Productive, unproductive and/or predatory entrepreneurship: a value-chain analysis of institutional reforms in Uganda’s sugarcane industry with key insights from South Africa and Kenya

M Mugabira and R Chivaka

Graduate School of Business-University of Cape Town, Portswood Road, Green Point, 8005, Cape Town, South Africa; mmugabira@gmail.com; richard.chivaka@gsb.uct.ac.za

Abstract This study aimed to analyse institutional reforms in determining the productivity of Uganda’s commercial sugarcane industry. A case study approach was employed by using multiple methods of data collection; a survey, interviews, observation and archives were used for collecting quantitative and qualitative data. Institutional reforms determine the reward structure in the economy, which in turn influences the allocation of entrepreneurial talent between productive activities such as innovation and largely unproductive or predatory activities such as rent-seeking behaviour. In addition, power imbalance among the actors impacts on productivity within value chains in that it creates inequitable distribution of benefits, which in turn dis-incentivizes the less powerful actors to be productive. In this study, it was evident that ring-fencing policies (protectionism/monopoly) inhibit effective competition, leading to inefficiencies in the form of low cane yields and cane quality, and prolonged time-to-market due to delayed harvesting. Value sharing was not equitable among the value-chain actors, with farmers earning approximately 30% of the proceeds of cane and its by-products. Farmers in other parts of the world earn 50-70% and millers earn 30-50% of the sugarcane industry proceeds. The Ugandan sugar industry had no governing body and the proposed governing body in the Draft Sugar Bill 2015 has a gap in power distribution for effective industry competitiveness. The results suggest that institutional reforms are needed to address monopolistic policies that encourage unproductive and/or predatory entrepreneurship behaviours in Uganda’s sugar industry. Equitable representation of millers and growers on the regulatory board is necessary for adequate governance, as well as to shift in the power balance if meaningful decision-making for industry competitiveness is to be achieved.

Key words Wealth of nations, institutional reforms, productivity, entrepreneurship, value chains

INTRODUCTION

Entrepreneurship is about starting a business for wealth creation. Currently, there is an on-going, intense global debate on whether there is equitable wealth distribution among the value-chain participants, who are regarded as the wealth creators (Gereffi et al. 2005; Sturgeon 2008; World Bank 2010; Mugabira and Chivaka 2015). Insights into wealth creation dates back to the publication of Adam Smith’s classic book The Wealth of Nations (1776). Countries continue to invest great effort and resources into creating competitive economic environments that attract foreign direct investment (FDI) and entrepreneurship into their economies. Interest in this topic has been demonstrated through global surveys that track countries’ investment inflows and outflows on the one hand, and entrepreneurial activities on the other. Examples include the United Nations Conference on Trade and Development (UNCTAD), which tracks countries’ inflows and outflows and publishes them in the World Investment Reports (WIR), and the Global Entrepreneurship Monitor (GEM), which tracks countries’ entrepreneurial activities.

The aim of both UNCTAD and GEM has been to offer insights into advances or slowdowns in economic growth, and the central actor(s) shown to be investors and/or entrepreneurs. The pretext of the surveys is that countries with high levels of entrepreneurial activity are likely to experience high levels of economic growth and job creation, while countries with low levels of entrepreneurial activity are likely to experience slowdowns in economic growth and job creation. Our study recognizes the central role of the entrepreneur as the engine of economic growth, but also agrees with Baumol’s classic paper (1990) that contends that, without quality institutions, entrepreneurs’ activities can be detrimental to a society’s growth and well-being. Baumol (1990) argues that the prevailing institutional framework conditions determines the reward
structure in the economy, which in turn influences the allocation of entrepreneurial talent among productive activities, such as innovation, and largely unproductive or predatory activities, such as rent-seeking.

Uganda’s commercial sugarcane industry provides a rich case-study environment to analyse the influence of the prevailing institutional framework anchored upon monopolistic policies and how they influence the allocation of entrepreneurial talent between productive and non-productive activities. The analysis provides insights into what influences the enhanced productivity, equitable wealth value-chain sharing and rent-seeking entrepreneurial behaviours. We applied the Global Value Chain Competitiveness Analytical (GVCCA) framework, which is a variant of the global value chain discipline (Gereffi et al. 2005) complimented by the New Institutional Theory (NIT) by Williamson (1998) and North(1992). The GVCCA framework assisted in mapping the grower/miller relationships and product flows with corresponding revenue flows. The NIT investigated the prevailing institutional framework in Uganda; that is the prevailing rules of the game and governance institutions that account for wealth distribution. The rules of the game were investigated from a monopoly and/or anti-monopoly policy point of view. Governance institutions were assessed by investigating governance power distribution and fairness in enforcement of the rules of the game, and to highlight possible reforms for productivity gains of value chains.

The specific research questions asked were:
1. How do the rules of the game that govern the equitable division of proceeds between miller(s) and growers influence productive entrepreneurs’ behaviours and farm outputs/yields?
2. How do the rules of the game governing property rights and ownership influence the allocation of entrepreneurial talent between productive investment activities and rent-seeking investment activities?
3. How effectively does the existing and/or proposed governance institution achieve equitable representation and the enforcement of the rules of the game among value-chain participants?

METHODOLOGY

We used a case study approach. The purpose was to contribute to emerging GVC theory building (Gereffi et al. 2005) and the NIT, hence the suitability of a case study approach Eisenhardt (1989).

The focus of the case study was the Ugandan sugarcane value-chain. Key insights were drawn from both Kenya and South African sugarcane industries. The Kenyan sugarcane industry was found suitable to inform this study with issues regarding equitable wealth distribution between growers and millers. The suitability of the Kenyan sugar industry in relation to the Ugandan case study was due to the following inter-related features in both the Uganda National Sugar Policy (UNSP(2010) and the Kenya Sugar Industry (KSI 2010) given that; both countries lie on the Equator meaning that they have generally similar weather characteristics especially regarding cane productivity and sucrose content accumulation resulting into longer cane maturity at 12 months; in Uganda 70% of cane is supplied by out-growers, while in Kenya it is 92%, implying that both countries heavily rely on small-scale out-grower schemes. In terms of governance, the South African sugarcane governance model, which was also adopted by Tanzania, offers better insights than Kenya. According to the F.O.Licht’s World Sugar and Sweetener Yearbook (2002) that analysed sugar-producing countries by grouping them to similar features, Uganda, Kenya and Tanzania are grouped as an East African block. The Licht’s World Sugar and Sweetener report then contends that what distinguishes the success of the sugar industries among the three East African countries is that Tanzania attracted South African transnational corporations that brought along best practices and governance in the sugar industry. It is against this background that our research paper adopted the South African governance model, given the challenges facing the governance of the Kenya sugarcane industry.

Our case study used field-work to gather empirical data to address the research questions, which entailed a questionnaire survey, interviews, archives and observations. The use of multiple survey methods in a case-study approach as advocated by Eisenhardt, strengthened the quality of research through triangulation (Eisenhardt 1989; Birnberget al. 1990; Atkinson et al. 1997; Shields 1997; Chivaka 2003).

Selection of cases for study

A list of sugarcane primary producers was obtained from Kinyara Sugar Ltd (KSL), and were verified through the Masindi Sugarcane Growers Association Ltd (MSGAL). The primary producers selected were categorized as high performers, medium performers and low performers. The qualification of performance was based on productivity:
1. Primary producers with approximately 70% of sugar block fields achieving at least 100 t/ha were considered as high performers, while those producing below 70 t/ha were seen as low performers. The medium performers were the producers that attained between 70 and 99 t/ha.

2. Exceptional performers were identified through awards received and/or by being recognized by their peers in the industry. These were interviewed for lessons to be learnt.

The approach of selecting growers and categorizing them into high and low performers was used by Pettigrew (1990), who studied strategic change and competitiveness. His reason for choosing polar opposites was to build a theory of success and failure (Eisenhardt 1989), which was similar to our study. Unlike Pettigrew’s (1990) study that concentrated on only high and low performers, we included medium performers in order to fully understand the systematic improvements within the sugarcane value chain. The selected cases were all in same geographical cluster so as to minimize wider variations in site productivity related to weather, soil and climatic conditions. Hence, a case study approach was suitable (Eisenhardt 1989).

Production data and sample size

Production reports for the 2010/11 to 2012/13 financial years were obtained from Kinyara Sugar Limited. A production report contains field area, yields obtained and actual yield per hectare of each grower. The total number of out-growers in the Kinyara Sugarcane Cluster was approximately 6,000, of which 105 qualified as commercial growers. We were interested in growers practicing agri-business as an entrepreneurial venture for commercial purposes. For practical reasons, this study adopted the Ugandan Saw Log Production Grant model, i.e. a joint facility project by European Union, Government of Norway and Government of Uganda that qualifies commercial enterprises for production cost-share support at least with a minimum area of 25 ha. The purpose of selecting commercial entrepreneurs was that they tend to manage their enterprises from both an entrepreneurial and a commercial aspect, with the intention of graduating to the formal economy. On the other hand, the majority of small players perceive their business as ‘survival entrepreneurship’, with little incentive for business growth.

Of the registered 105 commercial growers, 77 of them were functional, i.e. had established business and delivered cane to the mill. The total number of cases participating in the study was 40 (who completed the survey tool) and 10 (completed the qualitative tool or interviews). The qualitative tool applied covered the exceptional performing growers on the high and low spectrum, millers’ managers/executives, and industry experts with versatile knowledge. The response rate was 32 questionnaires returned and 10 interviews held, representing an 84% response rate. According to Eisenhardt (1989), this sample size was appropriate for a case study approach of this nature, as she recommended between 4 and 10 for case studies.

Measures of productivity/wealth of nations variable

Productivity is a proxy for measuring the wealth of nations. Adam Smith (1776) identified three measures for the wealth of nations: farm output; manufactured goods; and labour to produce goods. We considered farm output (sugarcane production and yield) as a measure of wealth creation and/or productivity. In addition, we also included time-to-market, which is considered to be a global competitiveness indicator as another measure for productivity. We also adopted country-specific industry reports published by the Uganda Sugar Manufacturers’ Association (USMA) that consider farm output of 100 t/ha as the baseline productivity measure for cane maturity of 18-20 months (UNSP 2010; USMA 2015).

Measures of institutional reforms - equitable division of proceeds, property rights ownership and governance power variables

The World Association of Beet and Cane Growers (WABCG) undertake a comparative percentage measure of the division of proceeds from cane and beet producing countries between growers and factories (WABCG 2015). We adopted a similar approach in assessing the equitable division of proceeds between millers and growers by comparing the percentages offered to Ugandan growers to what other regional countries offer their growers, especially neighbouring Kenya that shares similar industry characteristics with Uganda. Equitable division of proceeds encourages productivity and sustainability of the value chain. Measures for property rights ownership were assessed in terms of monopoly and/or anti-monopoly policies that either influence rent-seeking or promote innovation (World Bank 2012) in the sugarcane industry. Governance power was assessed in terms of equitable representation of millers and growers on industry sugar boards for meaningful decision-

**Data and unit of analysis**

The principal unit of analysis in this research was the entire value chain, which was explored and analyzed at three sub-unit levels: Micro (growers’ enterprises), Meso (industry experts, millers and association executives in the value chain), and Macro (assessment of national policies and regulations). Principal component analysis was used to group items. Empirical data were analyzed using within-case analysis that enabled intimate familiarity with each case as a stand-alone entity, as well as cross-case pattern analysis that enabled constant comparison of theory and data – iterating towards a fit between theory and data. The cases we analysed grouped high performers as a standalone case, medium performers as another case, and low performers as another case at the level of enterprises. The interviews at industry level provided important information for data triangulation and discussions in workshops cross-checked the validation of responses.

**RESULTS AND DISCUSSION**

Our results indicate the respondents’ perceptions of Uganda’s commercial sugarcane industry. The categories are classified as High Performing Entrepreneurs/Enterprises (HPEs), Medium Performing Entrepreneurs/Enterprises (MPEs) and Low Performing Entrepreneurs/Enterprises (LPEs).

**Research question 1:** How do the rules of the game that govern the equitable division of proceeds between miller(s) and growers influence productive entrepreneurs’ behaviours and farm outputs/yields?

**Quantitative findings**

Our results indicated that 18% of the farmers achieved the desired industry competitive output of at least 100 t/ha from 70% of their fields. 82% of the growers were producing below expected industry productivity output. Results from the survey indicated that 87.5% of all the respondents felt that there was no equitable division of proceeds between millers and growers, citing that the price formula was exploitative. The survey also revealed that 84% of the respondents perceived that the millers appropriated all the sugarcane value-added by-products such as molasses, scums and bagasse for power co-generation.

**Qualitative findings**

"The worst paid cane farmers in Africa are in Uganda. Farmers are supposed to get 50 percent of the sugar crystal price. If you put together inputs for sugar production, farmers put in 55-60 percent. ...In a nutshell, 37% paid to farmers in Uganda translates to approximately UGX71,000 per ton, but when you look at expenditure we (farmers) are spending over UGX90,000 to produce a ton of cane sugar. But farmers have no option except to produce sugar. Other crops’ market prices fluctuate and also markets are a problem" (Respondent - Association Executive Member and Opinion Leader (Sugar)).

"Another challenge is the continuous reshuffle of ministers; before a minister gets acquainted with the industry another one is appointed. ...At one time we broke down the costs to Minister Mukwaya. The minister requested the miller to give her the breakdown, but the miller refused. Recently, another meeting was organised with the Ministry of Trade, Industry and Cooperatives (MTIC) involving both out-growers and millers. The out-growers gave their cost breakdown of approximately 60 percent but the miller declined to give a cost breakdown" (Respondent - Association Executive Member and Opinion Leader (Sugar)).

In order to determine fair percentage revenue share among the value chain actors, we analyzed the sugarcane production costs (Table1), where estimated production costs give a guide to the determination of a fair percentage revenue share between growers and millers in Uganda. Estimated production cost per tonne is UGX129,876 for new land, UGX58,758 for ratoon cane, and UGX100,844 for plant re-plough fields. The table also shows that participating commercial growers in the value chain should be able to achieve the average industry productivity level of 100 t/ha, with an anticipation of being
able to slightly break-even during the raton cycles. Our findings suggest that the low performing growers are likely to be trapped in unending debt cycles.

Table 1. Sugarcane production costs (in Uganda shillings UGX).

<table>
<thead>
<tr>
<th>Costs/ha</th>
<th>Plant (new land)</th>
<th>Ratoon</th>
<th>Plant (re-plough)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land market rent</td>
<td>500,000</td>
<td>500,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Land preparation</td>
<td>3,338,900</td>
<td>0</td>
<td>1,447,300</td>
</tr>
<tr>
<td>Survey</td>
<td>21,600</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Seed cane</td>
<td>798,850</td>
<td>0</td>
<td>798,850</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>1,262,000</td>
<td>647,000</td>
<td>1,262,000</td>
</tr>
<tr>
<td>Inter-row cultivation</td>
<td>75,710</td>
<td>75,710</td>
<td>75,710</td>
</tr>
<tr>
<td>Labour</td>
<td>1,330,000</td>
<td>1,035,000</td>
<td>1,180,000</td>
</tr>
<tr>
<td>Total direct costs</td>
<td>7,337,060</td>
<td>2,257,710</td>
<td>5,263,860</td>
</tr>
<tr>
<td>Interest (inputs)</td>
<td>2,934,824</td>
<td>903,084</td>
<td>2,105,544</td>
</tr>
<tr>
<td>Harvesting (bundled green)20-24 months</td>
<td>765,000</td>
<td>765,000</td>
<td>765,000</td>
</tr>
<tr>
<td>Transporting (average 25 km radius)</td>
<td>1,950,000</td>
<td>1,950,000</td>
<td>1,950,000</td>
</tr>
<tr>
<td>Total costs</td>
<td>12,987,648</td>
<td>5,875,794</td>
<td>10,884,404</td>
</tr>
</tbody>
</table>

Yield (t/ha) industry average estimate: 100
Production cost per tonne: 129,876
Price per tonne: 72,000
Gross income: 7,200,000

Source: Annual Charge-Out Rates issued by KSL 2011/12-20114/15.
New land includes costs for bush clearing, ripping and survey. Ratoons can be maintained for 6-8 cycles of harvesting.

Our results also confirmed during the validation meeting held on 22 April 2016 on the sugar sector in East Africa Community (EAC)\(^1\), that Kenya was ranked as highest cost producer in the region of USD415-500 per tonne. The report ranked Uganda as the lowest cost producer (USD140-180 per tonne), a finding that was disputed and the meeting generally agreed that the production cost of Uganda is similar to Kenya. This finding was validated through a review of the KSL (2006) strategic development plan page 32 that stated that, 'the expansion will enable KSL to reduce its current costs of sugar production from USD 410 per ton to USD 359 per ton in 2013/14, which will enable KSL to compete more effectively in the increasingly competitive market'.

According to USMA (2015) data for 2014, the largest three sugar mills in Uganda, Kakira Sugar Works Ltd (KSWL), Kinyara Sugar Ltd (KSL) and Sugar Corporation of Uganda Ltd (SCOUL), achieved rendements (1 t of sugar per 100 t cane crushed) of 8.53, 9.08 and 8.58, respectively.

Using a rendement of 9\(^\%\) for KSL implied that 11 t of cane is used to produce 1 t of sugar. A production cost of USD500 per tonne sugar is equivalent to UGX1,389.035/= per tonne\(^2\). As in Table 1, an average production cost between new land crop plant and ratoon and re-plough plant crop land and ratoon gives approximately UGX90,000 per tonne cane (equivalent to UGX990,000 for 11 t) and UGX80,000 per tonne cane (equivalent to UGX880,000 for 11 t), respectively. This implies that the production cost share of the farmer is in a range of 60-70\(%\), as suggested in quotations above.

In order to derive a fair percentage share between growers and millers, we used the selling ex-factory prices for a 50 kg bag of sugar for the calendar year 2014 exclusive of excise duty and VAT, which ranged between UGX130,394 by January 2014, rising to UGX135,750 in February-July 2014, and closing at UGX105,445 in August-December 2014 (USMA 2015). These prices give an average price of UGX123,863 per 50 kg bag of sugar, which translates into UGX2,477,260 for 1 t of sugar for calendar year 2014.

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\(^1\)Consultancy Study to Prepare Project Proposals in the Selected Industrial Value Chains in EAC supported by Trade Mark, March 2016, author Onesmo N. E. Shema, PhD, report available, Attn: Mr. George Ndira - Principal Industrial Economist, East African Community (EAC), P.O Box 1096, Arusha, Tanzania.

Table 2. Estimated fair price per tonne cane and sharing of revenue based on 2014 figures.

<table>
<thead>
<tr>
<th>Gross revenue (UGX)</th>
<th>% of farmers’ production cost</th>
<th>% of farmers’ share of gross revenue</th>
<th>Payment per tonne cane (1TS/11TC) - UGX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,477,260</td>
<td>60</td>
<td>1,486,356</td>
<td>135,123</td>
</tr>
<tr>
<td>2,477,260</td>
<td>50</td>
<td>1,238,630</td>
<td>112,603</td>
</tr>
<tr>
<td>2,477,260</td>
<td>37 (*30)</td>
<td>916,586</td>
<td>83,326 (*72,000)</td>
</tr>
</tbody>
</table>

* shows actual payment per tonne cane paid to farmers, implying that growers received less than the 37% share in the formula.

Table 2 shows that cane farmers in Uganda would be able to break-even only if the share of the revenue in the formulae is not less than 50% of the sugar proceeds. This level of inequality explains the continuous agitation for revision of share percentage by the growers and for a price increase. This form of agitation is clearly documented in the Uganda National Sugar Policy (2010), clause 2.2 provides that the cane pricing formula should be:

“The cane pricing was originally based on the formula: CP = SP X 0.35 X R^3. Subsequently, there were disagreements and questions on rationality of this formula. The sugar cane associations have a contention on the percent share of the sugar price”.

This observation was confirmed and validated by an industry expert/agriculture manager of one of the big sugar mills who said:

“...sugar proceeds are guided by an international formula. Each country needs to have a fair formula agreed upon between growers and millers. ...in our region we are experiencing demand for price increase time to time because growers are suspicious that millers are gaining much....Sugar recovery in Kenya is better than Uganda whereby 11.5 tons cane produce 1 ton sugar while in Uganda 9.5 tons cane produce 1 ton sugar. However, Uganda also has a higher average cane productivity of 100 tons per ha compared to Kenya at 70 tons per ha”.

KSI (2010) report confirmed an average cane productivity of 70 t/ha in Kenya. Therefore, basing on the agriculture manager’s quote above, we deduce that while Kenya enjoys a higher rendement of 10.5% sugar recovery from cane but produces only 7.4 t/ha. On the other hand, while Uganda achieves a lower rendement of 8.7%, it is able to produce 8.7 t/ha.

Table 3. Comparative net sugar revenue per ha between Uganda and Kenya (USD).

<table>
<thead>
<tr>
<th>Country</th>
<th>Sugar yield t/ha</th>
<th>Production cost/ha</th>
<th>Total revenue/ha</th>
<th>Net revenue/ha</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>8.7</td>
<td>4,350</td>
<td>7,760</td>
<td>3,410</td>
<td>1</td>
</tr>
<tr>
<td>Kenya</td>
<td>7.4</td>
<td>3,700</td>
<td>6,601</td>
<td>2,901</td>
<td>2</td>
</tr>
</tbody>
</table>

Used same production cost per ton of USD500 and standardized ex-factory sales price of USD892 per ton (UGX2,477,260) calendar year 2014.

Using the proxy calculations in Table 3, the results reveal that Uganda is a low-cost producer compared to Kenya. Despite Kenya being high-cost producer and/or in similar range of sugar production costs with Uganda, the Kenyan sharing formulae provides for 50% split covering both sugar and molasses (KSI 2010). On the other hand, Uganda only provides for 35% revenue sharing based on sugar alone, enabling the millers to appropriate all the other cane by-products such as molasses, bagasse for co-generation and scums.

A comparison with other sugar-producing countries, with revenue sharing based on both mill sugar and molasses, shows: South Africa 64% farmers, 36% millers (South Africa Sugar Industry Agreement, 2000); Mauritius 78% farmers, 22% millers (The Mauritius Cane Industry Authority Act 2011); Swaziland 68% farmers, 32% millers (The Sugar Act 1967); Tanzania 60% farmers, 40% millers; Zambia 59% farmers, 41% millers; Malawi 60% farmers, 40% millers (Chisanga et al., 2014).

CP = cane price, SP = average annual market sugar price per tonne (ex-factory), 0.35 represents the grower’s share, and R= average annual rendement obtained by the processing mill.
This comparison reveals that Ugandan sugarcane farmers are among the most exploited in the region and possibly worldwide, as the literature shows that the share of the sugar value to the beet grower is usually in a range of 40-60%, and of 50 to over 70% to the cane grower (WABCG, 2015). This level of inequity may explain why the vertically integrated Ugandan millers (backward integration) into the farmer part of the value chain can afford to produce their cane hundreds of kilometres away from their mills as they can ‘subsidise’ the potential loss of their farms from the huge margins they earn as millers. However, for cane farmers in Uganda, who depend entirely on outsourcing the milling of their cane, being even a short distance from the miller can render their businesses unprofitable, as they are currently not on the ‘sweet side’ of the cane payment system. The inequitable division of proceeds between millers and growers appears to explain the observed low productivity by participating entrepreneurs in the sugarcane value chains. Our results further highlight the low attractiveness of commercial growers in the sugarcane sector, which is being dominated by small-scale growers, as they can subsidize labour costs and some other activities with family labour.

**Research question 2:** How do the rules of the game governing property rights and ownership influence the allocation of entrepreneurial talent between productive investment activities and rent-seeking investment activities?

**Quantitative findings**

Uganda’s cane maturity, i.e. time to market is in a range of 18-20 months (National Sugar Policy 2010). We investigated the rules of the game relating to monopoly and/or anti-monopoly policies to explain the observed challenges of delayed time to market related to overgrown cane that could also contribute to low farm outputs/yields. Our results indicated that 78.1% of the respondents (growers) advocated for the dismantling of the existing ‘ring-fencing’ monopoly policies, enshrined in the National Sugar Policy that requires a 50 km distance from one mill to another mill. The respondents favoured a regulatory regime that protects property rights ownership, especially land, and open access to the establishment of mills so that competing mills can foster efficiency, offer competitive cane prices to growers and ultimately enhance competitiveness along the sugarcane value chain.

**Qualitative findings**

In order to triangulate the results, the issue of monopolies and/or anti-monopolies was explored during the interviews with one of the middle-level executives. We asked him to identify key success factors for their sugar mill establishment:

“No competition within vicinity unlike players in other regions” (Agricultural Engineering Manager – Sugar Mill).

This statement confirms that the rules of the game in Uganda allocate rent-seeking opportunities from monopolistic protectionism rather than innovation. This might explain the rise in application for cane-milling licenses since the sugar zoning policy was enacted in 2010. Traditionally, Uganda had three major sugar mills, yet just before the zoning policy two other medium mills obtained licences. Immediately after the enactment of the zoning policy the number of licensed sugar mills rose from 6 to 26, representing more than 300% growth, but less than 50% have been established (Fig. 1). This suggests rent-seeking entrepreneurial behaviours (Baumol 1990) and implies that a number of market speculators obtained monopoly licenses, possibly with a purpose of selling them at exorbitant prices to potential prospective investors in the future; the way it happened with some of the privatized public enterprises in Uganda (Tangri and Mwenda 2013). The finding suggests that monopoly policies affect market efficiency unless there are intervention mechanisms. Poulton et al. (2008), in their World Bank sponsored study, offered suggestions on state intervention mechanisms to redress monopoly concessions. They suggested that intervention mechanisms should be used either through periodic re-tendering or through the enactment of a competition policy that enables growers to receive a fair price for their output.
The demerits of monopoly policies were also confirmed by the World Bank (WB) study (2012), in their World Development Report 2013, which ascertained that large firms can only innovate provided they are exposed to competition. With regards to Uganda, the effects of monopoly policies offered to sugar mills can be evidenced by some of the following challenges: delays in harvesting out-growers cane beyond the stipulated time frame of 18-20 months (UNSP 2010); uncompetitive cane prices with margins of 25% differential between regions with fair concentration of mills than those with a single miller; inadequate mill capacity of 4500 tonnes cane per day (USMA 2015) compared to an area's production potential resulting in overgrown cane of approximately 7,000 ha (700,000 t) - this has caused farmers to petition the government for the waiver of monopoly policies to enable the establishment of another mill of approximately 3,500 tonnes cane per day⁴; during dry spells out-growers lose a lot of cane due to fires when cane cannot be harvested timely and delivered to the mill due to inadequate mill capacity coupled with haulage and mechanical harvesting inadequacies. Thus farmers end up losing investment funds and revenue without compensation from the government or miller(s) responsible for enacting uncompetitive policies. As an example in the 2014/2015 financial year, farmers lost 2,500 ha (approximately 250,000 t) to fire with a potential revenue of UGX20 billion, equivalent to approximately USD5,000,000⁵. As a result, the Ugandan government lost gross revenue from milled sugar equivalent to USD22,000,000, of which USD4,000,000 alone accounts for value added taxes to the government.

**Research question 3:** How effectively does the existing and/or proposed governance institution achieve equitable representation and the enforcement of the rules of game among value-chain participants?

The previous sections analysed the existing formal set of rules of the game, i.e. policies, while this section analyses the relevant industry regulatory agency. The quantitative findings revealed that 84.4% of the respondents advocated for the establishment of a sound regulatory agency to regulate and standardize the sugarcane industry players. Our finding was confirmed by the qualitative responses below:

"Currently, sugar policy is in place but as farmers we are petitioning for a sugar board" (Association Executive Member and Opinion Leader).

"...a need for sound sugar regulation to come on board, then sugar business will be a good venture" (Agricultural Engineering Manager)

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⁴ Memorandum to the President by the Masindi Sugarcane Growers Association Ltd, dated 3 Aug 2015 and 22 Jan 2016.

⁵ 1 USD=3,379 UGX exchange rates March 09, 2016 by Bank of Uganda available:https://www.bou.or.ug/bou/collateral/exchange_rates.html
The focus of this last question was on the impact of the sugarcane industry regulatory environment on the value-chain actors. We contrasted Uganda’s case with South Africa to draw some key lessons, because the South African model, which was mainly adopted by neighbouring Tanzania, seems to offer best industry practices compared to Kenya (F.O.Licht’s World Sugar and Sweetener Yearbook 2002). Our examination focused on governance power exercised through the representation of the key value-chain actors on the industry regulatory body. This was a departure from the GVC framework (Gereffi et al. 2005), which analysed governance power with respect to lead firms in the value chains.

Our findings from research question 1 showed that the equitable distribution of wealth in the sugar industry was associated with sound statutory institutional formal rules governing the industry players. A deeper analysis of the statutory instruments also revealed that industry regulatory bodies had the governance mandate to ensure fair play by the industry players. The South African Sugar Act (1978) and the Sugar Industry Agreement (2000) give a mandate to the South African Sugar Industry Administration Board (SASIAB). This Board is composed of one representative appointed by the South African Sugar Association (SASA), two representatives appointed by millers, and two representatives appointed by growers. The SASIAB reports to the SASA Council, which is composed of two major bodies; the South African Canegrowers Association (SACGA) and the South African Sugar Millers Association (SASMA). Both SACGA and SASMA each elect 11 members to form the SASA Council. The positions of Chairman and vice Chairman rotate every 2 years between growers and millers. Contrasting the South African governance model with the proposed Uganda Sugar Bill 2015, the following was proposed in the first draft bill of 16 March 2015: a Chairman, five government representatives, three miller representatives and two grower representatives. A meeting held afterwards s agreed to reduce the government representation by two and increase the growers’ representation to balance with the millers’ representation. Interestingly, the draft of 1 June 2015, which emerged after the meeting, did not reflect the agreed position of the previous meeting and instead the two vacant government positions had been replaced by millers, meaning five millers and two growers. Further, all the members were to be appointed by the Minister after consultation with the relevant organisations.

We thus observed the following when we contrasted the institutional arrangement in South Africa against Uganda’s:

- In South Africa millers and growers are treated as equal partners in the business, while in Uganda the miller/grower relationship tends to be a master/modern slavery relationship.
- In South Africa decision-making is perceived to be fair to all industry participants due to a balance of governance power distribution as reflected by equality in numerical representations, while in Uganda the balance of power is tilted in favour of the millers.
- In South Africa representation is through a democratic election process by the responsible constituent bodies, while in Uganda the process is autocratic through appointments by the Minister.
- In South Africa the government is not directly involved in the management of the industry affairs, which may be an indication of the level of maturity of the industry. In Uganda, the government is directly involved as an actor that creates a governance structure, in the form of the Sugar Bill. While there is nothing wrong with state actors in any value chain, the key challenge in Uganda is that the government’s involvement is seen as serving the interests of powerful millers. So, it is not necessarily the involvement of the Uganda’s government that is an issue here, but rather how the farmers perceive that involvement.

Therefore, “if institutions are the rules of the game, ...then organizations are the players” paraphrased (North1992, pp. 10).

Business, like sports, is a game. In sports, there are clear set rules governing the game, and for the game to be attractive to fans, the play of the game is reflected in the quality of the referee who enforces fair play and the rules. Likewise, a competitive business industry must have both a quality set of rules and quality regulatory agencies governing fair play. Our study showed that the rules of the game are stacked against the cane farmers and in favour of the millers.

**CONCLUSIONS**

**Theoretical and policy contribution**

Our study has provided an important insight: sound institutional reforms matters. According to the World Economic Forum’s (WEF) Global Competitiveness Report (2010-2011) survey that covered 139 countries, the quality of their institutions were ranked (with low being desirable) as follows: Mauritius 43; South Africa 47; Malawi 52; Zambia 65; Swaziland 70; Tanzania 83, and Uganda 104 (WEF 2010). The latest 2014-2015 report that covered 144 countries revealed a similar trend: Mauritius 35; South Africa 36; Malawi 77; Zambia 52; Swaziland 61; Tanzania 93, and Uganda 115 (WEF 2014). Expectedly as the NIT postulates, the countries that improved their institutions are the two leading in wealth distribution -

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Mauritius and South Africa. Uganda’s position declined in the latest ranking, implying a further decline in its institutional environment.

Our study highlighted necessary reforms to the Sugar Bill 2015. Fortunately, due to the dissemination of the findings of our study through workshops and print media coupled with pressure from out-growers associations, the responsible Minister called an urgent stakeholders meeting on 10 March 2016 to address the key contentious issues. The findings of our study were then adopted in the new drafting the National Sugar Bill ‘Draft Uganda Sugar Act 2015’ in the following key areas:

- Governance: Equal representation of growers and millers fully agreed upon; members to be elected by respective associations instead of being hand-picked by the Minister fully agreed upon; and Chairperson to rotate between growers and millers for a term of office fully agreed upon.
- Property rights ownership and ‘ring’ fencing policies: No miller should obtain more than one license in a geographical region and fair competition should be taken into account during licensing and the approval of mill expansion programs.
- Equitable value chain proceeds sharing: The growers’ share was increased from 35% to 50%, thus matching the global world standards in the sugar industry.

Future research

The focus of this study was the impact of institutional reforms on productivity in a sugarcane industry setting in a monopolistic/monopsony environment, with anecdotal data from regions with fairer distributions. Research into productivity gains from regions with fair competition is desirable for comparison.

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Un entrepreneuriat productif, non-productif et/ou prédateur : une analyse de la chaîne de la valeur des réformes institutionnelles dans l’industrie cannière de l’Ouganda avec des références clés de l’Afrique du Sud et Kenya

Résumé. Le but de cette étude était d’analyser les effets des réformes institutionnelles sur la productivité de l’industrie cannière commerciale en Ouganda. L’approche adoptée était celle de l’étude de cas, à travers plusieurs méthodes de collecte de données ; ainsi, une enquête, des entrevues, des observations et la consultation des archives a permis l’acquisition de données à la fois quantitatives et qualitatives. Les réformes institutionnelles fixent la structure de rémunération dans l’économie, qui à son tour influe sur la répartition des efforts des entrepreneurs entre les activités productives telles que l’innovation et celles largement non-productives ou prédatrices telles la mentalité de recherche de rente. De plus, le déséquilibre de pouvoir parmi les différents acteurs impacte sur la productivité dans les chaînes de valeur avec pour résultat une répartition inéquitable des bénéfices, ce qui à son tour démotive les acteurs moins puissants à être productifs. Cette étude a mis en évidence le fait que les politiques de cantonnement (protectionnisme/monopole) entravent la compétitivité des activités productives ou prédatrices telles les prédateurs au sein de l’industrie sucrière ougandaise. Une représentation équitable des usiniers et des agriculteurs au sein de la chaîne de valeur, avec une répartition équitable des bénéfices, ce qui à son tour démotive les acteurs moins puissants à être productifs. Cette étude a mis en évidence le fait que les politiques de cantonnement (protectionnisme/monopole) entravent la compétitivité des activités productives ou prédatrices telles les prédateurs au sein de l’industrie sucrière ougandaise. Une représentation équitable des usiniers et des agriculteurs au sein de la chaîne de valeur, avec une répartition équitable des bénéfices, ce qui à son tour démotive les acteurs moins puissants à être productifs. Cette étude a mis en évidence le fait que les politiques de cantonnement (protectionnisme/monopole) entravent la compétitivité des activités productives ou prédatrices telles les prédateurs au sein de l’industrie sucrière ougandaise. Une représentation équitable des usiniers et des agriculteurs au sein de la chaîne de valeur, avec une répartition équitable des bénéfices, ce qui à son tour démotive les acteurs moins puissants à être productifs. Cette étude a mis en évidence le fait que les politiques de cantonnement (protectionnisme/monopole) entravent la compétitivité des activités productives ou prédatrices telles les prédateurs au sein de l’industrie sucrière ougandaise. Une représentation équitable des usiniers et des agriculteurs au sein de la chaîne de valeur, avec une répartition équitable des bénéfices, ce qui à son tour démotive les acteurs moins puissants à être productifs.
Resumen. Este estudio está dirigido al análisis de las reformas institucionales para determinar la productividad comercial de la industria azucarera de Uganda. El enfoque de un estudio de caso fue empleado usando múltiples métodos de recolección de información, una encuesta, entrevistas, observaciones y archivos fueron usados para recolectar información cuantitativa y cualitativa. Las reformas institucionales determinan la estructura a prevalecer en la economía, que a su vez influye la asignación de los talentos de emprendedores entre las actividades productivas como la innovación y las actividades en gran parte improductivas o depredadoras como el comportamiento de la búsqueda de renta. Además, el desequilibrio de poder entre los actores impacta en la productividad dentro de la cadena de valor porque crea desequilibrio en la distribución de beneficios, lo que a su vez desmotiva a los actores con menos poder a ser productivos. En este estudio, resultó evidente las políticas cerradas (proteccionismo/monopolio) inhiben la competencia efectiva, conduciendo a la ineficiencia en la forma de bajos rendimientos y baja calidad en caña, y prolongado tiempo entre corte y molíenda debido al atraso en cosecha. La fórmula de valores compartidos no resultaron equitativos entre los actores de la cadena de valor, con cañeros que ganan aproximadamente 30% de los ingresos por la caña y los subproductos. Los cañeros en otras partes del mundo ganan 50-70% y los industriales ganan 30-50% por el procesamiento de la caña de azúcar. La industria azucarera de Uganda no tiene una institución oficial y la propuesta de una institución oficial propuesta en el borrador del decreto azucarero 2015 tiene una brecha en la distribución de poder para una efectiva industria competitiva. El resultado sugiere que las reformas institucionales son necesarias para direccionar las políticas monopolistas que alientan los comportamientos empresariales improductivos y/o depredadores en la industria azucarera de Uganda. La representación equitativa de industriales y cañeros en la institución reguladora es necesaria para una administración adecuada, y también para cambiar el equilibrio de poder si se quiere alcanzar una significativa toma de decisiones en la competitividad de la industria.

Palabras clave: Bienestar de las naciones, reformas institucionales, productividad, espíritu empresarial, cadena de valor