



Food and Agriculture Organization
of the United Nations

Technical note: Analysis of price incentives for cotton in Malawi 2005-2013

April 2015

Technical note: Analysis of price incentives for cotton in Malawi 2005-2013

April 2015

This technical note is a product of the Monitoring and Analysing Food and Agricultural Policies (MAFAP) programme. It may be updated as new data becomes available.

MAFAP is implemented by the Food and Agriculture Organization of the United Nations (FAO) in collaboration with the Organisation for Economic Co-operation and Development (OECD) and national partners in participating countries. It is financially supported by the Bill and Melinda Gates Foundation, the United States Agency for International Development (USAID) and FAO.

The analysis presented in this document is the result of partnerships established in the context of the MAFAP programme with the Centre for Agriculture and Rural Development (CARD).

This technical note was prepared by Hélène Gourichon of the FAO, with support and contributions from Rollins Chitika of CARD, Federica Angelucci, Alethia Cameron, Christian Derlagen, Cristian Morales and Valentina Pernechele of FAO.

For more information: www.fao.org/in-action/mafap

Recommended citation:

FAO. 2015. *Analysis of price incentives for cotton in Malawi*. Technical notes series, MAFAP, by Gourichon, H., Rome.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

© FAO, 2015

FAO encourages the use, reproduction and dissemination of material in this information product. Except where otherwise indicated, material may be copied, downloaded and printed for private study, research and teaching purposes, or for use in non-commercial products or services, provided that appropriate acknowledgement of FAO as the source and copyright holder is given and that FAO's endorsement of users' views, products or services is not implied in any way.

All requests for translation and adaptation rights, and for resale and other commercial use rights should be made via www.fao.org/contact-us/licence-request or addressed to copyright@fao.org.

FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org.

Contents

- SUMMARY OF THE NOTE.....v
 - COMMODITY CONTEXTv
 - DRIVING FACTORSvi
 - RECOMMENDATIONS.....vi
- PURPOSE OF THE NOTE 1
- 1. COMMODITY CONTEXT 3
 - PRODUCTION..... 3
 - CONSUMPTION AND UTILIZATION 3
 - TRADE AND MARKETING 4
 - VALUE CHAIN ANALYSIS 5
 - POLICY MEASURES AND DECISIONS 6
- 2. METHODOLOGY..... 9
- 3. DATA REQUIREMENTS AND CALCULATION OF INDICATORS 13
 - TRADE STATUS OF THE PRODUCT 13
 - MARKET PATHWAY ANALYSED..... 13
 - BENCHMARK PRICES..... 13
 - DOMESTIC PRICES 14
 - EXCHANGE RATES..... 14
 - ACCESS COSTS 16
 - BUDGET AND OTHER TRANSFERS 16
 - QUALITY AND QUANTITY ADJUSTMENTS..... 17
 - DATA OVERVIEW 18
 - SUMMARY OF INDICATORS..... 19
- 4. RESULTS AND INTERPRETATION..... 21
 - RECOMMENDATIONS..... 25
- 5. CONCLUSION 27
 - MAIN MESSAGE..... 27
 - LIMITATIONS 27
- BIBLIOGRAPHY..... 29

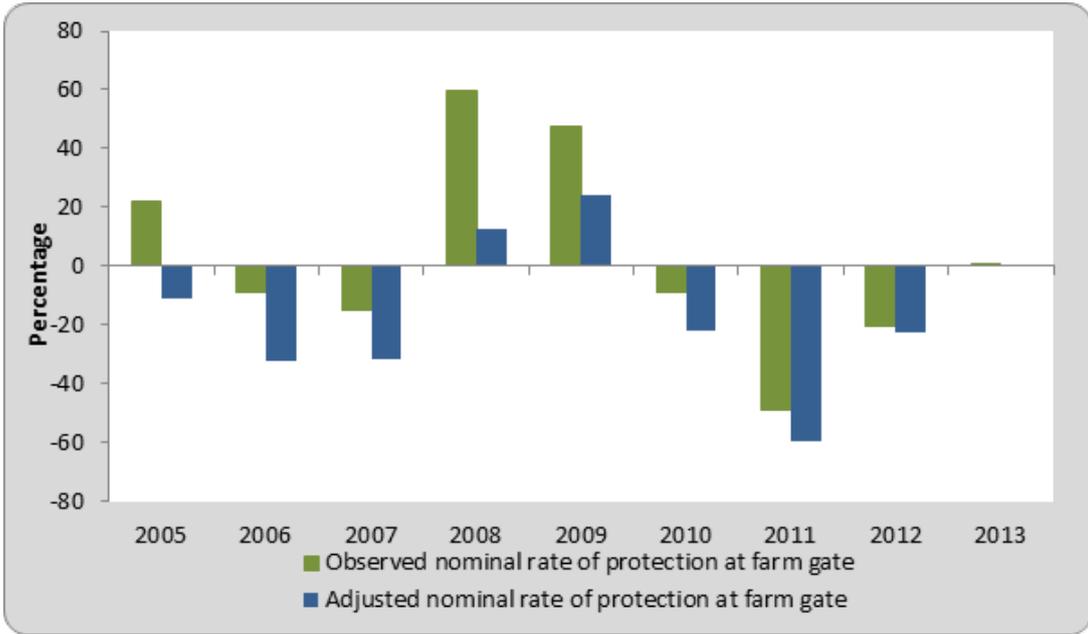
SUMMARY OF THE NOTE

Product: Cotton
Period analysed: 2005 - 2013
Trade status: Export Commodity

COMMODITY CONTEXT

- Cotton is largely produced by small-scale producers;
- Production volumes were unstable owing to diverse climate and market factors, with a decline in 2010 and strong increase in 2012;
- Cotton export is the 4th largest agricultural foreign exchange earner; lint is the main commodity but exports of carded cotton have increased in recent years;
- The policy environment surrounding the cotton sector was particularly dynamic during the period under review. Measures included: the introduction of a minimum buying price for seed cotton; creation of the Cotton Council; implementation of two programmes to develop cotton production and processing activities; and cotton production intermittently targeted by the Farm Input Subsidy Programme.

Figure 1: Observed and Adjusted Nominal Rate of Protection for Cotton at Farm Gate in Malawi (%), 2005-2013



Source: Author’s calculation, 2014

The observed Nominal Rate of Protection (NRP, green bar) in the graph above measures the effect of policy distortions and overall market performance on price incentives for producers. The adjusted NRP (blue bar) captures the same elements as the observed NRP in addition to any market distortions resulting from inefficiencies in the commodity’s value chain and exchange rate misalignment.

DRIVING FACTORS

When no exceptional circumstances affected price dynamics, the atomistic market environment and the strengthening of regulation during the period under review allow for low price disincentives for producers. However, the level of price incentive varies widely across years due to:

- 1- Endogenous price instability. For instance, in 2005, cotton producers benefitted from the general price rise in the domestic market due a decrease in agricultural production including cotton, a result of bad weather conditions. In 2012, large domestic production volumes helped contain prices, resulting in disincentives to production;
- 2- Price policy. The implementation in 2008 of the minimum price policy resulted in incentives to production in 2008 and 2009;
- 3- Imported instability. International prices increased in 2010 and 2011, while domestic prices remained steady, resulting in significant price disincentives to production.

The analysis shows that the minimum price policy did not always reflect the international price trend and has not been systematically respected by ginnerers since 2010.

RECOMMENDATIONS

- 1- Considering that producers alternately received price incentives and disincentives after the implementation of the price policy, the objectives of this policy should be reviewed. If it is implemented to protect producers, the policy should be refined and perhaps more strictly enforced. However, the policy may have other related objectives that ought to be clarified such as reducing uncertainty for actors involved in the value chain or ensuring price transmission;
- 2- The price modelling system should be reviewed since, so far, price signals received by producers and other agents of the value chain were unstable, creating uncertainty and affecting private investments. Furthermore, by adjusting the minimum price during or at the end of the season, minimum producer price would better reflect the international price dynamics;
- 3- Strengthening the regulatory role of the government regarding market transparency and the enforcement of the price policy would ensure that the minimum prices are respected by the ginnerers and that price information is disseminated to farmers;
- 4- Increasing the number of companies involved in seed cotton, cotton lint and by-products processing activities (as outlined in the NES) by attracting investment in the sector would increase domestic value addition, reduce the reliance on international prices, and minimise the risk of monopolistic behaviour.

PURPOSE OF THE NOTE

This technical note is an attempt to measure, analyse and interpret price incentives for cotton in Malawi over the period 2005-2013.

For this purpose, yearly averages of domestic farm gate and wholesale prices are compared with reference prices calculated on the basis of the price of the commodity in the international market. The price gaps between reference prices and domestic prices along the commodity's value chain indicate the extent to which incentives (positive gaps) or disincentives (negative gaps) were present at the farm gate and wholesale level. The price gaps are expressed in relative terms as a percentage of the reference price, referred to as the Nominal Rate of Protection (NRP). These key indicators are used by MAFAP to assess the effects of policy and market performance on prices.

This technical note begins with a review of the commodity's production, consumption/utilization, marketing and trade, value chain and policy context (Chapter 1). Then, the methodology used to build the indicator is explained (Chapter 2). It also provides a detailed description of how key data elements were obtained and indicators were calculated (Chapter 3). The indicators were then interpreted in light of existing policies and market characteristics, and key policy recommendations were formulated on the basis of this interpretation (Chapter 4). Finally, the note concludes with a few main messages and limitations of the analysis (Chapter 5).

The results and recommendations presented in this analysis of price incentives can be used by stakeholders involved in policy-making for the food and agriculture sector. They can also serve as input for evidence-based policy dialogue at the national, regional or international level.

This technical note should not be interpreted as an in-depth value chain analysis or detailed description of the commodity's production, consumption/utilization, marketing and trade or policy context. All information related to these areas is presented merely to provide background on the commodity under review, help understand major trends and facilitate the interpretation of the indicators.

All information in this technical note is subject to review and validation.

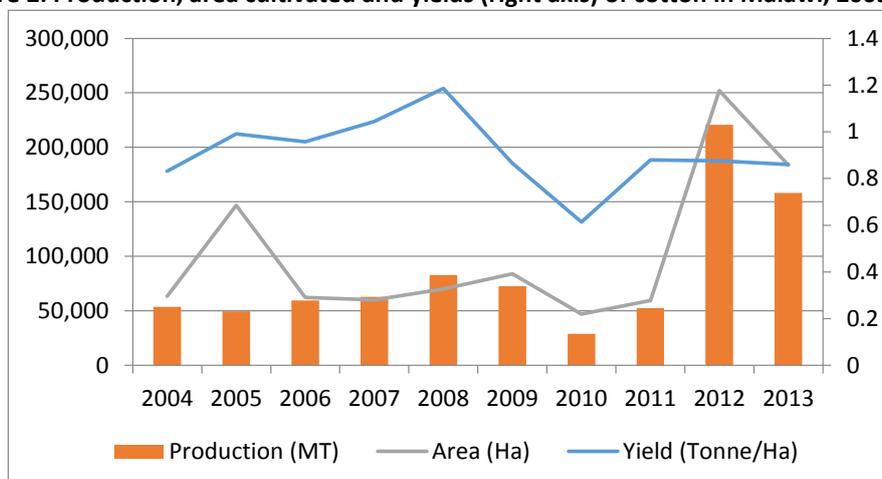
1. COMMODITY CONTEXT

PRODUCTION

Even though Malawi is not a major producer of cotton regionally, accounting for only 2.3 percent of the total African production (volume, average 2005-2013) (FAOSTAT, 2013), cotton is Malawi's fourth largest agricultural foreign exchange earner behind tobacco, sugar and tea (MoAFS, 2006). The majority of cotton in Malawi is cultivated by approximately 120 000 small holder farmers under rain-fed crop cultivation systems (Hardwick, 2010). The average landholding per farmer ranges from 0.2 to 1.6 hectares and cotton varieties vary according to the region. Accurate yield information is scarce but data from the national Agricultural Market Information System (AMIS) suggests that productivity was 0.85 Tonne/Ha, on average, between 2005 and 2013. Malawi cotton is handpicked, which ensures good quality and thus corresponds to the grade A of the Cotton Outlook Index. However, the use of untreated cotton seeds in many parts of the country affects yields (TradeMark, 2014).

Production increased steadily from 2005 to 2008 before dropping significantly in 2010 due to both a reduction of area cultivated and a decline in yields (Figure 2). The reduction of area cultivated is explained by the low prices offered to producers during the preceding season, discouraging producers to plant cotton in 2010. In 2012, production peaked at 220 726 tonnes, from 52 456 tonnes, attributable to the disbursement of inputs subsidies in non-traditional growing areas (Karonga, Mulanje and Nkhata Bay) in the framework of the FISP (Kenamu, 2014). Cotton producers began receiving inputs in 2007/08, were removed from the programme the following two years, and then were reinstated from 2011/12 onwards.

Figure 2: Production, area cultivated and yields (right axis) of cotton in Malawi, 2005-2013



Source: AMIS, 2014

The majority of cotton production occurs in the Southern regions of Malawi, namely, the Lower Shire Valley and Balaka, which represent 50 and 30 percent of production, respectively, and the Lakeshore area of Lake Malawi accounts for 20 percent. In these areas, cotton is the most viable cash crop as the climate is not appropriate for maize production.

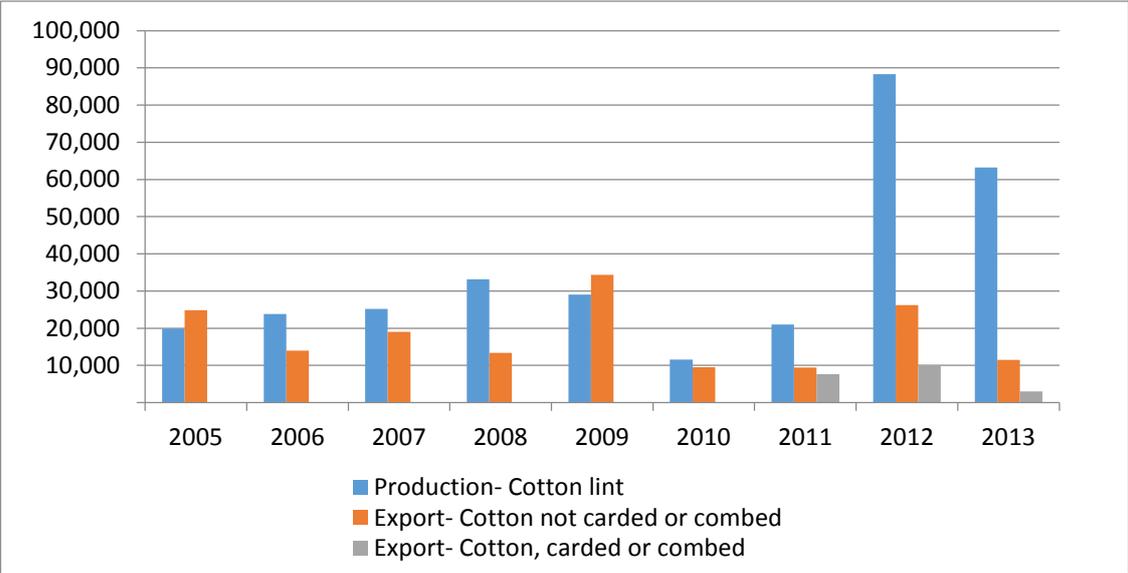
CONSUMPTION AND UTILIZATION

Domestic utilization of cotton refers to the amount of cotton lint used by the domestic textile industry and to the amount of seed processed into oils and animal feed.

Ginning is the separation of seed cotton from lint. Malawi’s average ginning out-turn rate in 2010 was around 40 percent, most of which is exported to regional markets and beyond although some is used for spinning (Manoto, 2010). In 2009, only one company, Mapeto, was involved in the manufacturing of textiles and was operating under capacity (NWGTP, 2009).

However, after a decline in textile production due to a lack of equipment and appropriate technology, the textile sector has risen again since 2011, as shown by the export trend of cotton carded or combed (Figure 3). This increase can be explained by the implementation of the Cotton Strengthening Project in 2010 which, among other objectives, aims at supporting the domestic cotton industry by increasing the value added of cotton production (MAFAP-PE database, 2014).

Figure 3: Production of cotton lint¹ and export of cotton not carded or combed and export of cotton carded or combed in Malawi (Tonne), 2005-2013



Source: NSO, 2014 (exports data) and AMIS, 2014 (production data)

From ginners’ total revenue, 94 percent comes from lint production and the remaining 6 percent from the sale of seed.² Ten percent of the seed produced is retained by ginners to supply seed to farmers and the rest is locally sold to oil crushers. Malawi crushes between 3 000 and 6 000 tonnes of oil seed per month including sun flower, cotton, groundnut and soybean (NSE, 2012). Currently, there are around eight crushing companies in Malawi (Manoto, 2010). However, the production of cottonseed oil is expected to increase since the product is targeted by the National Export Strategy (NES).

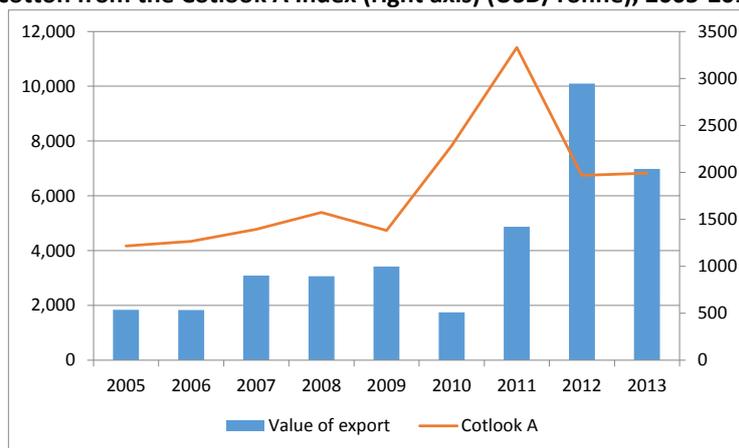
TRADE AND MARKETING

As mentioned above, the majority of cotton lint production is exported, representing an average 2 percent of the total value of agricultural export between 2005 and 2013 (FAOSTAT, 2014). Trends in export volume are consistent with trends in production volume. Exports peaked in 2012, reaching 10 000 million Malawi Kwacha (40 million of US Dollar) owing to high volumes of production (Figure 4).

¹ Cotton lint production is estimated based on the level of production of seed cotton for each year to which the ginning outturn ratio for Malawi is applied.

² MAFAP estimation based on the total value of seed and lint produced as reported by Hardwick, 2010

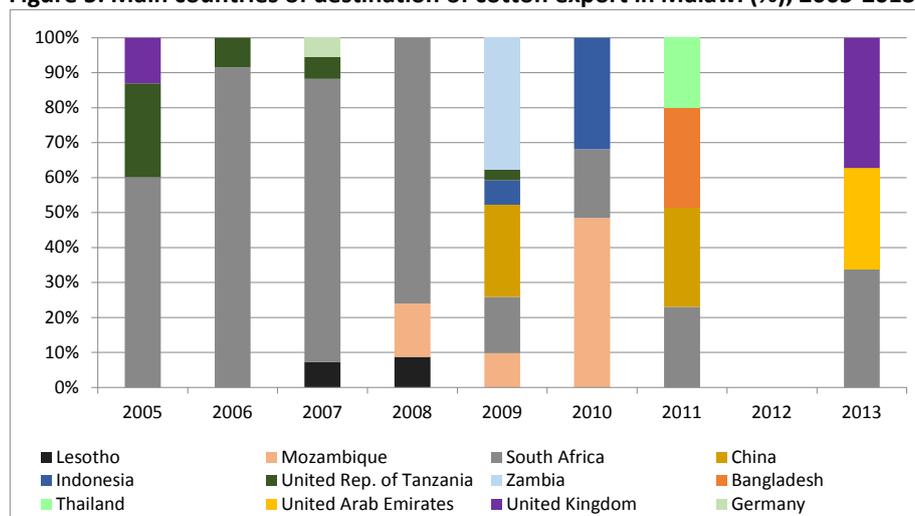
Figure 4: Value of cotton export not carded or combed (millions MWK) in Malawi and international price of cotton from the Cotlook A Index (right axis) (USD/Tonne), 2005-2013



Source: NSO, 2013

The main destination for Malawi's cotton exports is South Africa, accounting for 30 percent of export value between 2005 and 2013 (UN Comtrade, 2014) (Figure 5). China and Mozambique remain key trade partners in terms of average value during the period, while other destination countries vary widely across years. Asian markets such as China, Indonesia and Thailand are becoming increasingly important destinations for Malawian lint.

Figure 5: Main countries of destination of cotton export in Malawi (%), 2005-2013



Source: UN Comtrade, 2014

VALUE CHAIN ANALYSIS

The market structure of cotton in Malawi is described as atomistic (Peltzer, 2013): there are 10 ginners situated in the area of production or close to Blantyre. These firms are price takers the international market and also have a limited ability to set buying prices domestically due to the producer price fixation mechanism and the competitive nature of the domestic market.

The growing season is between June and September. After harvest, raw cotton is packed in 50kg woolpacks and is marketed through farmer organizations or traders, or is directly sold to ginners through buying points in the main production areas. In the latter case, the company contracts small

³ Only trade flows higher than 1 000 000 US Dollar were selected in this figure. Data for 2012 is not available.

holder farmers and provides them with inputs at the beginning of the season and deducting the cost from crop sales. Farmer organizations, such as the Balaka Smallholder Farmers Association (BASFA) in the Balaka District, also intervene in the inputs side and marketing activities by providing extension services, quality control, transport and marketing services on behalf of their members.

At the ginneries, located in the most important growing districts or close to Blantyre, seed is separated from cotton lint. These companies formed the Cotton Development Association in 2003/04 and introduced a farm input subsidy programme; however, the programme lasted only for 2 seasons (MoAFS, 2006). The main cotton company is Great Lakes which accounts for more than 60 percent of production (Manoto, 2010).

Following the ginning process, lint is traded almost exclusively on the international market through intermediaries. These intermediaries collect lint from the ginnery and sell to buyers both in Southern Africa and the Far East. The by-product of cotton seed is sold to seed crushers in Malawi, South Africa and Zambia for the production of cotton seed cooking oil and cake for animal feed.

In 2008, the Cotton Development Trust was formed, involving all cotton players in the value chain. They contribute to policy discussion such as the design of the cotton strategic plan, the cotton act, and the price fixation mechanism. They also aim at increasing training and extension services, and improving access to inputs.

The market chain is largely formal and is regulated by the Cotton Council. Licensing of ginneries and buyers as well as farmer registration, are mandatory and trading must take place at designated buying points. Only certified seed is authorised by the Cotton Council for planting. However, illegal trading does occur because of enforcement challenges, with negative implications for cotton quality and farmer prices.

POLICY MEASURES AND DECISIONS

National strategy

Malawi Growth and Development Strategy

The Malawi Growth and Development Strategy (MGDS II) is Malawi's overarching medium-term national development strategy for the period 2011 – 2016. The MGDS specifically refers to increased cotton production as one of the main objectives to generate increased foreign exchange earnings and diversify the agricultural export sector that is strongly dependent on tobacco.

Agricultural Sector Wide Approach

The Agricultural Sector Wide Approach (ASWap), the country's guiding agricultural investment programme, identifies promotion of cotton production as one of the key areas for investment in order to achieve the Maputo Declaration target of 6 percent annual growth of agricultural GDP.

National Export Strategy

The National Export Strategy (NES) aims at increasing Malawi's export competitiveness and reaching economic empowerment for the period 2013-2018. The strategy focuses on several commodities: traditional exports, such as tobacco and tea, and on "export-oriented clusters for diversification" which includes products derived from cotton and sugarcane. Specifically, the strategy aims at

increasing cotton oil production and includes various components such as regulations, access to inputs, extension services and support to processing and marketing activities (NSE, 2012).

New Alliance for Food Security & Nutrition in Malawi

The strategy developed for the period 2013-2016 intends to create a competitive environment, improve access to land, water and infrastructure, reduce malnutrition and reorganise extension services for key commodities including cotton. The objective is to facilitate the establishment of cooperatives, promote agricultural research and ensure that extension and training programmes, are improved and harmonised (New Alliance, 2013).

Cotton Act

The Malawi Cotton Act was enacted in 2013 and addresses several key issues: the establishment of the Cotton Council and Secretariat; cotton production including input supply, regulation and use; regulations for cotton marketing (including purchase, sale and export), processing and storage; and financing, levies and institutional arrangements for the sector. Explicit references to cotton seed include a provision for the Minister to require anyone possessing it (including ginners producing it from raw cotton) to reserve it for supply to growers, and to restrict its import or export from specified areas for a given period. It stipulates that only seed distributed by the Cotton Council may be planted and that only certified seed may be grown, which requires a Council permit, as does importing, exporting, disposal and breeding.

Market and regulation policies

Minimum prices

Since 2008, the Government of Malawi has mandated minimum buying prices be paid to farmers for seed cotton. The price is determined using a pricing model and inputs from all key chain players in cotton. The price modelling system takes into account the level of the international price of lint (Cotlook Index A), the price of seed, the processing and transport costs. Whether or not production costs are considered is unclear.⁴

Cotton council

The Cotton Council was created within the framework of the Cotton Act. The main activities of the Council are to ensure support research and training for seed generation and multiplication, ensure the compliance of the cotton varieties with standards and facilitate training in cotton production (Cotton Bill, 2012). The development of the Cotton Council has been funded by the government since 2010.

Producer oriented policies

Farm Input Subsidy Programme

⁴ While the Malawi seed cotton pricing model for 2008/09 does not include the production costs, Agar & Chiligo, 2008 indicates that the cost of production are included. Moreover, the Cotton Act indicates that traders should take into account costs of production in their dealing in respect of prices.

Following the Malawi food crisis of 2005, a large-scale input subsidy programme was introduced during the 2005/06 crop season to tackle some of the key constraints faced by small-scale farmers to increase production including low yields and high input costs. The FISP was established with its main feature being the provision of maize input vouchers, targeting approximately 50 percent of small-scale farmers. In 2007/08 and 2008/09, farmers could also opt for vouchers to obtain seeds and chemicals for cotton production. One 'cotton voucher package' allowed for subsidized procurement of 5 kilograms of treated cotton seed as well as 300 ml of chemicals. During the 2008/09 season, it was estimated that the subsidy programme benefited around 200 000 cotton farmers (Chirwa et al, 2011). In total, 390 tonnes of subsidized cotton seed was distributed during the 2007/08 season and 435 tonnes in 2008/09 (Dorward et al, 2010). The following two years, cotton was not targeted by the FISP (2009/10 and 2010/11) yet in 2011/12, cotton farmers again benefited from the programme.

Promotion of Cotton Production

Since 2007, the MoAFS has been implementing the Promotion of Cotton Production programme. From 2007 to 2013, the programme covered many aspects of the cotton value chain: budget support to variable and capital inputs, training and extension services, support to marketing activities, research, and inspection activities. The programme is exclusively funded by the government.

Cotton Strengthening project

The Ministry of Industry, Trade & Private Sector Development started to implement the Cotton Strengthening project in 2011. While the programme Promotion of Cotton Production focuses on the input side and production aspects, the Cotton Strengthening project focuses on supporting processors and traders. It is funded by both the government and donors.

2. METHODOLOGY

MAFAP methodology seeks to measure price incentives for producers and other marketing agents in key agricultural value chains. The analysis is based on the comparison between observed domestic prices and constructed reference prices. Reference prices are calculated from the international price of the product at the country's border, where the product enters the country (if imported) or exits the country (if exported). This price is considered the benchmark price free of influence from domestic policies and markets. MAFAP estimates two types of reference prices – observed and adjusted. *Observed reference prices* are those that producers and other marketing agents could receive if the effects of distortions from domestic market and trade policies, as well as overall market performance, were removed. *Adjusted reference prices* are the same as observed reference prices, but also exclude the effects of any additional distortions from domestic exchange rate policies, structural inefficiencies in the commodity's value chain, and imperfect functioning and non-competitive pricing in international markets.

MAFAP's price incentives analysis is based on the law of one price, which is the economic theory that there is only one prevailing price for each product in a perfectly competitive market. This law only applies in the case of homogeneous goods, if information is correct and free, and if transaction costs are zero. Thus, this analysis was conducted for goods that are either perfectly homogeneous or perfect substitutes in the local market in terms of quality, or, failing that, are simply comparable goods. Indicators calculated from reference and domestic prices will, therefore, reveal whether domestic prices represent support (incentives) or a tax (disincentives) to various agents in the value chain.

Domestic prices are compared to reference prices at two specific locations along commodity value chains – the farm gate (usually the main production area for the product) and the point of competition (usually the main wholesale market where the domestic product competes with the internationally traded product). The approach for comparing prices at each location is summarized below, using an imported commodity as an example. In this situation, the country is importing a commodity that arrives in the port at the benchmark price (usually the unit value CIF price at the port of entry). In the domestic market, we observe the price of the same commodity at the point of competition, which is in this case the wholesale market, and at the farm gate. We also have information on observed access costs, which are all the costs associated with bringing the commodity to market, such as costs for processing, storage, handling, transport and the different margins applied by marketing agents in the value chain. These include access costs between the border and wholesale, as well as between the farm gate and wholesale.

The benchmark price is made comparable to the domestic price at wholesale by adding the access costs between the border and wholesale, resulting in the observed reference price at wholesale. This takes into account all the costs incurred by importers and other agents to bring the commodity to market, which in effect, raises the price of the commodity. The reference price at wholesale is further made comparable to the domestic price at the farm gate by deducting the access costs between the farm gate and wholesale, resulting in the observed reference price at farm gate. This takes into account all the costs incurred by farmers and other agents to bring the commodity from the farm to the wholesale market. Mathematically, the equations for calculating the observed

reference prices at wholesale (RP_{owh}) and farm gate (RP_{ofg}) for an imported commodity are as follows:

$$RP_{owh} = P_b + AC_{owh}$$

$$RP_{ofg} = RP_{owh} - AC_{ofg}$$

where AC_{owh} are the observed access costs from the border to wholesale, including handling costs at the border, transport costs from the border to the wholesale market, profit margins and all observed taxes and levies, except tariffs, and P_b is the benchmark price. AC_{ofg} are the observed access costs from the farm gate to wholesale, including handling costs at the farm, transport costs from farm to wholesale market, processing, profit margins and all observed taxes and levies.

The same steps described above can be taken a second time using benchmark prices and access costs that have been adjusted to eliminate market distortions due to exchange rate misalignments, structural inefficiencies in the commodity's value chain⁵ and imperfect functioning and non-competitive pricing in international markets, where possible and relevant. The adjusted benchmark prices and access costs are then used to generate a second set of *adjusted* reference prices, in addition to the first set of *observed* reference prices calculated.

For exported commodities, a slightly different approach is used. In this case, the border is generally considered the point of competition (wholesale), and the unit value FOB price for the commodity is normally taken as the benchmark price. Furthermore, observed and adjusted reference prices at wholesale are obtained by subtracting, rather than adding, the access costs between the border and wholesale. Mathematically, the equations for calculating the observed reference prices at wholesale (RP_{owh}) and farm gate (RP_{ofg}) for an exported commodity are as follows:

$$RP_{owh} = P_b - AC_{owh}$$

$$RP_{ofg} = RP_{owh} - AC_{ofg}$$

After observed and adjusted reference prices are calculated for the commodity, they are subtracted from the domestic prices at each point in the value chain to obtain the observed and adjusted price gaps at wholesale and farm gate. Observed price gaps capture the effect of distortions from trade and market policies directly influencing the price of the commodity in domestic markets (e.g. price ceilings and tariffs), as well as overall market performance. Adjusted price gaps capture the same as the observed, in addition to the effect of any distortions from domestic exchange rate policies, structural inefficiencies in the commodity's value chain, and imperfect functioning and non-competitive pricing in international markets. Mathematically, the equations for calculating the observed price gaps at wholesale (PG_{owh}) and farm gate (PG_{ofg}) are as follows:

$$PG_{owh} = P_{wh} - RP_{owh}$$

⁵ Structural inefficiencies in commodity value chains may include government taxes and fees (excluding fees for services), high transportation and processing costs, high profit margins captured by various marketing agents, bribes and other non-tariff barriers.

$$PG_{ofg} = P_{fg} - RP_{ofg}$$

where P_{fg} is the domestic price at farm gate, RP_{ofg} is the observed reference price at farm gate, P_{wh} is the domestic price at wholesale, and RP_{owh} is the observed reference price at wholesale.

A positive price gap, resulting when the domestic price exceeds the reference price, means that the policy environment and market functioning as a whole generate incentives (support) to producers or wholesalers. For an imported commodity this could be due to distortions such as the existence of an import tariff. On the other hand, if the reference price exceeds the domestic price, resulting in a negative price gap, this means that the policy environment and market functioning as a whole generate disincentives (taxes) to producers or wholesalers. For an imported commodity this could be due to distortions such as a price ceiling established by the government to keep domestic prices low.

In general, price gaps provide an absolute measure of the market price incentives (or disincentives) that producers and wholesalers face. Therefore, price gaps at wholesale and farm gate are divided by their corresponding reference price and expressed as a ratio, referred to as the **Nominal Rate of Protection (NRP)**, which can be compared between years, commodities, and countries.

The *Observed Nominal Rates of Protection* at the farm gate (NRP_{ofg}) and wholesale (NRP_{owh}) are defined by the following equations:

$$NRP_{ofg} = \frac{PG_{ofg}}{RP_{ofg}} ; NRP_{owh} = \frac{PG_{owh}}{RP_{owh}}$$

where PG_{ofg} is the observed price gap at farm gate, RP_{ofg} is the observed reference price at the farm gate, PG_{owh} is the observed price gap at wholesale and RP_{owh} is the observed reference price at wholesale.

Similarly, the *Adjusted Nominal Rates of Protection* at the farm gate (NRP_{afg}) and wholesale (NRP_{awh}) are defined by the following equations:

$$NRP_{afg} = \frac{PG_{afg}}{RP_{afg}} ; NRP_{awh} = \frac{PG_{awh}}{RP_{awh}}$$

where PG_{afg} is the adjusted price gap at farm gate, RP_{afg} is the adjusted reference price at the farm gate, PG_{awh} is the adjusted price gap at wholesale and RP_{awh} is the adjusted reference price at wholesale.

If public expenditure allocated to the commodity is added to the price gap at farm gate when calculating the ratios, the **Nominal Rate of Assistance (NRA)** is generated. This indicator summarizes the incentives (or disincentives) due to policies, market performance and public expenditure.⁶ Mathematically, the Nominal Rate of Assistance is defined by the following equation:

$$NRA = \frac{PG_{afg} + PE_{csp}}{RF_{afg}}$$

⁶ The NRA indicator was not calculated for any of the commodities analyzed because of insufficient data on public expenditure. However, it will be developed in the forthcoming reports, as the public expenditure analysis is improved and better data are made available.

where PE_{csp} is commodity-specific public expenditure that has been identified and measured as monetary units per tonne.

Finally, MAFAP methodology estimates the **Market Development Gap (MDG)**, which is the portion of the price gap that can be attributed to “excessive” or inefficient access costs within a given value chain, exchange rate misalignments, and imperfect functioning of international markets. “Excessive” access costs may result from factors such as poor infrastructure, high processing costs due to obsolete technology, government taxes and fees (excluding fees for services), high profit margins captured by various marketing agents, bribes and other non-tariff barriers. Therefore, the total MDG at farm gate is comprised of three components – gaps due to “excessive” access costs, the exchange rate policy gap and the international market gap. When added together, these components are equivalent to the difference between the observed and adjusted price gaps at farm gate.

Similar to the price gaps calculated, the MDG is an absolute measure, which is also expressed as a ratio to allow for comparison between years, commodities, and countries. This relative indicator of the total MDG affecting farmers is derived by calculating the ratio between the total MDG at farm gate and the adjusted reference price at farm gate as follows:

$$MDG_{fg} = \frac{(ACG_{wh} + ACG_{fg} + ERPG + IMG)}{RP_{afg}}$$

where ACG_{wh} is the access cost gap at wholesale defined as the difference between observed and adjusted access costs at wholesale, ACG_{fg} is the access cost gap at farm gate defined as the difference between observed and adjusted access costs at the farm gate, ERPG is the exchange rate policy gap, and IMG is the international market gap.

A more detailed description of the methodology applied in this analysis is available on MAFAP’s website at www.fao.org/in-action/mafap

3. DATA REQUIREMENTS AND CALCULATION OF INDICATORS

TRADE STATUS OF THE PRODUCT

Most of the cotton lint produced in Malawi is exported. The value of export amounted to 4 108 million Kwacha on average between 2005 and 2013, while the value of import reached 4 million on average for the same period (NSO, 2014). As mentioned above, cotton export represented an average 2 percent of the total value of agricultural exports during the period 2005-2013 (FAOSTAT, 2014). Therefore, cotton is considered as an export commodity for this analysis.

MARKET PATHWAY ANALYSED

The producer price used to carry out the analysis is that offered by Great Lakes Company to cotton producers and is representative since the company processes 60 percent of Malawi's production (Manoto, 2010). No point of competition is considered in this analysis as the processing companies directly export cotton to the international market; therefore, the value chain is considered fully integrated. Owing to the discrepancies among national and international sources, the benchmark price considered in this analysis is the Cotlook A Index, namely the international reference price for cotton. As the Cotlook A Index is a CIF price, the cost of transportation was therefore deducted in estimating the FOB price.

BENCHMARK PRICES

Observed

The basis for calculating a reference price for determining whether Malawian cotton farmers receive market incentives or disincentives is to establish a benchmark border price, which represents the price for cotton, free of domestic policy and market distortions.

As mentioned above, the international reference price for cotton is the Index A of the Cotton Outlook (Cotlook A), as indicated in the Global Economic Monitor Commodities database (GEM) (Table 1). The Index is estimated based on the 5 daily lowest quotations among several producing countries, the list and the number of countries vary across years. The Cotlook A Index is used to compute the price incentive indicator as it is representative of the international cotton price. Prices reported by the National Statistic Office and therefore by the Ministry of Trade and by UN Comtrade were not selected here as they correspond to the volume and value declared at customs and it is likely that they do not reflect the value of the cotton lint actually exported.

The Cotlook A is expressed as a Far East CIF price; therefore, transport costs to Far East were deducted to estimate the FOB price of Malawi. Indeed, most of the. Such information is available in the national Pricing modelling system and is indicated in Malawi Kwacha per kilogramme for 2008. To estimate the transport costs for the previous and following years, the price index for crude oil is used.

Table 1: Export price for cotton lint in Malawi (USD/tonne), 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
CIF price- Cotlook A	1,217	1,267	1,395	1,574	1,382	2,283	3,329	1,967	1,993
Transport costs to Far East	50	60	67	91	58	74	98	98	98
FOB price	1,167	1,206	1,328	1,483	1,324	2,209	3,231	1,869	1,895

Source: Author's calculation, 2014

Adjusted

Several Western African countries have denounced the price distortions in the international market to the World Trade Organization. Such distortions are the result of the subventions granted by leading exporting countries such as the United States, China and the European Union. During the WTO international negotiation in Cancun in 2003, Mali, Benin, Chad and Burkina Faso launched the "Cotton Initiative" to report the price distortions, highlighting the link between subsidy policies and low international cotton prices (International Trade Centre, 2014).

However, the international prices have not been adjusted owing to the lack of quantitative information that would allow the precise determination of the effects of major exporting countries' subsidy policies on international prices.

DOMESTIC PRICES

Producer prices

The producer price used for the analysis is the price offered by Great Lakes Cotton Company, which processes 60 percent of domestic production (Manoto, 2010). Prices were reported in the Guide to Agricultural Production published by the Reserve Bank of Malawi. The price reported in 2005 was particularly high without justification; therefore, the price indicated by Agar, 2008 was used. For 2013, a provisional price was indicated in the Guide to Agricultural Production but the price was confirmed by the Malawi News Agency.

Table 2: Producer prices offered by Great Lakes Cotton Company for seed cotton (MWK/tonne), 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Producer prices	29,000*	27,000	30,000	65,000	42,000	76,000	75,000	100,000	200,000**

Source: Guide to Agricultural Production, 2012; *Agar, 2008; **Projection indicated in the Guide to Agricultural Production and confirmed by the Malawi News Agency

Prices at point of competition

No point of competition is considered in the analysis as the majority of the cotton lint produced is directly sold in the international market.

EXCHANGE RATES

In MAFAP analyses, the observed exchange rate is used to convert the reference price into local currency.

Observed

The observed exchange rate from the International Monetary Fund (IMF) is used for this analysis (Table 3) as the exchange rate from the RBM was not available for the whole period.

Table 3: Nominal exchange rate USD/MWK, 2005-2013

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Nominal exchange rate	118	136	140	141	141	150	157	249	364

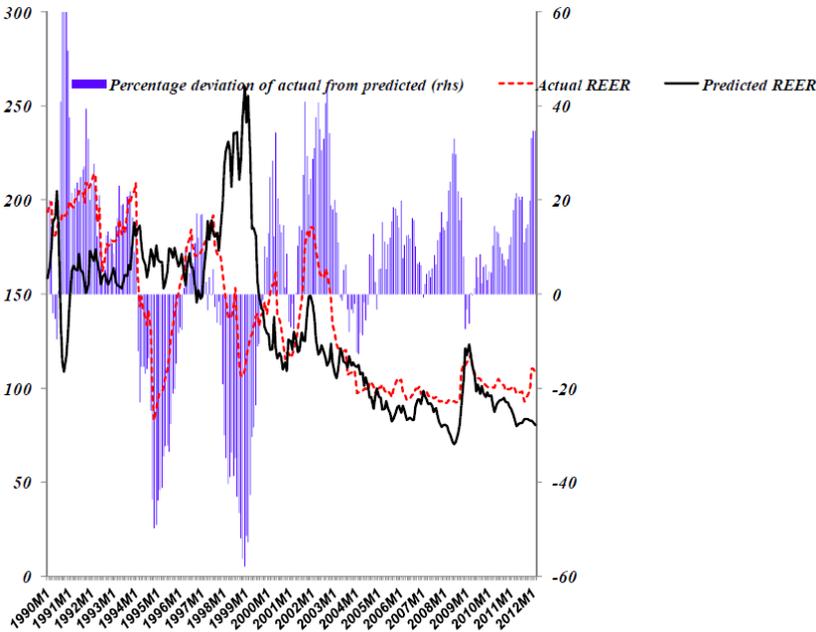
Source: IMF, 2014

Adjusted

Prior to 2012, the government had implemented foreign exchange controls on exchange rates through the Reserve Bank of Malawi between the Malawian Kwacha and the United State Dollar. The Malawi Kwacha has been significantly overvalued since 2005. This is reflected in a dynamic parallel market for foreign exchange until May 2012, when the Government of Malawi decided to change its exchange rate policy and allowed its currency to freely float against the US dollar. Therefore, an adjusted exchange rate has been applied from 2005 to 2012 to express the difference between the nominal exchange rate and the exchange rate in the parallel market.

The values used to express the misalignment are the percentage difference of actual Real Effective Exchange Rate (REER) and the prevised REER as estimated by IMF (Figure 6).

Figure 6: Estimation of the exchange misalignment based on the comparison between actual REER and predicted REER in Malawi, 1990 M1- 2012M2



Source: IMF, 2012

The adjusted exchange rate has been estimated based on the level of misalignment in relative value (Table 4). Data for 2012 are available only for the first two months and therefore represent the level of misalignment only for January and February. Although the currency started to float in mid-2012, cotton is marketed after September and thus the adjusted exchange rate is not applied in 2012. The exchange rate is not adjusted for 2013 either; no data is available but we consider that the misalignment has been minor due to the implementation of the floating exchange rate in 2012.

Table 4: Adjusted exchange rate USD/MWK, 2005-2013

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Misalignment (%)	12	11	7	19	2	9	18	0	0
Adjusted exchange rate	133	151	150	167	145	164	185	249	364

Source: IMF, 2012 and Author's calculation, 2014

The literature review confirms this level of misalignment, estimating that, by late 2010, the kwacha was overvalued by 10-20 percent (IFPRI, 2013).

ACCESS COSTS

Observed access costs

The access costs to bring cotton from the farm gate to the border are extracted from the national Price modelling system for 2008. It includes the following costs: ginning, transport, marketing, crop development, depreciation, overhead and finance costs and profit. Data were available only for 2008 and the Consumer Price Index was used to estimate the previous and following years.

Table 5: Access costs from farm gate to border for cotton in Malawi (MWK/tonne), 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Ginning and Inward transport costs	10,206	11,635	12,554	13,677	14,799	15,922	17,147	20,719	26,435
Buying market costs	6,070	6,919	7,466	8,133	8,801	9,469	10,197	12,322	15,721
Crop Development	2,717	3,098	3,342	3,641	3,940	4,239	4,565	5,516	7,038
Depreciation	613	698	754	821	888	956	1,029	1,244	1,587
Overhead and Finance costs	5,159	5,881	6,346	6,913	7,480	8,048	8,667	10,473	13,362
Net profit	3,934	4,485	4,839	5,271	5,704	6,137	6,609	7,986	10,189
Total	28,699	32,717	35,300	38,457	41,614	44,770	48,214	58,259	74,330

Source: Author's calculation, 2014

Adjusted Access Cost

The adjusted access costs are used to reflect the effects of inefficiencies on price incentives to production. In the case of cotton, owing to the lack of data related to excessive transport or processing costs, or illicit taxes, only the profit obtained by ginners was adjusted. Indeed, the Price modelling system indicated that the profit represented 11 percent of the producer prices on average during the period, considered excessive, and so was reduced to 5 percent to reflect a more efficient value chain.

Table 6: Access costs from farm gate to border for cotton in Malawi (MWK/tonne), 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Adjusted profit	1,450	1,350	1,500	3,250	2,100	3,800	3,750	5,000	10,000
Total adjusted access costs	26,215	29,582	31,961	36,435	38,009	42,434	45,355	55,273	74,142

Source: Author's calculation, 2014

BUDGET AND OTHER TRANSFERS

Public expenditure allocated to the cotton value chain is estimated in the MAFAP Public Expenditure analysis. No expenditure allocated to the cotton sector was identified until 2008, when the cotton value chain was supported through two main projects: Promotion of cotton production and the

Cotton strengthening project (see the section POLICY MEASURES AND DECISIONS). Total expenditures allocated to cotton are divided by the volume of production in order to estimate the budgetary support per tonne produced (Table 7). The budgetary transfers per tonne are used to compute the Nominal Rate of Assistance (NRA).

Table 7: Budgetary transfer to the cotton value chain in Malawi, 2008-2013

	2008	2009	2010	2011	2012	2013
Total PE for cotton (thousands of MKW)	88,295	88,000	52,266	472,816	1,778,358	327,246
Production (tonnes)	82,949	72,572	28,856	52,456	220,762	158,104
Support to cotton production (MWK/tonne)	1,064	1,213	1,811	9,014	8,056	2,070

Source: Author's calculation, 2014

QUALITY AND QUANTITY ADJUSTMENTS

Producer prices are for seed cotton (un-ginned), while the border price corresponds to that of cotton lint (ginned). Therefore, a quantity adjustment factor has been used to convert the cotton lint price into the price of seed cotton. The conversion factors for Malawi are indicated by two sources: (i) in the Price modelling system of 2008, the coefficient is obtained by comparing the volume of seed cotton used and the volume of lint produced; and (ii) the Quantitative value chain analysis realized in 2010 by the World Bank. As indicated in both sources, an improvement in the ginning performance; is reflected in the trend (Table 8).

Table 8: Quantity adjustment factor for cotton in Malawi, 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Quantity adjustment factor	0.38	0.38	0.38	0.38	0.38	0.39	0.39	0.40	0.40

Source: Author's calculation, 2014

DATA OVERVIEW

Following the discussions above, the table below summarizes the main data sources used and methodological decisions taken for the analysis.

Table 9: Data sources and methodological decisions

		Description	
Concept		Observed	Adjusted
Benchmark price		<ul style="list-style-type: none"> - Cotlook A index <i>Source: GEM commodities database.</i> - Index adjusted with the cost of transport to Far East <i>Source: Price modelling system, 2008.</i> - Transport costs for the previous and following years are estimated using the CPI for crude oil <i>Source: GEM commodities database.</i> 	
Domestic price at point of competition		N.A.	N.A.
Domestic price at farm gate		Producer prices are the price offered to producer by Great Lakes Company <i>Source: Reserve Bank of Malawi(2006-2013) and Agar, 2008 (2005)</i>	N.A.
Exchange rate		Nominal exchange rate indicated <i>Source: IMF, 2014</i>	Adjusted exchange rate calculated using the exchange rate misalignment <i>Source: IMF, 2012</i>
Access costs from the point of competition to farm gate		<i>Source: Price modelling system, 2008</i>	Margins of ginners were adjusted
QT adjustment	Bor-PoC	Quantity adjustment factor <i>Source: Price Modelling system, 2008 and WB, 2010</i>	
	PoC –FG	N.A.	N.A.
QL adjustment	Bor- PoC	N.A.	N.A.
	PoC –FG	N.A.	N.A.

SUMMARY OF INDICATORS

Table 10: MAFAP Price Gaps for cotton in Malawi (MWK/tonne), 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Trade status for the year	x	x	x	X	x	x	x	x	x
Observed price gap at point of competition	-138,182	-164,067	-185,930	-208,386	-186,914	-332,469	-505,697	-465,490	-690,611
Adjusted price gap at point of competition	-154,923	-182,369	-199,752	-247,673	-191,437	-362,531	-599,099	-465,490	-690,611
Observed price gap at farm gate	5,190	-2,628	-5,354	24,270	13,521	-7,230	-71,479	-25,668	1,452
Adjusted price gap at farm gate	-3,656	-12,718	-13,945	7,319	8,220	-21,141	-110,297	-28,654	1,264

Source: Author's calculation, 2014

Table 11: MAFAP Nominal Rates of Protection and Assistance for cotton in Malawi (%), 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Trade status for the year	x	x	x	x	x	x	x	x	x
Observed NRP at farm gate	22	-9	-15	60	47	-9	-49	-20	1
Adjusted NRP at farm gate	-11	-32	-32	13	24	-22	-60	-22	1
Observed NRA at farm gate	22	-9	-15	62	52	-7	-43	-14	2
Adjusted NRA at farm gate	-11	-32	-32	15	28	-20	-55	-16	2

Source: Author's calculation, 2014

Table 12: MAFAP Market Development Gaps for cotton in Malawi, 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Trade status for the year	x	x	X	x	x	x	x	x	x
Access costs gap to farm gate (ACGfg) (MWK/tonne)	-2,484	-3,135	-3,339	-20,21	-3,604	-2,337	-2,859	-2,986	-189
Exchange rate policy gap (EXRP) (MWK/tonne)	-6,361	-6,955	-5,252	-14,929	-1,696	-11,574	-35,960	0	0
Total market development gap (MWK/tonne)	-8,845	10,089	-8,591	-16,950	-5,300	-13,911	-38,818	-2,986	-189
Market development gap as share of farm gate price (%)	-31	-37	-29	-26	-13	-18	-52	-3	0

Source: Author's calculation, 2014

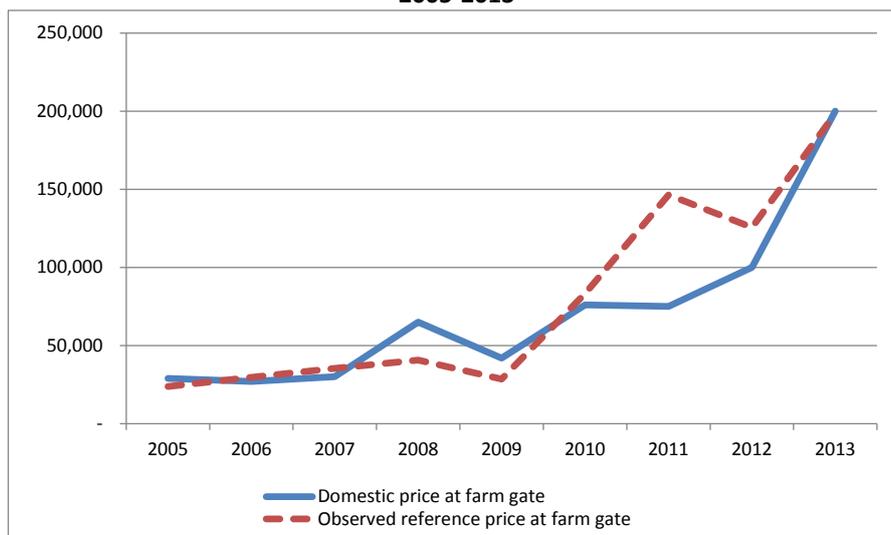
4. RESULTS AND INTERPRETATION

The policy environment surrounding the cotton sector was very dynamic during the study period. The Cotton Act has been designed allowing the creation of the Cotton Council and a new seed cotton pricing model was implemented in 2008. The FISP intermittently targeted the cotton sector along with two national programmes that were implemented specifically to support cotton production and processing activities. This analysis aims to identify whether this policy environment supported cotton production.

The price incentive analysis is only carried out at farm gate level owing to the lack of data that would be required to analyse the level of incentive at the factory gate (ex-ginning factory). The analysis is based on producer price for seed cotton offered by Great Lakes as they buy 60 percent of the production.

On average, during the period under review, producers received low disincentives of -6 percent (observed NRP). However, yearly indicators show a mixed situation for producers with observed Nominal Rate of Protection (NRP) varying from 60 percent in 2008 to -49 percent in 2011 (maximum and minimum) (Figure 7).

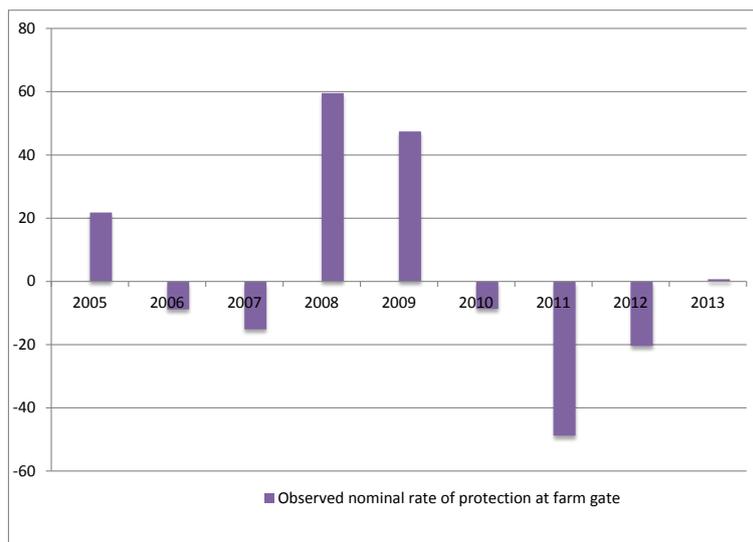
Figure 7: Domestic price vs. observed reference price at farm gate for seed cotton in Malawi (MWK/Tonne), 2005-2013



Source: Author's calculation, 2014

In 2005, the price gap between the domestic price and the reference price for cotton producers of was 5 190 MWK/Tonne representing an observed NRP of 22 percent (Figure 8). Indeed, compared to the international price of cotton lint, producer price were relatively high. High prices in 2005 could be explained by the erratic rains that occurred in the 2004/05 cropping season, the same year of the major food crisis. Despite the fact that cotton is drought tolerant, yields were strongly affected by the prolonged dry spell (FAO, 2005). Indeed, while area cultivated increased by 131 percent, production remained stable. Moreover, it is likely that producers tried to negotiate higher prices owing to the fact that, since maize production had collapsed, cotton had become their primary source of incomes.

Figure 8: Observed Nominal Rate of Protection for producers of seed cotton in Malawi (MWK/Tonne), 2005-2013



Source: Author's calculation, 2014

In 2006 and 2007, producers received low price disincentives of respectively -9 and -15 percent, which could be attributable to weak negotiation capacity and lack of bargaining power of producers. No major price distortion factor was observed.

In 2008, the government began implementing a pricing model that would ensure minimum prices for producers and so that year, Great Lakes offered the minimum price i.e. 65 000 MWK/Tonne. This represented a price increase of 117 percent compared to the previous year while the export price only increased by 12 percent, leaving producers with strong price incentives of 60 percent.

In 2009, despite the fact that ginners offered lower than the minimum prices (42 000 vs. 75 000 MWK/Tonne), producers still received incentives to production of 47 percent. If the minimum producer price would have been respected, producers would have received incentives of 163 percent since the minimum price increased while international price decreased.⁷ Cotton producers were thus not affected by the international price decline in 2008-2009 thanks to relatively high floor prices.

In 2010, Great Lakes offered prices higher than the minimum price (52 000 vs. 76 000 MWK/Tonne), resulting in low disincentives of -9 percent. The domestic price did increase but much less than the international price.⁸ The domestic price increase could have resulted from price transmission between the international and domestic market but could also be explained by the low level of production that year, which declined by 60 percent between 2009 and 2010 (AMIS, 2014).⁹

⁷ International price decreased because of the delayed effects of the global and financial crisis of 2008 which resulted in weak level of global consumption in 2009 (US. BLS, 2011).

⁸ International price increase can be explained by the fact that China consumed more cotton than they produced, increasing the demand of US cotton and US export exceeded production levels (US. BLS, 2011).

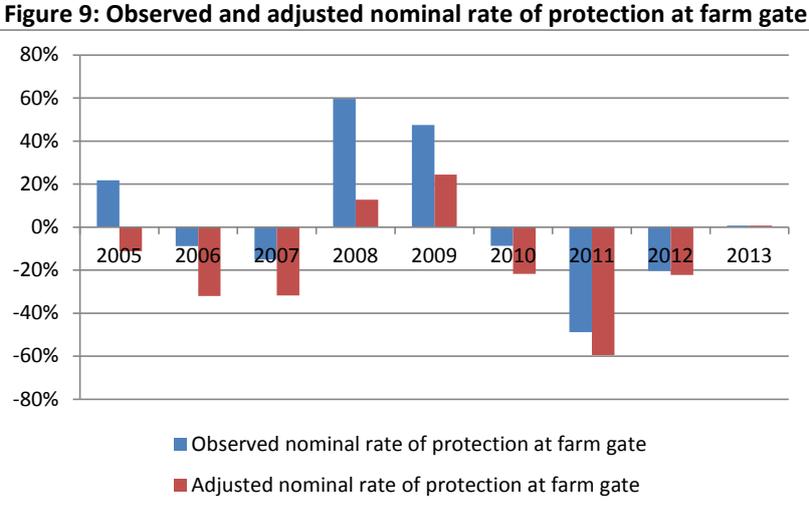
⁹ Low level of production was attributed to the price decline in 2009, which discouraged producers to plant in the following year. The MAFAP analysis does not consider the cost of production and despite the fact that producers receive price incentives in 2009, it is likely that the profits for producers in 2009 were low.

In 2011, disincentives reached -49 percent, explained by the fact that producer prices did not follow the international price trend. Indeed, the Cotlook index unexpectedly skyrocketed in 2011, increasing by 45 percent (WB, 2014)¹⁰ and such high prices were not transmitted to producers.

In 2012, despite the fact that producers were offered higher than the minimum price, they continued to receive disincentives, although much less than 2011 (-20 percent). The international price decreased and domestic price increased, although not enough to align with the international price. The peak in production in 2012 could have contributed to the containment of domestic prices, preventing them from following the international trend. Interestingly, although producers received strong price disincentives the previous year, since they were receiving input subsidies through FISP, the area cultivated actually increased in 2012 by 300 percent (AMIS, 2014).

In 2013, Great Lakes offered a price higher than the minimum price. By receiving the price as indicated by Great Lakes, producers received incentives to production of 1 percent, while receiving the minimum price would have resulted in disincentives to production of -24 percent. Although the Cotlook index remained stable in 2013, domestic prices increased along with the high inflation that followed the modification of the exchange rate regime.¹¹

If the effect of exchange rate misalignment and excessive margin are considered in addition to policy distortions, we observe that producers received price disincentives to production of an average -19 percent (adjusted NRP) during the period under review (Figure 9). Inefficiencies and exchange rate misalignment either decrease the level of incentives or increase the level of disincentives received by cotton producers and, therefore, represent additional taxations to producers.



Source: Author’s calculation, 2014

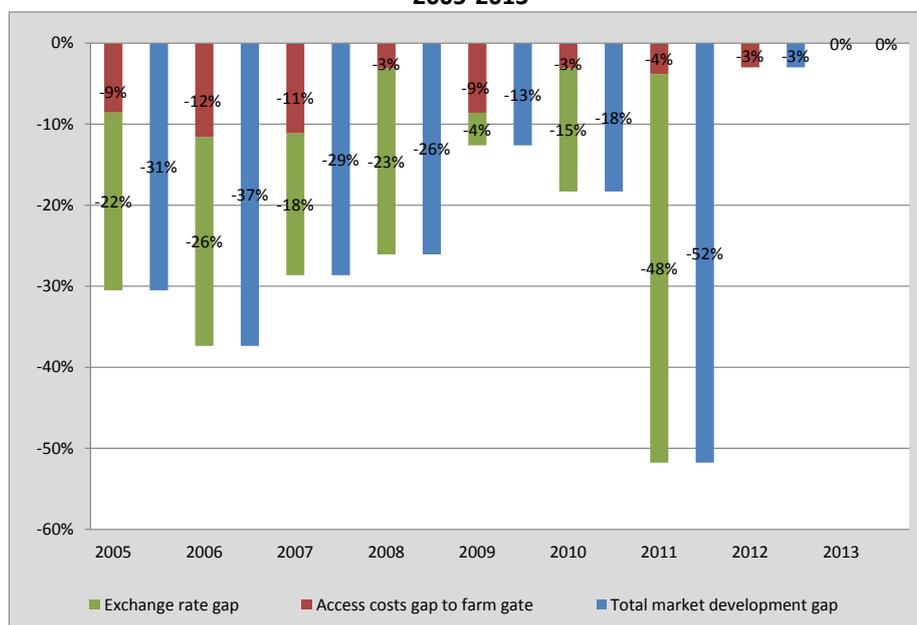
Both value chain inefficiencies and the exchange rate misalignment are included in the MDG (Figure 10). On average, during the period, the exchange rate gap resulted in additional disincentives to production of 17 percent of the producer price (Figure 10). Owing to the fact that the exchange rate started to float against the US Dollar from mid-2012, no exchange rate gap was observed in 2012 or

¹⁰ The price increase is attributed to a range of factors: non favorable weather conditions in Pakistan, China and United States, the implementation of an export ban in India (US. BLS, 2011) and the strong demand by China.

¹¹ The level of inflation reached 21.3 percent in 2012 (WB, 2014).

2013. The most extreme price distortion due to exchange rate misalignment was in 2011, when the misalignment reached 18 percent.

Figure 10: Composition of the Market Development Gap for seed cotton in Malawi (% of the producer price), 2005-2013



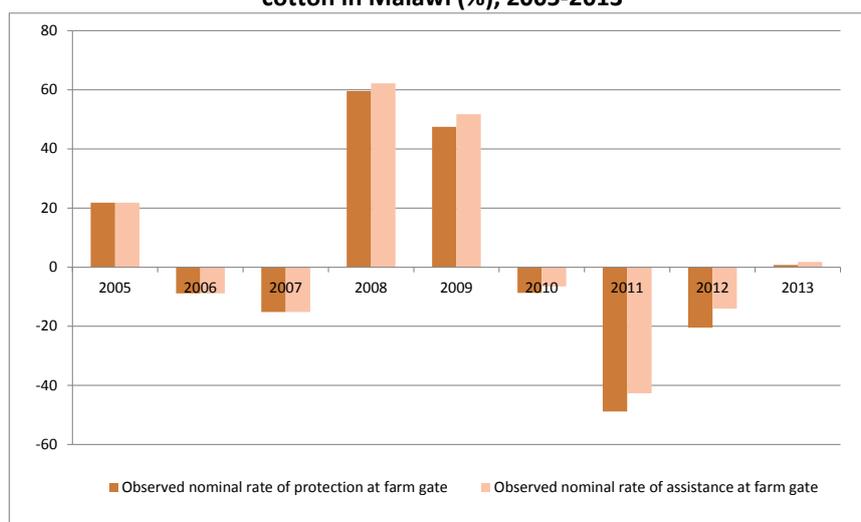
Source: Author's calculation, 2014

The access costs gap to farm gate is mainly attributable to the excessive margin obtained by ginners. The Malawi seed cotton pricing model indicates a margin of 11 percent of the producer price, which is above the 'normal margin' threshold, as established in the MAFAP methodology.¹² Margins were thus reduced to 5 percent of the producer price to reflect a more efficient value chain. If the margin received by ginners is reduced, producer prices increase by 6 percent on average during the period under review.

The NRA was calculated by estimating the annual budget transfers allocated to cotton in the framework of the Promotion of cotton production programme and the Cotton strengthening project. Budget allocated to cotton through FISP is not included owing to the fact the share of FISP expenditure allocated only to cotton could not be identified. While producers received price disincentives to production of -6 percent (Observed NRP) between 2005 and 2013, the direct support reduced disincentives to -2 percent.

¹² MAFAP Methodological guidelines Vol. I

Figure 11: Observed Nominal Rate of Protection and Observed Nominal Rate of Assistance at farm gate for cotton in Malawi (%), 2005-2013



Source: Author's calculation, 2014

RECOMMENDATIONS

- 1- Considering that producers alternately received price incentives and disincentives after the implementation of the price policy, the objectives of this policy should be reviewed. If it is implemented to protect producers, the policy should be refined and perhaps more strictly enforced. However, the policy may have other related objectives that ought to be clarified such as reducing uncertainty for actors involved in the value chain, and ensuring price transmission or price stability;
- 2- The price modelling system should be reviewed since, so far, price signals received by producers and other agents of the value chain were unstable, creating uncertainty and affecting private investments. Furthermore, by adjusting the minimum price during or at the end of the season, producer price would better reflect the international price dynamics;
- 3- Strengthening the regulatory role of the government regarding market transparency and the enforcement of the price policy would ensure that the minimum prices are respected by the ginners and that price information is disseminated to farmers;
- 4- Increasing the number of companies involved in seed cotton, cotton lint and by-products processing activities (as outlined in the NES) by attracting investment in the sector would increase domestic value addition, reduce the reliance on international prices, and minimise the risk of monopolistic behaviour.

5. CONCLUSION

MAIN MESSAGE

The cotton sector has attracted a lot of interest from policy makers in the last few years. The heavy reliance on tobacco production and export has left Malawi vulnerable to several market and weather induced shocks. Having realized this weakness, policy makers and other stakeholders are determined to diversify exports by supporting other cash crops including cotton.¹³ To this end, the government has been supporting the sector through intermittent budgetary transfers, market policies through the definition of floor prices, and creating an improved policy framework through the establishment of the Cotton Act.

The atomistic market environment (Peltzer, 2013) and the strengthening of regulations seem to have allowed for price transmission between export and producer prices. During the years when no exceptional circumstances affected price dynamics, producers received a price close to the price that they would have received in the absence of policy and market distortions. However, domestic or international factors did affect domestic prices in some years. Producers received price incentives in 2005 after the drought that caused the food crisis but received strong disincentives when the international price of cotton increased in 2011 and 2012.

Producers benefited from the implementation of the price fixation mechanism in 2008 and 2009 by receiving strong incentives. However, for some years, ginners did not offer prices aligned with the minimum price, which makes the enforcement and usefulness of the price fixation mechanism questionable. Indeed, the analysis also reveals that the minimum price was not systematically aligned with the international price trends. This is likely due to the fact that prices are set at the beginning of the season and do not take into account any changes that occur throughout the season.

Production was highly variable owing to weather vagaries as well as producers' planting decisions. Since cotton is an annual crop, producers tend to review their decision of how much to cultivate based on the previous year's prices. Price volatility created uncertainty for producers, and a mixed situation in terms of price incentives to production. Developing the market information system in order to reflect domestic and international price trends and disseminating the information to producers could help stabilize production. Moreover, it seems that the lack of any price adjustment/premium in cases where international prices increase during the season or at the end of the season, constitutes a strong disincentive for producers.

LIMITATIONS

The access costs from the farm gate to the border used in the analysis are indicated in the national Price Modelling system and should reflect the average access costs within the country. However, it would be relevant to obtain data from the ginners to verify the costs and trends. Moreover, collecting prices offered to producers by ginners other than Great Lakes Company as well as conducting a survey in production areas would be useful for verifying farm gate prices.

¹³ Government of Malawi & UNDP, 2012.

BIBLIOGRAPHY

AICC- Fact sheet 1: The Cotton Development Trust

Agar, J. & Chiligo, P, 2008. Contract Farming in Malawi for the Ministry of Agriculture and Food Security, funded by World Bank, Malawi, Final report Agricultural Market Information System (2014). Database on production. Ministry of Agriculture and Food Security.

Department for International Development, 2013. The New Alliance for Food Security and Nutrition- Malawi Cooperation Framework.

FAO, 2005. FAO Global information and early warning system on food and agriculture world food programme. Special report. FAO/WFP crop and food supply assessment mission to Malawi FOASTAT (2014). Trade database. Consulted in October 2014

Government of Malawi, 2012. Malawi National Export Strategy 2013-2018 (NSE).

Government of Malawi & UNDP, 2012. Malawi National Export Strategy 2013-2013, Volume 1, Main document.

Grundling, JP., 2008. The cotton farming pipeline of Malawi and South Africa: Management implications.

Hardwick, T., 2010. Quantitative value chain analysis, an application to Malawi- policy research paper. World Bank

Harwick, T., Keyser, J., 2010. Quantitative Value Chain Analysis- An Application to Malawi. World Bank, Policy Research Working Paper

International Monetary Fund, e Library- Data, <http://elibrary-data.imf.org/DataExplorer.aspx> (consulted in March 2014)

International Monetary Fund, 2012. Malawi: 2012 Article IV Consultation and Request for a New Arrangement Under the Extended Credit Facility- Staff Report. IMF Country Report No. 12/221

International Trade Centre, 2014. Cotton Exporter's guide- Cotton in the Doha Development Agenda. <http://www.cottonguide.org/cotton-guide/the-world-cotton-market/cotton-in-the-doha-development-agenda/?menuID=3922>

Kenamu, E., Phiri, A., 2014. Performance of cotton production in Malawi. Scholarly Journal of Agricultural Science

Malawi News Agency, 2013. Malawi: Shire Valley Farmers Cry Foul Over Cotton Price Decrease. <http://allafrica.com/stories/201305281632.html>

Manoto, T., 2010. Cotton textile value chain report- ADRA
Ministry of Agriculture Food Security (2006). Cotton production in Malawi.

National Statistic Office (NSO), 2014. Database on trade.
TradeMark Southern Africa (2014). News- Consulted in October 2014
<http://www.trademarksa.org/news/malawi-cotton-yield-drop-60>

Pauw K., Dorosh P., and Mazunda J., 2013 Exchange Rate Policy and Devaluation in Malawi. IFPRI Discussion Paper 01253.

Peltzer, R. & Rottger, D., 2013. Cotton sector organisation models and their impact on farmer's productivity and income. German development institute.

UNCOMTRADE (2014). Database on trade- Consulted in October 2014.

Reserve Bank of Malawi, 2012. Guide to Agricultural Production

The Malawi Gazette Supplement, dated 23rd November 2012, containing bills (2012). Cotton Bill, Memorandum 2012.

UN Comtrade, Commodity Trade Statistics Database. Consulted in October 2014, <http://comtrade.un.org/db/dqQuickQuery.aspx>

US. Bureau of Labor Statistics (BLS), 2011. Focus on prices and spending- Import and Export Prices: Second quarter 2011. http://www.bls.gov/opub/focus/volume2_number5/ipp_2_5.htm

World Bank, 2014. GEM commodity database. Consulted in October 2014, <http://data.worldbank.org/data-catalog/commodity-price-data>



**Food and Agriculture Organization
of the United Nations**

