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Monitoring price incentives for Cassava in Mozambique

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OVERVIEW

Cassava is amongst the most important food security crops in Mozambique. In recent years, the increase of projects focusing on cassava and the growth of cassava-based industries (e.g. cassava beer and ethanol) has meant that cassava has become an increasingly important source of income for rural families. Cassava is grown mainly in the northern and central provinces of Mozambique and is predominantly grown by small-scale farmers who cultivate the vast majority of land under cassava production land (99.7 percent of land under production).

Overall, as shown from the MAFAP indicators, both farmers and wholesalers faced price disincentives up to 2011. Since 2011, however, there has been a decreasing trend in price disincentives and wholesalers even faced price incentives since 2013. It is likely that this trend is related to government policies and programmes - for instance, the incentives provided to the cassava beer industry. In addition to this, the MAFAP analysis also highlights the existence of excessive access costs, mainly at the farm gate level. Specifically, the analysis seems to suggest that farmers could have received a price 11 percent higher if all excessive costs were removed. This suggests that these market imperfections have been limiting farmers to experience better prices comparable to international market prices.

To improve the sector's performance, there are some actions to be taken by the government. In order to address the excessive access costs, improving infrastructures would be fundamental to lower the access costs as well as

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improve the business environment in order to attract investments on this sector. Finally, another constraint of the sector relates to the fact that farmers are geographically dispersed and act generally as separate individual units. Promotion of farmer organizations or other mechanisms to increase the bargaining power of farmers, could be considered in order to ensure that farmers reap the benefits of the growing cassava-related industries.

COMMODITY CONTEXT: PRODUCTION AND MARKET TRENDS

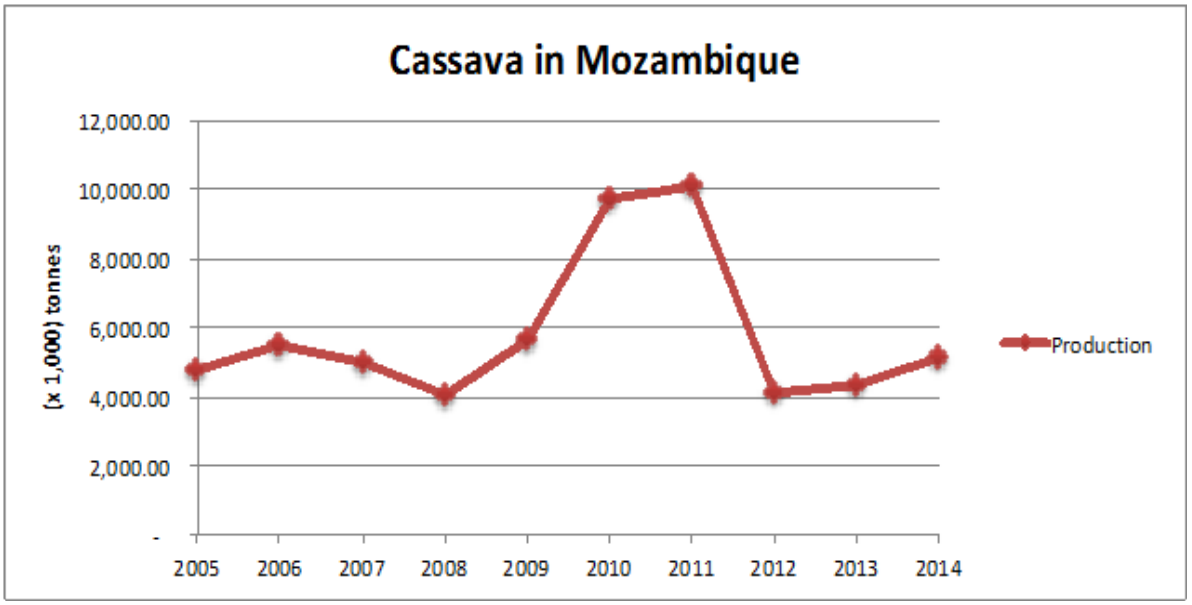


Figure 1: Cassava production levels

Source: Data FAOSTAT (2017)

*Statistics for 2015 and 2016 not yet available

Mozambique is among the top ten global producers of cassava (Marapusse, 2015), with production levels consistently exceeding 4 million tonnes between 2005 and 2014 (figure 1). Currently, the cassava crop is still mainly considered important as one of the major staple crops for many rural families in the country (PROMAR, 2011; Salvador, Steenkamp & McCrindle, 2014). This is epitomized by the fact that the total area under cassava cultivation is cultivated by smallholder farmers (Salvador, Steenkamp & McCrindle, 2014).

Recently, though, there has been a shift in the domestic cassava market. Specifically, there have been significant changes with the emergence of a cassava-based industry. In 2011 for instance, Mozambique became the first country in the world to commercialize cassava-made beer (fin24, 2015; AGRA, 2016). Since 2011, the success of this beverage has been consolidated, and in 2015 its sales volume more than tripled compared to 2014, making it the third most consumed beer locally in 2015 and 2016 (CDM, 2015; CDM, 2016).

From 2005 to 2014, the average cassava production level was around 5.8 million tonnes. Furthermore, data from FAO (reported in the figure above) shows that in 2010 and 2011 Mozambique has reached its highest records on the total domestic cassava production (FAOSTAT, 2017). The central and northern regions of the country remain the main cassava producers, with Zambezia and Nampula being, respectively, the reference provinces for this crop and contributing to more than half of the total domestic production (PROMAR, 2011; Dias, 2012; Salvador, Steenkamp & McCrindle, 2014). Though national statistics on cassava are not very robust, leading to reliability issues in some instances (PROMAR, 2011), the high volumes of production are likely to have been driven also by a number of trial projects for cassava-based

ethanol production which started in 2010, but were discontinued a few years later (Dias, 2012; Marapusse, 2015).

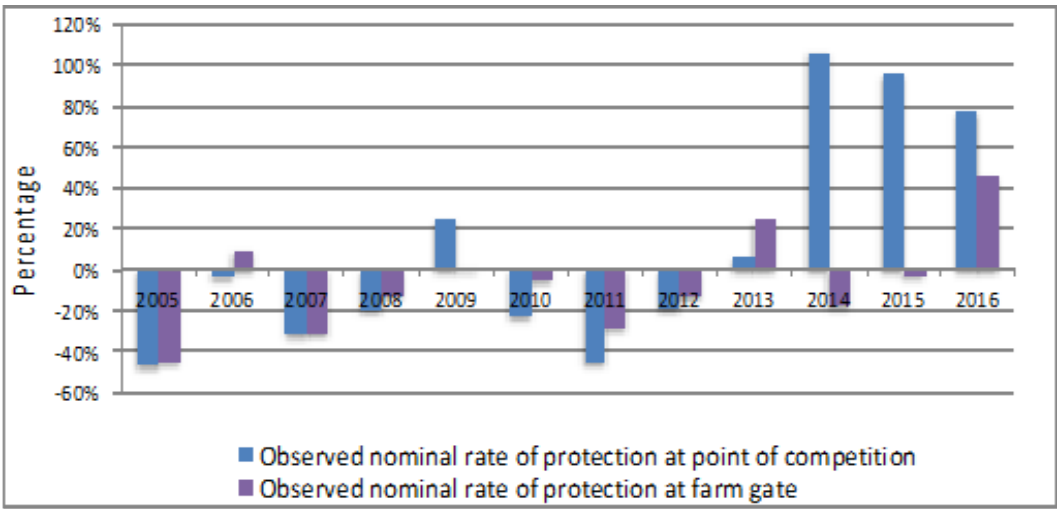
Overall, the cassava value chain development faces several issues, including the geographic dispersion of farmers, the inexistence of farmer organizations (through associations, for instance), the limited access and use of improved inputs (e.g. tolerant diseases varieties), high access costs as well as society's perception of cassava as pauper food (Marapusse, 2015).

MAIN POLICY DECISIONS AFFECTING THE COMMODITY

Trade	• In 2007 the Government of Mozambique (GoM), with support from the European Community (EC) and FAO, has defined the Cassava Development Strategy aiming at enhancing the role of cassava as a food security crop *"through increased value-added end products being brought to market, both nationally and, in the longer term, internationally"* (Koyama *et* al., 2015). In addition, other related policies on the cassava value chain market in Mozambique include the excise duty reduction since 2012, which decreased from 40 percent to 10 percent for cassava-based beer (Koyama *et* al., 2015; GoM, 2012).
Domestic market	• NA
Inputs subsidies and other support services	• The GoM, through its National Plan for Investments on the Agricultural Sector (PNISA) 2013-2017, has defined some actions to promote cassava production, namely: establishment of programmes for improved varieties development and rapid "seed dissemination techniques", investments on laboratories as well as improving the quality of the processed cassava (GoM, 2013).
Post-harvest and processing support	NA
Agricultural infrastructure development	NA
Exchange rate policy	NA
Other policies	NA

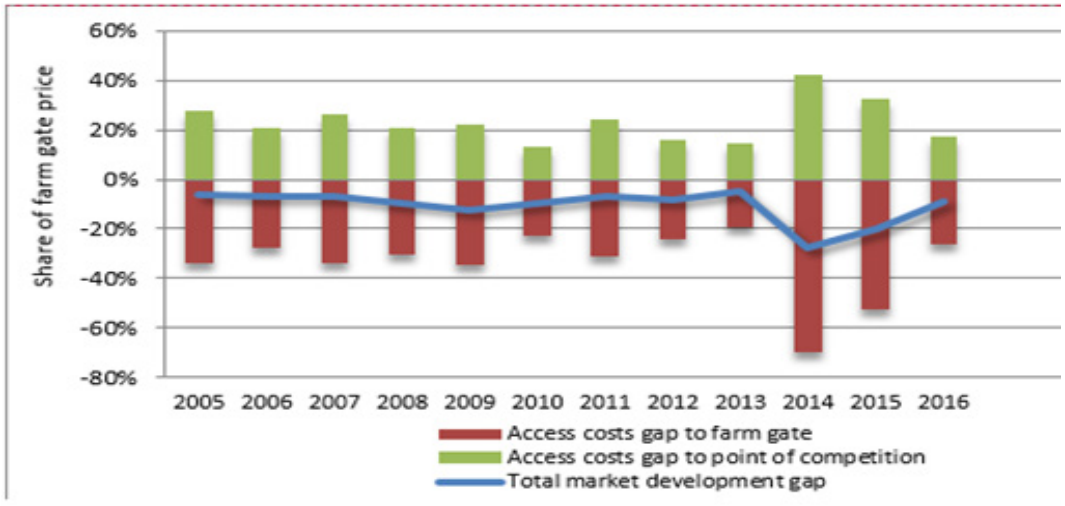
PRICE INCENTIVES INDICATORS

NRP for cassava at farm gate and at point of competition



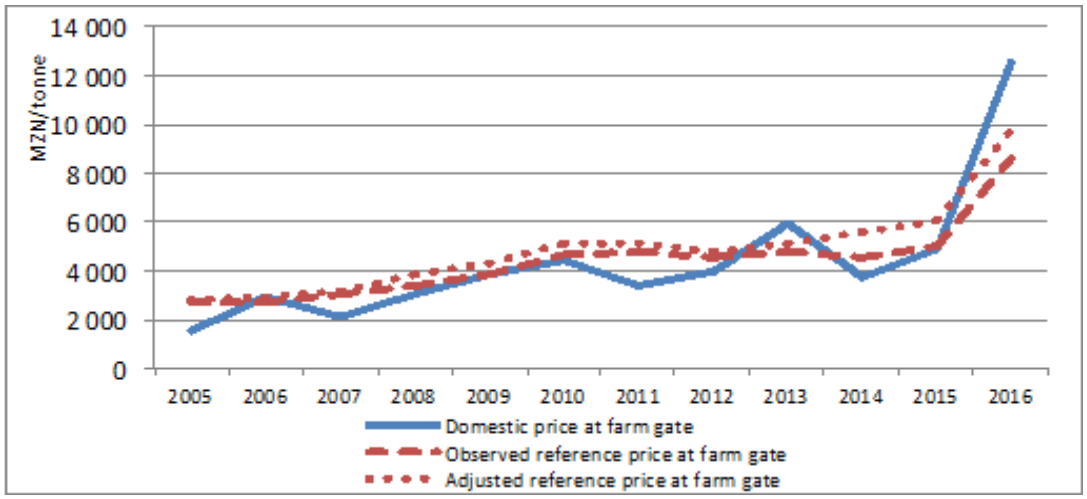
(a)

Market Development Gap (percentage of farm gate price)



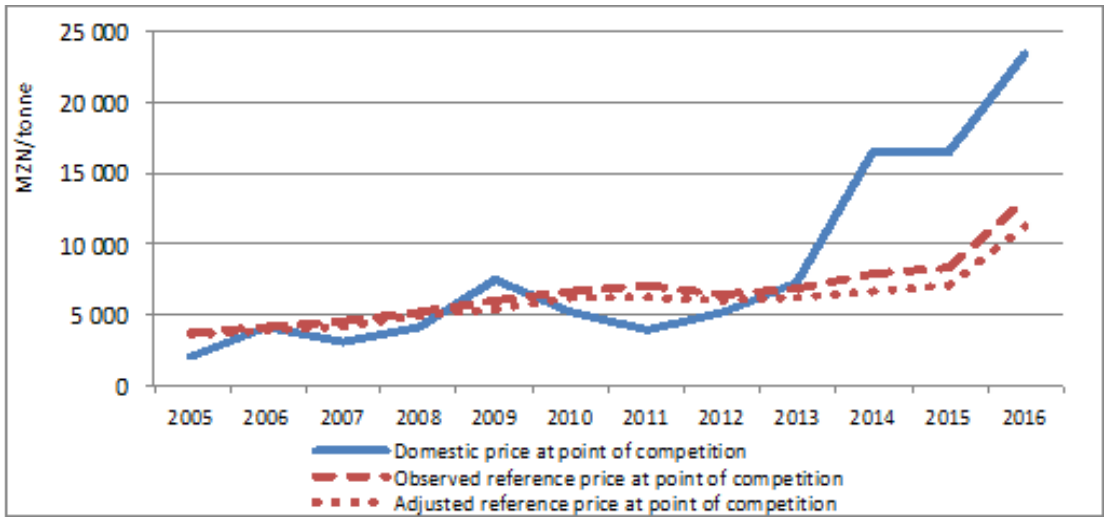
(b)

Domestic price vs reference price at farm gate



(c)

Domestic price vs reference price at point of competition (retail)



(d)

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

Source: MAFAP (2017)

INDICATORS INTERPRETATION

MAFAP indicators reveal that actual policies and market environment have led, overall, to price disincentives to cassava farmers pre-2012. However, since 2013 farmers have faced either reduced price disincentives or price incentives and wholesalers have faced mostly price incentives. With regards to excessive costs, market inefficiencies are higher at farm-gate, which tends to penalize farmers more than wholesalers. According to the analysis, on average, farmers could receive a price up to 11 percent higher if such inefficiencies were removed.

Overall, both farmers have received limited price incentives over the period 2005-2016. As the NRP indicator displayed in figure 2 (a) shows, price incentives at farm-gate have only been positive in 2006, 2013 and 2016. Nonetheless, price incentives have improved for both farmers and wholesalers in the last years of the analysis. Specifically, the NRP for wholesalers has improved since 2011, and has become consistently positive since 2013. Similarly, the price incentives faced by farmers seem to have improved between 2011-2013 and then again between 2014 and 2016.

The NRP indicator for cassava must be interpreted with caution, since cassava reference prices were estimated using rice FOB prices. However, the indicator's trend suggests that the market environment has increasingly favoured farmers and wholesalers alike. Two key factors are likely to explain this trend. First, the emergence of the cassava-based industry and a number of cassava-specific projects since 2011 are likely to have increased local demand for the product, leading to higher prices for farmers and wholesalers. Second, this increased demand may have been reinforced by government initiatives and policies seeking

to promote the local industry development (e.g. the reduction of the excise duty). However, it should be mentioned that, although both wholesalers and farmers have witnessed price increases, these have been more pronounced at the wholesaler level. One possible reason for this is that wholesalers may have access to better information. This, together with the lack of structure among producers and their geographical dispersion, may have allowed wholesalers to profit more from this increase in cassava demand.

The MDG is an indicator that measures the magnitude of the potential impact of market inefficiencies on farm gate prices. In the case of the Mozambican cassava supply chain, this indicator has become consistently (and increasingly) negative over the period of analysis. On average, the MDG has been about minus 11 percent. This means that farmers could have received a price up to 11 percent higher, if all market inefficiencies were removed. This negative MDG results from the higher access costs gap between farm gate and point of competition (PoC), compared to the access costs from the PoC to the border. Cassava being a thinly traded commodity (negligible international trade volumes) this MDG value probably represents an underestimate of the maximum potential price increases that farmers would receive if market inefficiencies were removed.

Driving Factors

Policy	Sector Performance
o Excise duty reduction (from 40 to 10 percent) on cassava-based beer - Positive effect on NRP o Policies favouring local cassava beer industry may have increased demand – Positive effect on NRP	o Supply chain inefficiencies and high market access costs – Negative effect on MDG o Increase in local demand – Positive effect on NRP o Dispersion of farmers and lack of structure between farmers – Positive effect on the NRP gap between at farm-gate and PoC

POLICY IMPLICATIONS AND RECOMMMENDATIONS

In recent years, the policy and market environment has led to improving price incentives for cassava farmers and wholesalers. However it is likely that excessive access costs at farm gate have prevented farmers from fetching even higher prices. The government may wish to consider alternatives to ensure consistent incentives for the main actors in the cassava sub-sector.

Specifically, access costs seem to have prevented higher price incentives as a result of high access costs. As such, the government could seek to increase investments aimed at reducing access costs at all levels (especially between PoC and farm gate). Another important aspect seems to be the existing cassava-based industry, which seems to have been important in ensuring higher price incentives. Another relevant policy could be to continue to foster this industry by, for instance, continually improving the business environment in order to attract more investments on processing and trade stages of the value chain.

Finally, a further identified constraint relates to the geographical dispersion of farmers and the fact that often they sell produce in an isolated, rather than organized, manner. The promotion of farmer associations and/or other mechanisms that improve the transmission of information flows and bargaining power could also be pursued, in order to ensure that farmers reap the benefits of the emerging cassava-based industries.

FURTHER ANALYSIS

Potential additional research to be undertaken in support of policy reforms for the cassava sector in Mozambique could include a social benefit-cost analysis on the impact on investments to reduce access costs and to promote the cassava industry locally.

DATA SOURCES

Benchmark price: CIF price for rice as main substitute; Source: UN Comtrade for FOB prices in exporting countries, plus transport costs, sourced from World Freight Rates. Exchange rate was obtained from the IMF.

Domestic price at point of competition: Average wholesale prices for dry cassava in Nampula provided by SIMA

Domestic price at farm gate: Average producer price for dry cassava in Ribaué provided by SIMA

Access costs from border to the point of competition: Transport cost from Nampula to Nacala from SIMA; Port handling costs for 2006 from World Bank Doing Business online database; others were derived using CPI; Margins for 2007 from a study byArlindo & Keyser, others were derived using CPI Port handling costs for···were provided by NOC Lda. at Nacala port.

Access costs from the point of competition to the farm gate: Transport costs from Ribaué to Nampula sourced from SIMA; margins are calculated as 10 percent of farm-gate prices . Handling costs for cassava, data on taxes and fees and informal costs all come from the Arlindo and Keyser 2007 study.

Adjustment of the transport costs was performed using the Logistics Performance Index (LPI) of the World Bank.

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).

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