
FOOD SECURITY RESEARCH PROJECT

**A Case Study of Regulation in Zambia's Cotton
Sector**

By

David Tschirley and Stephen Kabwe

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Tschirley and Kabwe are, respectively, professor, International Development in the Department of Agricultural, Food, and Resource Economics, Michigan State University (MSU); and research associate, Food Security Research Project (FSRP), Lusaka, Zambia.

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All errors are the authors' sole responsibility.

Comments and questions should be directed to the In-Country Coordinator, Food Security Research Project, 86 Provident Street, Fairview, Lusaka: tel 234539; fax 234559; email: fsrp@coppernet.zm

FOOD SECURITY RESEARCH PROJECT TEAM MEMBERS

The Zambia Food Security Research Project field research team is comprised of Chance Kabaghe, Antony Chapoto, Jan Nijhoff, Munguzwe Hichaambwa, Stephen Kabwe, Solomon Tembo, Auckland Kuteya,, and Kasweka Chinyama . MSU-based researchers in the Food Security Research Project are Margaret Beaver, Steve Haggblade, Thomas Jayne, Nicole Mason, Robert Richardson, James Shaffer, David Tschirley, and Michael Weber,

EXECUTIVE SUMMARY

Cotton is an unquestioned success of Zambia's turn towards a market economy. After privatization in late 1994, seed cotton production rose from 32,000 metric tons (mt) to about 180,000 mt a decade later (three-year averages centered on 1994 and 2005). The number of farmers involved in the sector grew similarly, yields trended upwards (though slowly), and the country dramatically improved the quality of its lint, becoming the outstanding performer in Sub-Saharan Africa in this regard by the mid-2000s. Yet the sector has experienced two serious crashes since reform, both involving rampant credit default by farmers supported with seasonal input credit by ginning companies.

What's more, the structure of the sector has perhaps permanently changed since privatization in 1994; as a result, it faces challenges of a different type than it did 15 years ago. A duopoly for several years after privatization, the sector now has at least 10 ginners. While the two original companies maintained perhaps an 80% market share in 2009, the new companies as a group appear to be large enough and well established enough to change the competitive dynamic in the sector.

The country's challenge now is to develop a set of "rules of the game" that preserve the positive performance associated with concentrated sectors while providing room for competition from new firms to ensure continued innovation and remunerative prices for farmers. This paper focuses on how this move towards a formal regulatory structure is unfolding. Because concentrated sectors are one logical outcome of cotton sector reform in West and Central Africa (WCA), and because concentrated sectors tend to be structurally unstable and so present their own special set of regulatory challenges, lessons from this review are of potentially great practical interest to governments, private stakeholders, and donors in these WCA countries.

After a brief introduction, section II provides conceptual background regarding our definition of regulation and the role of the *competition-coordination tradeoff* in determining the type of regulation needed. Section III discusses the evolving structure and performance of Zambia's sector; Section IV reviews efforts to create and then revise a Cotton Act whose central pillar is the creation of a multi-stakeholder Cotton Board to regulate the sector, while Section V compares the Cotton Act to the Tobacco Act; in section VI we review the role that the Zambia Competition Commission has played in the cotton sector; finally, we outline the outstanding issues that emerge from this study for the ongoing efforts by Zambia's cotton sector stakeholders to develop a balanced and effective regulatory structure that ensures continued and equitable growth.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	iii
EXECUTIVE SUMMARY	v
LIST OF TABLES AND FIGURES.....	vii
ACRONYMS.....	viii
I. INTRODUCTION.....	1
II. CONCEPTUAL BACKGROUND.....	3
III. THE EVOLVING STRUCTURE, BEHAVIOR, AND PERFORMANCE OF ZAMBIA’S COTTON SECTOR.....	5
IV. THE COTTON ACT.....	10
4.1. Basic Provisions of the Cotton Act.....	11
4.2. 2003 Assessment of the Act.....	12
4.3. Key Changes from 2003 to 2005 Versions of the Act.....	12
4.3.1. Judicial Review.....	13
4.3.2. Public/Private Sector Balance.....	13
4.3.3. Maintaining Records on Borrower’s Credit Status.....	13
4.3.4. Registration and Licensing of Smallholder Farmers	13
4.4. Key additional changes to 2005 version recommended by Cotton Act Working Group (CAWG)	14
4.5. Seating of a Cotton Board in 2009.....	15
V. COMPARISON WITH THE TOBACCO ACT	16
VI. ROLE OF THE ZAMBIA COMPETITION COMMISSION.....	17
VII. OUTSTANDING ISSUES	19
REFERENCES	21

LIST OF FIGURES AND TABLES

Figure 1. Seed Cotton Production and Phases in Zambia's Cotton Sector since Privatization	6
Table 1. Summary Chronology of Key Events in Zambia’s Cotton Sector, 1977 to 2009.....	6

ACRONYMS

CAWG	Cotton Act Working Group
CAZ	Cotton Association of Zambia
CCC	Chipata Cotton Company
CDT	Cotton Development Trust
FSRP	Food Security Research Project
GM	Genetically modified
LINTCO	Lint Company of Zambia
MACO	Ministry of Agriculture and Cooperatives
MSU	Michigan State University
MT	Metric Tons
SCCI	Seed Control and Certification Institute
SSA	Sub-Saharan Africa
USAID	United States Agency for International Development
WCA	West and Central Africa
ZCC	Zambia Competition Commission
ZCGA	Zambia Cotton Ginners' Association
ZK	Zambia Kwacha
ZNFU	Zambia National Farmers' Union

I. INTRODUCTION

Cotton is an unquestioned success of Zambia's turn towards a market economy. After privatization in late 1994, seed cotton production rose from 32,000 mt to about 180,000 mt a decade later (three year averages centered on 1994 and 2005). The number of farmers involved in the sector grew similarly, yields trended upwards (though slowly), and the country dramatically improved the quality of its lint, becoming the outstanding performer in Sub-Saharan Africa in this regard by the mid-2000s. Over 2002-2005, exports of cotton lint were first among all agricultural exports in value, 30% higher than raw cane sugar, its closest competitor. Moreover, while sugar is primarily produced on large operations, cotton is almost entirely a smallholder crop. Its potential for reducing poverty and improving food security is thus very large.

Yet the sector has experienced two serious crashes since reform, both involving rampant credit default by farmers supported with seasonal input credit by ginning companies. What's more, the structure of the sector has recognizably and perhaps permanently changed since privatization in 1994; as a result, it faces challenges of a different type than it did 15 years ago. A duopoly immediately after privatization, the sector absorbed new entry by ginners but remained heavily concentrated for nearly a decade; over the past five years, however, some small cotton companies already in the sector have expanded their operations and new players have entered. In 2005, the sector had six companies (two of them quite dominant), rising to at least 10 by 2009.

While the two original companies remain the dominant players in the sector, with perhaps a 80% market share in 2009, the new companies as a group appear to be large enough and well established enough to change the competitive dynamic in the sector. On the positive side, competition could be good for farmers, resulting in more choices of whom to work with, and better prices. But the *sustainable* expansion of cotton production in Zambia – and throughout SSA – depends on continual improvement in service provision for productivity growth and in cotton quality. Cotton's contribution to poverty reduction will also be limited at best without such improvements. While Zambia has been able to achieve steady improvement in these areas since privatization, over ten years of experience in neighbouring countries of Africa shows that unbridled competition among companies can lead to widespread credit default, which undermines input credit provision, extension, and cotton quality (Tschirley, Poulton, and Labaste 2009).

The country's challenge now is to develop and apply a set of "rules of the game" – a regulatory structure – that preserve the positive performance associated with concentrated sectors while providing enough room for competition from new firms to ensure continued innovation and remunerative prices for farmers. Until early 2009, Zambia had no such regulatory structure: no formal set of publically known rules with some level of public sector participation. Private companies ran their businesses and coordinated (or not) with each other in largely informal ways, with little if any influence from government and no formal rules governing what influence government could bring to bear. Yet over the past five- to six years, various stakeholders in the sector, public and private, have worked to formalize a regulatory structure in the form of a Cotton Act, and the Cotton Board proposed in the act was finally seated in early 2009. This paper focuses on how this move towards a formal regulatory structure has unfolded. Because concentrated sectors are one logical outcome of cotton sector reform in West and Central Africa (WCA), and because concentrated sectors tend to be structurally unstable and so present their own special set of regulatory challenges, lessons

from this review are of potentially great practical interest to governments, private stakeholders, and donors in these WCA countries.

The paper proceeds as follows: the next section provides conceptual background regarding our definition of regulation and the role of the competition-coordination tradeoff in determining the type of regulation needed. Section III discusses the evolving structure and performance of the sector; Section IV reviews efforts to create and then revise a Cotton Act whose central pillar is the creation of a multi-stakeholder Cotton Board to regulate the sector, while Section V compares the Cotton Act to the Tobacco Act. In section VI we review the role that the Zambia Competition Commission has played in the cotton sector; finally, we outline the outstanding issues that emerge from this study for the ongoing efforts by Zambia's cotton sector stakeholders to develop a balanced and effective regulatory structure that ensures continued and equitable growth.

II. CONCEPTUAL BACKGROUND

We adopt a broad conception of regulation in this paper. A regulatory *system* for a given sector or industry comprises (a) the laws, regulations and agreements governing the behavior of actors within the sector, (b) the mechanisms and processes associated with their development and enforcement, and (c) the organizations in charge of their development and enforcement.

Regulation can embody a wide mix of public- and private participation. Regulation can be conceived and imposed purely by the public sector, as in the regulation of public utilities in western countries, or the activities of the Zambia Competition Commission. Alternatively, it can be negotiated and enforced solely among private firms, as when members of an industry set manufacturing standards that apply to all of them, or when ginners in Zambia establish a varietal zoning agreement. Finally, regulation can be developed by bodies and through processes that combine public and private actors working together (e.g., Zambia's Cotton Board).

This definition of regulation is broader than that which some may be familiar. In a developed economy, where most important markets (e.g., for inputs, credit, insurance) exist and many of them function fairly efficiently, sector regulation often is synonymous with the purely public sector domain of competition policy. However, the broader understanding of regulation just outlined is more appropriate to the highly imperfect market and legal context of African cotton sectors.

This imperfect market and legal context gives rise to what Poulton et al. (2004) and Tschirley, Poulton, and Labaste (2009) call a trade-off between competition and coordination in African cotton sectors. Following (North 1990), in an idealized perfectly competitive world there is no conflict between competition and coordination, because market performance is underpinned by a perfect set of supporting institutions. These can be thought of as including both efficient regulatory institutions and a full set of supporting markets.

However, cotton is an input-intensive crop, such that most smallholder producers require access to credit if they are to produce more than a minimal quantity¹. Moreover, in actual African cotton sectors, independent financial markets to supply such credit do not exist². Instead, cotton companies (ginners) deliver input credit through interlocking of input and output markets. Given that problems of side-selling can undermine the enforcement of seasonal credit contracts, the ability to interlock transactions requires some restraint on competition in the seed cotton (output) market. Thus, we arrive at the competition-coordination trade-off whereby:

¹ Although seed and fertilizer for a crop like maize are typically available in markets and frequently purchased by smallholder farmers, especially the largest, specialized insecticides and seed treatments for cotton are less likely to be available. For example, during the 2003/04 cropping season in Zambia, 35% of farmers used fertilizer, over half of these (18% of all farming households) purchased the fertilizer from a private input dealer, and over 80% of all fertilizer transactions (through private dealers or other programs) were for maize (Tschirley and Kabwe 2007a).

² See (Binswanger and McIntire 1987) for an explanation of this phenomenon. One reason for the absence of these markets is the prohibitive cost of enforcing small contracts through the court system. In relation to North's observation, an efficient court system may be considered one of the supportive institutions required for the competition-coordination trade-off to disappear.

- Competitive market systems can be expected to deliver attractive seed cotton prices to producers, but are rarely able to deliver input credit (or to achieve high lint quality); and
- Concentrated market systems can be expected to deliver some input credit (and to achieve high lint quality), but over time are expected to deliver lower seed cotton prices to producers than competitive systems.

Effective regulation could attenuate the competition-coordination trade-off. According to Tschirley, Poulton, and Labaste (2009, p.58), “The job of regulation may be thought of as seeking correction in areas where an unregulated sector is likely to perform poorly, while preserving that sector’s strengths.” The two most important objectives of regulation in African cotton sectors (as a whole) are thus to:

- Raise seed cotton prices to more competitive levels in concentrated or monopoly sectors, through some form of competition policy; and
- Improve coordination across sector stakeholders (especially ginners) in competitive sectors, where the conditions for purely private coordination do not exist, thereby encouraging the supply of input credit or enhanced quality control³.

As will be seen in succeeding sections, Zambia’s cotton sector remains a concentrated one. However, it has become more competitively structured in recent years as new companies have entered the sector. As such, Zambia may benefit from effective regulation in both areas above: ensuring an active and informed voice for farmers in seed pricing, and putting in place mechanisms to protect companies from credit default so that they can maintain their commitment to supplying input credit and extension advice to farmers, and to maintaining high lint quality.⁴

³ A third very important area of regulation relevant to cotton sectors, given the dramatic global spread of genetically modified (GM) cotton seed varieties, is biosafety regulation. However, to keep the scope of the current paper manageable, we do not consider biosafety regulation in the current paper.

⁴ Lint quality has been one of the sector’s outstanding successes since liberalization. See Tschirley and Kabwe (2007b) for more detail.

III. THE EVOLVING STRUCTURE, BEHAVIOR, AND PERFORMANCE OF ZAMBIA'S COTTON SECTOR

From 1977 to 1994, Zambia's cotton sector was organized around the state-owned cotton company LINTCO (Lint Company of Zambia). On behalf of government, LINTCO purchased seed cotton from farmers at a fixed price, provided certified seed, pesticides, sprayers, and bags and provided extension advice to farmers. LINTCO had a near monopsony in buying seed cotton and a monopoly in distributing cotton inputs on credit.

In 1994, as part of a broad-based effort to restructure Zambia's economy, LINTCO was sold to Lonrho Cotton and Clark Cotton, two private companies with regional cotton interests. The sale appears to have been designed explicitly to limit competition between the companies, as LINTCO's gins in the center of the country were sold to Lonrho, and those in Eastern province were sold to Clark.

Since the sale of LINTCO, the sector has passed through five distinct phases (Figure 1 and Table 1). We summarize the phases here and then discuss each in somewhat more detail. During the *post-reform boom* (1995-1998), the sector remained heavily concentrated and expanded rapidly on an entirely private and unregulated basis; the *first crash* (1999-2000) was marked by a severe credit default crisis, brought on in part by the entry of new, small ginners and cotton buyers committed more to trading cotton than to promoting its production. The credit default crisis was resolved during the *second boom*, (2000-2005) entirely through private innovation by the two leading companies to reduce credit default; during this phase, government became increasingly involved in the sector, but their activities are best characterized as adjuncts to the fundamental private sector dynamic, and achieved mixed results. Additionally, larger and better-financed ginners entered; by the end of this period, the sector was becoming recognizably less concentrated than at any time since reform. Several factors brought on the *second crash* (2006 – 2007): a sharp appreciation of the kwacha, unhelpful public statements by government in the midst of mounting conflict between farmers and ginners, and the weight of additional firms in the sector, all of which lead to another serious credit default crisis and plummeting production. By the end of this period, still more companies had entered the sector, bringing the total to at least 11. Production recovered somewhat in 2008 but remained essentially flat in 2009. In contrast, production increased by about 70% in 2001 from the 2000 low, and by another 50% in 2002. The rebound after this second crash is thus much more modest; if these last two years are the start of a sustained recovery it will be under very different circumstances – a much less concentrated sector – than were faced in 2000.

From the sale of LINTCO in 1994 through 1996, competition between Lonrho and Clark was minimal, as they operated in different areas of the country. Each company initiated outgrower programs and had very little problem with credit repayment. From 1994 through 1998, cotton production increased by a factor of three to four, depending on data source, facilitated by high international prices and aggressive promotion of the crop by Lonrho and Clark.

However, from 1997 the expansion of the cotton production base attracted many new entrants in ginning and assembly. At least four new ginning companies emerged and began to compete aggressively in the purchase of cotton while providing little input credit support to farmers. Some ginners contracted agents to recruit farmers on their behalf in addition to the farmers directly recruited by them. A group of independent cotton traders also emerged, obtaining their own inputs, distributing them to farmers, purchasing seed cotton, and selling to any ginner wishing to purchase.

Figure 1. Seed Cotton Production and Phases in Zambia's Cotton Sector since Privatization

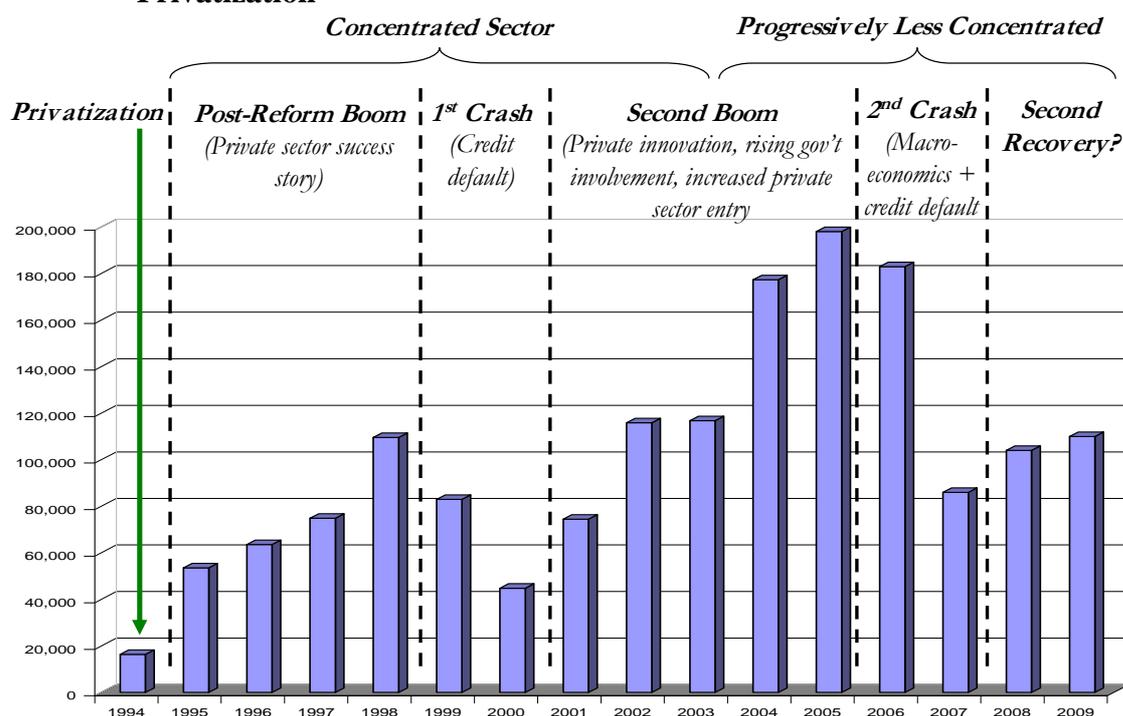


Table 1. Summary Chronology of Key Events in Zambia's Cotton Sector, 1977 to 2009

Year/Phase	Action Taken	Comments
Pre-Reform		
1977-94	State-owned LINTCO runs single channel cotton system	Production trends downward from mid-1980s in spite of rising international prices. Public debt accumulates.
Reform		
1994	LINTCO sold to two private companies: Lonrho and Clark Cotton	Two companies operate for two years in separate areas of country. Production booms, aided by high international prices.
Post Reform Boom		
1997-99	Four new ginning companies enter market; group of independent traders also emerges. Government does not intervene	Combined Dunavant and Clark market shares fall to 80%. Competition for seed cotton increases. Charges that new entrants provide few if any inputs to farmers. Credit recovery falls below 60% during 1997/98 season.
First Crash		
1999	Lonrho, citing input credit losses of US\$2m, leaves Zambia. Assets purchased by private company Dunavant.	Lonrho had begun to launch "Distributor Scheme", Dunavant (under same management) continues to develop it. Credit recovery over 60%.
2000	Dunavant just taking over operations and beginning to establish Distributor system	Insufficient time to consolidate system, production falls further.
Second Boom		
2000-2001	Dunavant fully develops its private Distributor Scheme	Credit recovery improves to 85%. At least one of the recent entrants falters but does not leave market.
2001/2	Drought in southern areas of country	Indications that credit recovery rate decreased
2002	New government enters late 2001, launches Cotton Outgrower Credit Fund	Publicly funded credit line for input provision being developed in close collaboration with ginners. First direct government involvement in the sector since liberalization in 1994.
2003/04	Cotton Act proposes new Cotton Board	Regulatory functions only. Heavy policing role.
2005	Cotton Association of Zambia formed	Represents about 300,000 cotton farmers, nearly all smallholders, under aegis of Zambia National Farmers' Union

Year/Phase	Action Taken	Comments
2003/04, 2004/05	Cotton Outgrower Credit Fund expands, becomes revolving fund	Funds increased to \$390,000 from \$250,000 first year. Disbursements favor smaller players in relative sense. Recoveries suggest effective management.
December 2005	President signs Cotton Act	Stakeholders were surprised by the signing, as they had raised concerns and understood that the president would delay signature
Second Crash		
Late 2005	Kwacha begins rapid appreciation	Appreciates 33% through start of cotton marketing season, then begins to decline
Late 2005 – late 2006	Broad group of stakeholders – ginners, farmers, MINAG, (Cotton Development Trust - CDT) – collaborate to develop proposed revisions to Cotton Act	Run-up to elections prevents submission to Parliament in June 2006; act to be presented to new government November 2006.
May 2006	Cargill Cotton buys Clark Cotton	Former parent company Afgri cites low profit margins and insufficient global reach in marketing
Harvest season 2006	Key beneficiaries of Cotton Outgrower Credit Scheme continue to be suspected of promoting credit default by farmers	Dunavant for first time does not honor pre-planting minimum price, citing appreciated kwacha. Minister encourages confrontational approach by farmers. Credit default returns to levels not seen since 1999. Production falls slightly from historic high of previous year.
March 2007	Three multi-national affiliates (Dunavant, Cargill, Great Lakes) open discussions on “Zambia Cotton Pre-Financiers’ Association”	Meant to encourage cooperation among these companies to reduce credit default during marketing season; group invites Chipata Cotton Company (CCC) also to participate. Dunavant and Cargill reduce pre-finance support to farmers
Harvest season 2007	At least eight ginning companies now in market.	Production falls by more than half. Revised Cotton Act still not presented to Parliament.
Possible Recovery		
Harvest season 2008		Production recovers slightly, to 100,000 mt from 82,000 mt
Late 2008	Selected cotton ginners collaborate with farmers’ association (Cotton Association of Zambia – CAZ), propose to government formation of Cotton Board under existing act, government agrees	Sense that Cotton Act revisions, despite repeated statements of support from the minister of agriculture, will not be presented in timely fashion to Parliament
Harvest season 2009	Cotton Board formed and begins to meet but insufficient time to put licensing and other provisions in place	February 2009 projections put production at 120,000 – 130,000. Final estimates about 115,000. Confusion as to whether production was really so low or whether pirate buying and shipping of raw cotton to Malawi accounts for the difference.
	Minister names Dunavant Director as Chair of Cotton Board; CAZ CEO is interim Secretary	Note that new (unapproved) version of Cotton Act stipulates Chair to be named by board members, not by the minister
Planting season 2009/10	Cotton Board has formed licensing committee but no agreement on conditions for granting license; Cargill introduces unapproved variety (Chureza) in Central province, eliciting strong reaction from Dunavant and Alliance Cotton. Cotton Board and Seed Control and Certification Institute (SCCI) negotiate settlement in which 82% of seed – not yet distributed to farmers – is removed. Remaining 18% allowed to be grown, but under close supervision to avoid mixing with other varieties in ginning.	SCCI and board say lack of legal bases for seed zoning prevented stronger intervention; Concern among some ginners and farmers that the board is not moving aggressively enough to put information systems and procedures in place to deal with side-selling problems; board continues to rely almost entirely on (inadequate) government funding, no decision to date on more sustainable self-financing mechanism.

Government at the time was committed to a liberalized economic policy and made no attempt to limit this competition. As the number of ginners and assemblers expanded, several problems came to the fore. First, ginning capacity expanded to over 150,000 mt per annum, while production peaked at about 105,000 mt in 1998 and then declined the following two years. This overcapacity created a competitive scramble for cotton among ginners to increase their throughput and minimize unit-ginning costs. The emergence of agents and independent traders contributed substantially to this scramble for cotton. Firms operating outgrower

schemes suffered increased loan default as competing firms, some of which did not provide input credit and, hence, could offer higher prices, purchased cotton from farmers financed by other firms. These problems were exacerbated by a continual decline in world market prices from their peak in 1995, which was passed on to farmers.

Farmers had grown accustomed over several years to increasing prices, and with limited information on world market conditions, they found it difficult to understand the reasons for the price declines. This, together with a lack of transparency in how each buyer determined its prices and deducted input costs, led to a sense of exploitation by many farmers and their representatives. Lonrho estimated that loan repayment rates dropped from almost 86% in 1996 to about 65% in 1999.

At the same time, increased default created incentives for outgrower firms to capitalize their bad loans into the cost of inputs for those farmers who did repay⁵, resulting in lower net prices for cotton after deducting the cost of inputs. Farmers who remained loyal and repaid their loans were thus penalized, potentially fueling a vicious cycle of further loan defaults or exit from outgrower programs.

The sector reached a crisis in 1999. Dunavant, a privately held U.S. cotton company, purchased Lonrho, the largest buyer. Among its reasons for departing, Lonrho cited \$2 million per year in unpaid loans. Other outgrower firms cut back on the number of farmers they supported from the 1999/2000 season, driving production to a post-reform low of barely more than 40,000 mt in 2000.

From this nadir, the sector underwent important structural change and recovered dramatically through the 2005 harvest season. The agents and independent buyers that contributed so much to the credit repayment problems in the late 1990s largely disappeared. At least one of the new ginners went out of business in late 2002. These developments were associated with two parallel strategies adopted by Dunavant. First, it launched in 1999, and over the next several years it refined, its Distributor System, which dramatically improved credit repayment among farmers. Second, Dunavant used this system to expand its production network. Clark also improved its more traditional system and dramatically expanded its production in Eastern province while maintaining high repayment rates. Partly as a result, national production more than quadrupled between 2000 and 2005, driven by yield growth and new entry of smallholders, and credit repayment for Dunavant improved from about 65% to over 90%. Both companies largely resolved, through very different approaches, a problem of polypropylene contamination that had threatened the country's export market, and the country began to receive one of the largest premiums for African cottons on world markets.

Yet two factors during this second boom were creating the conditions for the second crash of 2006 and 2007. First, more and better-financed ginners had become active in the sector. By the 2006 season, 7-8 ginners were active buying, this figure rising to at least 10 by 2007. Second, after holding steady against the dollar from 2002 into 2005, the kwacha appreciated rapidly from about US\$4,800 in late 2005 to a low of 3,200 in mid-2006, during the harvest of that year. This rapid and unexpected appreciation of the kwacha severely affected the profitability of cotton to ginners and led to Dunavant for the first time not honoring its pre-planting minimum price. Farmer protests were encouraged by the Minister of Agriculture and Cooperatives, and credit default rose to levels not seen since the late 1990s. The two leading

⁵ One outgrower company stated that in 1999 it attempted to offset its loan defaults by adding a 50% mark up to the price of inputs.

companies reacted by reducing the content of their input credit package for the next year and trimming the number of farmers receiving even this reduced package. As a result, after falling slightly from 2005 to 2006, production fell by more than half from 2006 to 2007, before recovering somewhat in 2008 and 2009.

The nature of this second crash, however, raises concerns about the current strength of the sector. Goeb (2010) shows that the farmers that exited cotton in 2000, during the first crash, were substantially less capitalized (one-quarter the median asset levels and two-thirds the median land holdings) and less experienced in cotton than farmers that remained in the sector; Zambia's cotton sector does not appear to have lost its better farmers during that crash. During 2007, however, farmers exiting had comparable incomes, assets, and land holdings to those remaining in, though those exiting did have less experience in cotton. This pattern, together with the much slower recovery in production after this crash (Figure 1), the greater number of ginners competing for cotton, and the reduced input package provided by the main ginners (partly in response to the sector's changing structure and consequent side-selling problems), raises important questions about what stakeholders need to do this time to assure a more vigorous rebound. We turn now to perhaps the central effort these stakeholders have undertaken – the Cotton Act and the Cotton Board that it creates.

IV. THE COTTON ACT

Beginning as early as 2000, The Cotton Development Trust (CDT) and other stakeholders in Zambia's cotton sector began developing a regulatory framework to allow the orderly development of the sector over time. A key concern driving this process was a desire to avoid repeating the credit default crisis that nearly destroyed the sector in 1999 and 2000. The proposed Cotton Act emerged in this context, proposing the formation of a Cotton Board, composed of multiple stakeholders from the public and private sectors, to regulate the industry.

From a regulatory standpoint, the key actors in the sector are:

- Cotton Development Trust: An autonomous public agency, the CDT focuses primarily on cotton research and extension, but has played an important role also in development of the Cotton Act, as a member of the Cotton Act Working Group (CAWG) in the process of generating proposed revisions to the act, and now as part of the Cotton Board.
- Ministry of Agriculture and Cooperatives: MACO's Department of Agriculture led the CAWG, and the minister is given a major regulatory role by the Cotton Act. While the head of the CAWG was effective, capacity in MACO, as in public sector ministries throughout most of Africa, is very thin.
- Cotton Association of Zambia: CAZ is a division of Zambia National Farmers' Union (ZNFU) that represents cotton growers. Its first major activity was to work with an international consultant to develop a pricing model to help guide negotiations with ginners on seed cotton prices. Since then it has focused less on pricing issues, working instead on revisions to the Cotton Act and attempting to reduce credit default, then turning to operational matters once the board was seated and the CEO of CAZ was named interim secretary. A major part of the operational work in the board, related to resolving credit default, has involved generating a data base on cotton farmers' credit status that may be combined with the ginners' similar data bases to form the foundation of a credit bureau for the sector. Though a member of ZNFU and benefitting from their structure down to district level, it is not clear whether CAZ has the ability to generate complete and reliable information on members and their activities, to pass information on to those members, and to conduct training. Their director has been instrumental, in collaboration with the ginners, in pushing the Cotton Act forward and attempting to establish an operational record with the seated board. It is not clear, however, what capacity CAZ would have at the present time to handle service delivery such as input credit and extension; in all likelihood these capacities would take some years to develop to meaningful scale.
- Zambia Cotton Ginners' Association (ZCGA): Officially representing all ginners but in practice heavily influenced by the largest players (especially Dunavant), ZCGA has, with CAZ, been the driving force behind suggested revisions to the Cotton Act and then moving to seat a Cotton Board even in the absence of passage of those revisions. The CEO of Dunavant, who also serves as the president of ZCGA, was additionally named by the minister as chair of the Cotton Board.
- The Zambia Competition Commission (ZCC): ZCC was formed in 1997 under the authority of the Competition and Fair Trading Act of 1994. ZCC appears not to have been involved in discussions surrounding the Cotton Act nor the creation of the Cotton Board, and they are not mentioned in the current version of the Cotton Act. They did, however, conduct an investigation of pricing practices in the industry in late 2006, in response to a formal complaint from a group of female cotton farmers

regarding Dunavant's reduction of the cotton price to ZK850/kg seed cotton from the pre-planting "minimum" price of ZK1,220/kg. We review this case in more detail below.

4.1. Basic Provisions of the Cotton Act

The proposed act established a Cotton Board with nine voting members, appointed by the Minister of Agriculture and Cooperatives upon nomination by their own institution. Proposed members were the permanent Secretary of the Ministry of Agriculture and Cooperatives (MACO), two persons each from CDT, the Cotton Ginners' Association, and the Cotton Growers' Association, the Controller of Seeds (one person), and one person from the Environmental Council of Zambia. The board would have no authority to set prices or to market the crop, focusing instead on regulatory and advisory activities. Specific stated functions of the board were to:

1. Regulate the production, processing, and marketing of cotton;
2. Advise government on regulations and policies related to the sector;
3. Monitor and report on implementation of policies and matters related to the sector; and
4. "Carry out such activities as are necessary ... to the better performance of its functions".

Key sections of the proposed act covered licensing (IV.33-37) and registration (III). The board would have a Cotton Licensing Committee of not more than seven members. Proposed functions of the licensing committee were to issue certificates and licenses, approve "distinguishing marks" (company trademarks), and maintain databases on land planted with cotton, registered cotton growers, and distinguishing marks. The Act stipulated that "any person dealing in cotton" must be registered and pay a registration fee, and that any cotton leaving a registered ginner must have the distinguishing mark clearly shown (subsection 30.1). Licensing was specified for cotton ginners, cottonseed sellers, cottonseed producers, inspectors, and "any other license which the board may prescribe".

The board could refuse to register a person "giving reasons in writing" if it was "satisfied that the applicant *or a person employed by the applicant* does not have sufficient knowledge or experience in the cotton trade" (emphasis added; V.34.4). No criteria were provided as a basis for making such a judgment. All license holders were required to maintain records on cotton transactions, which "shall be open to inspection at all reasonable times, by the board ..." (V.36.2). Once granted, registrations could be cancelled by the board for, among other reasons, buying pre-financed cotton without authorization from the financier, engaging in "pirate buying"⁶, or engaging in "any other activity not registered with the board".

Cotton Board Inspectors' powers included:

1. Enter and search any premise and seize and remove any cotton based on "reasonable cause";
2. Stop, search, and detain any vehicle based on "reason to believe ...";
3. Inspect all records related to cotton;
4. Arrest and detain based on reasonable suspicion; and

⁶ The act does not define "Pirate buying," and the difference between it and "buying pre-financed cotton without authorization from the financier" is not clear.

5. Seize machinery or material if the inspector believes an offense has been committed *or is likely to be committed* (emphasis added; section VII.45.d).

The draft act appeared to prohibit appeal of board decisions to courts; the appeals procedure was first to the board, then to the minister (III.23). The act allowed the board to raise funds through Parliamentary appropriations, fees, grants, donations, and loans, and stipulated the establishment of a Cotton Development Trust Fund to finance technical activities (VI.40.1).

Surprisingly for a concentrated sector in which companies are expected to enjoy some pricing power, the act does not address the issue of price setting, leaving that instead to independent negotiations between ginners and farmers.

4.2. 2003 Assessment of the Act

A 2003 assessment of the Cotton Act (Zulu and Tschirley 2004), then under Ministerial review, suggested that there was merit in attempting to formally bring together a broad set of stakeholders in the cotton sector to grapple with key development issues. At the same time, it cautioned that the heavy policing focus of the proposed act was inappropriate, creating a potentially powerful institution with vaguely defined limits on those powers, relatively little political oversight, and no judicial oversight. The assessment suggested that the board's policing powers be reduced substantially, and that the act specify much more clearly under what conditions any remaining policing powers would be used. Finally, the assessment identified three needs in the sector that were either ignored or treated very briefly in the proposed act: to develop legal bases and operational approaches to improve information on borrowers' credit history, to promote collective action to improve quality and productivity, and to propose a specific institutional home and operational mechanisms to improve the monitoring of sector performance beyond credit repayment. The assessment concluded that, "for the Cotton Act to make a positive contribution to the development of the sector, it (needed) to re-conceive the Cotton Board to focus on these issues and greatly reduce its policing emphasis."

From that point, the Cotton Act went through several revisions and Parliament approved it in mid-2005. Release of the draft act from Parliament elicited substantive submissions from CAZ (primarily representing farmers) during the 100th Congress of the ZNFU, and by ZCGA, Dunavant Cotton, and Clark Cotton. Consequently, the act was sent back to MACO for further stakeholder consultation. This review resulted in a policy memorandum highlighting changes in the act since the 2003 review and suggesting key modifications to increase the likelihood of the act making a positive contribution to the sector's development.

4.3. Key Changes from 2003 to 2005 Versions of the Act

The act as approved by Parliament in 2005 embodied two key changes from the draft version of December 2003: it substantially altered the balance between the public and private sectors in the board, and it allowed judicial review of board decisions. An additional change involved the keeping of records regarding the credit status of borrowers, a step towards creation of a credit bureau. The essential policing powers of the board were not modified.

4.3.1. Judicial Review

The December 2003 version of the act precluded judicial review of board decisions, stipulating that all appeals beyond the Appeals Committee ended with the minister. Local analysts and several stakeholders raised questions about this provision, especially in light of the extensive policing powers established for the board, through its inspectors. In response, the 2005 version explicitly allowed judicial review of board decisions (23.2, 38.1, and 45.2) after appeal to the Appeals Committee followed by the minister. However, the act did not materially alter the powers of the board or its strong policing orientation.

4.3.2. Public/Private Sector Balance

A number of stipulations in the 2005 version of the act combined to substantially increase the influence of the public sector within the board. The 2003 version stipulated a nine-member board with three members from the public sector. The 2005 Act established a 12 member board with six members – one-half – from the public sector: two from “the Ministry responsible for Agriculture”, one from the Seed Control and Certification Institute (SCCI), one from the Environmental Council, one from “the Ministry responsible for finance and national planning”, and one from the office of the Attorney General. Additionally, seven of the 12 members of the board were not directly involved in the cotton industry. A quorum, formerly two-thirds, was reduced to slightly less: 7/12. The chair, appointed by the minister, presided over meetings, and in that capacity had “a casting vote in addition to the deliberative vote” in the case of any tie (11.7). Furthermore, the chair could, “if the urgency of any particular matter” so warrants, waive the normal 14 day notice of meetings and “call a special meeting ... upon giving a shorter notice”. No guidance is provided as to what factors might justify such a step, and no minimum notice period is stipulated. Finally, the 2005 version of the act stipulated as one of the functions of the board to “implement the Government’s policies relating to the cotton industry” (4.1.g).

Together, these provisions of the act heavily tilted the balance of influence in the direction of the public sector. This issue of the size and composition of the board was raised “with deep concern” by one stakeholder submission, who suggested that both must be reviewed before the act is finalized.

4.3.3. Maintaining Records on Borrower’s Credit Status

A new function in the 2005 version of the act was to “maintain a record of the credit status of cotton growers”. This general provision was a potentially positive development, providing the basis for eventual creation of a credit bureau – a key information service needed in any modern cotton sector. The act left details of the design to the board, once it is constituted.

4.3.4. Registration and Licensing of Smallholder Farmers

The 2005 version of the act was inconsistent on the need for smallholder farmers of seed cotton to be registered and licensed. Some sections suggested that smallholder farmers might need to be licensed and pay a licensing fee. It is likely that the vast majority of stakeholders would not support the need for smallholder cotton farmers to purchase a license. “Registration” of such farmers without the payment of a fee could be appropriate depending

on the purpose and mechanism of such registration. If the purpose of registration is to substantially control the behavior of over 200,000 smallholder farmers, then questions of cost, practicality, and purpose must be raised: such an effort would be costly, time consuming, and of dubious value at best. On the other hand, records maintained by outgrower companies on the growing and credit status of farmers, and shared with recognized stakeholders through the board, could provide valuable information that would improve sector performance. In important ways, such a step would be a first move towards a credit bureau.

4.4. Key additional changes to 2005 version recommended by Cotton Act Working Group (CAWG)

As the kwacha began its sharp appreciation in late 2005, a broad set of stakeholders came together under the Cotton Act Working Group (CAWG) to suggest further revisions to the recently revised Cotton Act (Cotton Act Working Group 2008). The main changes included:

1. **Regulatory focus:** Redirecting the act towards simpler and less punitive regulation of the very large number of producers combined with stricter regulation of the much smaller group of persons engaged in the pre-financing, buying and ginning of seed cotton.
2. **Size and Public/Private Sector Balance of the Cotton Board:** The 2003 version of the act called for three public and six private sector members of the Cotton Board. The 2005 version changed this to six public and six private. Perhaps surprisingly, CAWG did not materially alter this balance, choosing only to reduce the size to 10 from 12, with five each from public and private sectors.
3. **Handling of appeals of Board decisions:** The act as signed by the president in December 2005 allowed judicial review of board decisions after appeal to the Appeals Committee followed by the Minister.
4. **Penalties:** CAWG recommended a new list of fines and sentences to make them more consistent with the seriousness of each finable and/or imprisonable offence.
5. **Licensing period:** Because pre-financing cotton inputs, buying and ginning the seed cotton, and selling the lint takes about 24 months, CAWG recommended modification of the licensing period to take all these processes into account: a 24 month licensing period but with a new 24 month license having to be obtained each year if the licensee wishes to continue pre-financing and purchasing the crop.

By August 2006 a fully revised act enjoying broad support from private and public sector, including farmers, was ready for presentation to the Minister and eventually to Parliament. Yet various circumstances conspired to prevent submission to Parliament, with the result that the sector remained without a regulatory Cotton Board.

4.5. Seating of a Cotton Board in 2009

After the sector's second crash in 2006 and 2007 (Figure 1 above), Dunavant and CAZ led a process of consultation, starting in early 2008, which eventually gained approval by government to seat a Cotton Board under the existing (2005) act, pending eventual submission and passage of the proposed revisions. By harvest season 2009, the board had been seated and begun to meet, but not in time to establish procedures that would influence in a meaningful way that season's behavior by ginners and farmers. As of November 2009, the focus of attention in the new board has been (a) developing licensing procedures and criteria to control entry at the ginning level, and (b) developing procedures to create and maintain a database of cotton farmers, which ginning company they affiliate with, and their credit status. Little concrete progress, however, had been made on these issues, and some ginners and other stakeholders were expressing concern about the perceived passivity of the board. One reason for the lack of aggressive action may be limited funding: the board is relying almost entirely on a small allocation from government, having yet to put into place a self-financing mechanism that would allow it to carry out its mandate more vigorously.

One possible success registered by the young board relates to enforcement of the informal varietal zoning agreement among ginners. To everyone's surprise, Cargill distributed the Chureza variety, which it uses in Eastern Province, to farmers in an area in Central province where they wished to establish a presence. Since the area is zoned for F-135 or CDT2, the two main companies operating in the area, Dunavant and Alliance Cotton, raised strong objections to Cargill's action. Working with SCCI (whose director is on the board and serves as chair of the licensing committee), board inspectors made several trips to the area and negotiated an agreement that Cargill would remove over 80% of the Chureza seed – the proportion that had not yet been distributed to farmers – from the zone and replace it with CDT2. The remaining 18%, already distributed, was allowed to be planted but treated as a seed crop, which involves much closer supervision by SCCI. Harvest of those fields will, in principle, be supervised to ensure that the cotton is not ginned with other varieties. A key point that emerges from this experience is that the varietal zoning agreement in Zambia is an informal one among ginners, with no formal legal basis that would have allowed SCCI and the Cotton Board to take more aggressive action in removing all seed from the area.

V. COMPARISON WITH THE TOBACCO ACT

Tobacco is the one crop in Zambia most similar to cotton in terms of its technical characteristics and the structure of its production and marketing. Burley tobacco is produced almost entirely by smallholder farmers, its production requires even more purchased inputs than cotton (over \$3000 per ha, according to Tobacco Association of Zambia), and price differentials for quality are even steeper. Tobacco is less dependent than cotton on immediate processing prior to export due to the relative lack of extraneous matter such as husk and seed in cotton; some of Zambia's tobacco is exported unprocessed to Malawi. Yet economies of scale in processing, likely driven in part by high demand for quality, mean that the number of buyers is limited, with only six buyers in Zambia.

The Tobacco Act was first passed in 1967, with the current version dating to 1994. Key comparisons with the Cotton Act include:

- Membership: At least seven members, all from the private sector, with representation of the seven specified but individuals chosen by the minister; minister can appoint additional members at his discretion;
- Licensing of buyers: Similarly to cotton, all buyers of tobacco must be licensed by the Tobacco Board; criteria for approving a license are not specified;
- Pricing: unlike the Cotton Act, the Tobacco Act explicitly deals with pricing. The minister sets an *external market minimum price* for tobacco sold by farmers for export, and an *internal market minimum price* for tobacco sold into the domestic market.
- Like the 2003 version of the Cotton Act but unlike the current version, the Tobacco Act does not allow appeal of decisions to courts.
- Both acts create inspectors with broad powers to inspect vehicles and premises and to seize product believed to be held "in contravention of (the) act". Overall, cotton inspectors' power appears to be greater than that of tobacco inspectors, especially as regards the range of items that can be seized and the ability to arrest individuals, a power that only cotton inspectors possess.
- Due to the complexity of grading in tobacco and the very large price differential between grades, the Tobacco Act specifies the licensing of tobacco graders; cotton has no comparable individual.
- In general, the minister is given substantially greater authority in the Tobacco Act compared to the Cotton Act. In the tobacco sector, the minister appoints all members of the board (from specified groups), sets minimum producer prices, determines whether and how growers need to be registered, can control the marketing for export or internal market of specified grades of tobacco, and has final authority on dispute resolution.

VI. ROLE OF THE ZAMBIA COMPETITION COMMISSION

The Zambia Competition Commission (ZCC) was established in May of 1997 under the authority of the Competition and Fair Trading Act of 1994. ZCC's main function is to "monitor, control, and prohibit acts or behaviors which are likely to adversely affect competition and fair trading in Zambia" (Republic of Zambia 1994; Part III section 6). Its specific stated functions are to conduct investigations of potentially anti-competitive behavior, take action to prevent such behavior, and to provide information and guidance to businesses and consumers regarding their rights and responsibilities under the act. The commission appears fairly well staffed, with a board of 13 members, an executive director, and 25 staff members⁷. In an interview with the co-author of this study, the executive director indicated that the main concerns of the commission with respect to the cotton sector are: (a) the lack of greater value added through spinning and weaving, (b) potentially uncompetitive prices paid to farmers, and (c) lack of standardization of contracts between cotton companies and smallholder farmers.

As stated in section III, the ZCC had no apparent role in design of the Cotton Act or in formation of the Cotton Board, and is not mentioned in the 2005 version of the Cotton Act or in the proposed revisions to it. Yet the Commission did conduct a formal investigation of pricing practices in the sector in late 2006, in the context of the drastic appreciation of the kwacha and Dunavant's failure to meet its announced pre-planting price for the 2006 crop. The investigation was precipitated by a newspaper article in the Saturday Post of 28 October, 2006, in which "Katete women ... alleged that the multinational companies stole their money during the 2005/06 cotton marketing season by reducing the price of Grade A cotton from the previous ZK1,220 per kilogram to ZK850 per kilogram".

The report (Zambia Competition Commission 2007) which noted the duopolistic structure of the market in the affected area (Katete district of Eastern province) and the lack of organization of farmers, claimed that "structural barriers to entry may exist especially at the merchant level where entry appears to be self-prohibitive because of the duopolistic dominance that controls the ... outgrower schemes of the smallholders", and concluded that "Dunavant is dominant and, hence, has the potential to abuse its market" (p. 4-5). While the dominance of Dunavant cannot be debated, the conclusion regarding high barriers to entry has been shown to be unfounded by the entry of numerous new firms starting even before 2006. Yet the study also recognized the context of falling international prices and the sharp appreciation of the Kwacha, and correctly concluded that the appreciation was likely to have had a strong negative impact on ginners' profitability. It also noted that ZCGA and CAZ "have been holding a series of ... consultation(s) on several issues including the cotton pricing model, production contracts and yield improvement models", and suggested that this consultative process reduced the probability of Dunavant behaving in an exploitative fashion. It concluded by stating that the commission "does have competition jurisdiction and competence" in the cotton sector but stopped short of taking any punitive action against Dunavant, recommending instead that "the commission should play a role of advocacy to influence streamlining and harmonization of pricing dynamics and addressing other pertinent competition issues in the relevant market". To our knowledge, however, the commission has not played this or any other role in the sector since it issued the report.

The executive director of the ZCC indicated that the Competition and Fair Trading Act is scheduled for revision starting in 2010, though we have no details on what planned revisions may be. Here we highlight several aspects of the act that may be problematical for Zambia's

⁷ We have no information at this point regarding the level of training of the staff

concentrated cotton sector. First, Section III.10 speaks to “unjustifiable exclusion from a trade association ...”. The term “unjustifiable” is not defined, and the overall language suggests that it could be used to invalidate licensing procedures the board may want to institute as it attempts to control side-selling. Second, Section III.10.b.i prohibits “making of recommendations, directly or indirectly, by a trade association to its members... which relate to ... the prices charged or to be charged by such members or any such class of members or to the margins included or to be included in the prices or the pricing formula used or to be used in the calculation of those prices”. This language could be interpreted to prohibit the types of pricing discussions between ZCGA and CAZ that the commission explicitly endorsed in its investigative report. Finally, section III.8 has language that may be interpreted to prohibit any “merger between two or more independent enterprises engaged in manufacturing or distributing substantially similar goods or providing substantially similar services”. In a dynamic market, such mergers and acquisitions are a normal part of doing business and have in fact occurred on several occasions in the cotton sector.

More broadly, the ZCC’s conception is in traditional anti-trust legislation that takes as an article of faith the idea that limiting competition is bad for consumers and, in this case, farmers. Yet Tschirley, Poulton, and Labaste (2009) note the need for both competition *and* coordination in Africa’s cotton sectors and place the competition-coordination trade-off – driven by widespread failures in rural credit and input markets – at the core of their approach to identifying workable institutional mechanisms to promote productivity growth in Africa’s cotton sectors. In practice, the ZCC was flexible and considered important contextual information in the one investigation that it has conducted in the sector. Yet the specific wording of the Competition Act suggests that a too vigorous and narrow pursuit of ZCC’s mandate in the country’s cotton sector could undermine the types of actions needed to ensure sustained growth and enhance the sector’s poverty reduction potential. It thus seems important that the Cotton Board actively contribute to suggestions for revision of the act during 2010, to protect its ability to carry out its own mandate. A key issue in these discussions, and one in which broader policy makers need also to be involved, relates to the relative roles that the ZCC and Cotton Board should play in monitoring prices paid to farmers. We return to this issue in the next section.

VII. OUTSTANDING ISSUES

Tschirley, Poulton, and Labaste (2009, p. 178) identified the following requirements for effective regulation of concentrated sectors:

- “... clear and transparent barriers to entry” based on “a clear idea of the type of company that they wish to allow into the sector”, and with the purpose of “defend(ing) the ability of firms ... to coordinate on input supply, extension, (and) quality control”;
- “... contestability to provide incumbents with an incentive to maintain attractive seed cotton prices”; and
- “...price-setting mechanisms that are more formalized than the price leadership that has prevailed in concentrated systems thus far”.

The Cotton Act as it currently stands, and even with the revisions proposed but not yet approved, clearly provides the basis for barriers to entry (the first aspect above). Emphasis in the act is on licensing of seed cotton pre-financiers, buyers, and ginners (typically the same entity in Zambia), on monitoring behavior associated with the promotion of credit default, and on punitive measures to be taken in the event that such behavior is detected. The act allows the board to refuse a license to a prospective cotton buyer based on the technical qualifications of the firm, and to revoke a license in the event of non-compliance with all rules.

One concern is whether these barriers will be “clear and transparent”, and whether they will ensure contestability of markets to discipline the larger players (the second aspect above). In other words, will the rules be “too strong” and afford too much protection to existing firms, lessening pressure to pay remunerative prices to farmers? Performance in this dimension will turn on the details of rule making by the board and on the competence with which they enforce the rules. The presence of a strong and informed voice for farmers in the form of CAZ bodes well but is by no means a guarantee of balanced rule making. Language in the act on bases for refusing a license (V.34.4) is exceptionally vague and may provide too much latitude for refusal of licenses. Similarly, the absence of language that speaks to the importance of clarity and transparency of rules and criteria, and the absence of any reference to the need to maintain some (regulated) level of competition, must be considered a weakness of the act as it currently stands.

Yet board behavior through early 2010 gives rise to a very different concern: will the board be aggressive enough in proposing and gaining support for rules that adequately protect the sector from actors uncommitted to high productivity and high quality, and will it be persistent enough with ginner members and government to secure the mix of self-financing and government resources needed to adequately staff itself? The board will need to make substantial progress on licensing procedures, on the credit status database, and on financing mechanisms within the first three- to four months of 2010 if it is to be in a position to regulate adequately the sector starting with the 2010/11 agricultural season.

The act refers only once to the role of the board in “maintain(ing) a record of the credit status of pre-financed producers” (II.4.f), yet this has become an early area of focus of the newly seated board. As the precursor to a credit bureau, this initiative could be a major positive contribution of the board to reducing credit default. Yet the extreme brevity of the act’s reference to this issue means that the board will have no statutory guidance as to how to balance the interests of farmers and ginners (indeed, how to protect the interests of farmers

who may be inaccurately accused of defaulting) as it develops the design for this system. The act could be improved by incorporating language that stresses the need for balance.

A final issue involves the role of the Zambia Competition Commission and its relationship to the Cotton Board. In section IV of this report, we highlighted three areas in which language in the Competition and Fair Trading Act could be problematical for the cotton sector: mergers, licensing, and pricing. The need for more flexible language on mergers is not specific to Zambia's concentrated sector: the language in the act appears to be unduly restrictive for any dynamic sector in which some companies flourish while others have difficulties and need to leave the sector, while others might enter. Licensing and pricing, however, are of particular import due to the concentrated (though progressively less so) structure of Zambia's cotton sector. The Cotton Act currently gives licensing authority to the Cotton Board, while the Competition and Fair Trading Act appears to prohibit such actions.

We suggest that licensing is a legitimate and important activity for the cotton sector but that structures and procedures must exist to assure that it is carried out transparently and in accordance with appropriate criteria. Thus, it is probably appropriate that the Competition and Fair Trading Act (in addition to the Cotton Act) address the issue, but that it does so in a way that emphasizes the need for transparency and objectivity, rather than prohibiting the activity.

The Cotton Act is silent on the important issue of price setting. Given the sector's concentrated structure and resulting tendency to pay less than competitive prices to farmers, this is a major oversight. Yet the Competition and Fair Trading Act may be unduly restrictive in this regard, potentially prohibiting any pricing guidance to ginners from within the sector. Once again, it is probably appropriate that provisions of the Competition and Fair Trading Act be brought to bear on the cotton sector through the ZCC. Yet the structure and needs of the cotton sector are such that the language in the Fair Trading Act and the operational procedures of the ZCC would be more effective by emphasizing outcomes (are cotton companies paying competitive prices to farmers?) less than processes (are companies engaging in collusive practices?). These outcomes can be readily evaluated with standard import parity pricing models that incorporate international benchmarking on reasonable ginning costs and local data on energy and transport costs. One option is that ZCC be charged with maintaining and regularly updating such a pricing model and assessing the pricing performance of companies on this basis, and that the Cotton Board be statutorily required to take this assessment into account in its review of ginner licenses.

In all of these issues – mergers, licensing, and pricing – we suggest that the Cotton Board, and the cotton sector more broadly, actively make its views known if the Competition Act goes under revision in 2010 as scheduled.

REFERENCES

- Binswanger, H. and J. McIntire. 1987. Behavioural and Material Determinants of Production Relations in Land-Abundant Tropical Agriculture. *Economic Development and Cultural Change* 36.1: 75-99.
- Cotton Act Working Group. 2008. The Cotton Act Revisited. CAWG Policy Memorandum. Lusaka: Cotton Act Working Group.
- Goeb, Joseph. 2010. Impacts of Government Maize Supports on Smallholder Cotton Production in Zambia. M.S. thesis, Michigan State University.
- North, D. 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.
- Poulton, C., P. Gibbon, B. Hanyani-Mlambo, J. Kydd, W. Maro, M. Nylandsted Larsen, A. Osorio, D. Tschirley, and B. Zulu. 2004. Competition and Coordination in Liberalized African Cotton Market Systems. *World Development* 32.3: 519-36.
- Republic of Zambia. 1994. *The Competition and Fair Trading Act* (Chapter 417 of the Laws of Zambia). Lusaka: Republic of Zambia.
- Tschirley, David, Colin Poulton, and Patrick Labaste, eds. 2009. *Organization and Performance of Cotton Sectors in Africa: Learning from Reform Experience*. Washington, D.C.: Agriculture and World Development, World Bank.
- Tschirley, D. and S. Kabwe. 2007a. *Cotton in Zambia: 2007 Assessment of its Organization, Performance, Current Policy Initiatives, and Challenges for the Future*. FSRP Working Paper No. 26. Lusaka: Food Security Research Project. Michigan State University and Agricultural Consultative Forum.
- Tschirley, David and Stephen Kabwe. 2007b. *Increasing Demand for Quality in World Cotton Markets: How Has Zambia Performed?* FSRP Policy Synthesis No. 25. Lusaka: Food Security Research Project. (<http://aec.msu.edu/fs2/zambia/ps25.pdf>)
- Zambia Competition Commission. 2007. *Assessment Report on the Allegations of Unfair Trade Practices by the Ginners against the Cotton Farmers*. Case File No. ZCC/COIII 0026 January, 2007. Lusaka: Zambia Competition Commission.
- Zulu, Ballard and David Tschirley. 2004. *An Assessment of Current Policy Initiatives in Zambia's Cotton Sector*. FSRP Policy Synthesis No. 9. Lusaka, Zambia: Food Security Research Project.