Transport cost from SIMA; Port handling costs from World Bank doing business online database for 2005-2013, the subsequent were derived using CPI; ginning costs from AAM (Ginners Association); margins calculation assumed 2.5 percent (Marketing costs + Farm gate price).

Access costs from the point of competition to the farm gate: Transport costs from Transportes Lalg;

ADDITIONAL INFORMATION

This analysis is the result of partnerships established in the context of the MAFAP programme with the Ministry of Agriculture and Food Security of Mozambique (MASA) and the Center for Studies of Agro-food Policies and Programs (CEPPAG) and was produced with support and contributions from the Mozambique Cotton Institute (IAM).

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References of the analysis and Methodology are reported in the pdf version of this webpage. MAFAP methodological guidelines are also available [here](#).

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