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How traceability is restructuring Malawi's tobacco industry

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May 2012

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ABSTRACT

This article applies a global value chain framework to tobacco in Malawi. It illuminates how cigarette manufacturers govern the chain and control first-tier suppliers: the leaf merchants. Due to credence and litigation concerns, manufacturers have become obsessed with leaf integrity. Contract farming offers merchants the ability to meet manufacturers' compliance and traceability requirements. It also offers an opportunity for process and product upgrading by smallholders, but threatens to exclude poorer growers. The article concludes by outlining current contractual practices and the possible role of third parties in this rapid institutional evolution.

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1. INTRODUCTION

Malawi is the most tobacco-dependent country in the world. It primarily grows burley tobacco as well as flue-cured Virginia leaf, which account for around sixty percent of export revenues (Jaffee, 2003; Orr, 2000; Prowse, 2009). Malawi's dependence on tobacco is not a short run affair: the country has been reliant on export earnings from tobacco for most of the last century which can be summarised in four distinct periods: the colonial era associated with first estate then peasant production, the Malawi Congress Party era characterised by estate expansion (albeit of declining size), the United Democratic Front era with liberalisation and rapid expansion of smallholder production, and since 2004 an era of greater government regulation at the same time as growing credence and traceability requirements from manufacturers (for more detail see Prowse, 2011a).

From 1890 to 1920 tobacco exports from the British Central African Protectorate/Nyasaland mainly came from the Southern Region, where dark tobacco, grown using tenants on estates and outgrowers on communal land, dominated. After the Imperial Tobacco Company (ITC) arrived in 1908, favoured estates in the South switched to flue-cured Virginia tobacco as it was, according to the ITC, "too technical for native growers" (quoted in Wilshaw 1994, 25). From the 1920s peasants became a major force as production shifted towards outgrower and peasant production of fire-cured tobacco in the Central Region. Discontent amongst peasants and riots in 1937 due to low prices led to a state monopsony over all communal land tobacco and an auction floor in Limbe in 1938. The Second World War boosted demand for Malawian tobaccos and production expanded rapidly. The 1950s saw the emergence of burley as a species of considerable potential and the reservation of this form of leaf, alongside flue-cured Virginia, for estates only (which lasted until the liberalisation of production in the 1990s).

The Malawi Congress Party (MCP) era between 1964 and 1994 started by promoting smallholder production of dark tobacco but quickly switched to emphasizing estate production of burley and flue-cured (see Kydd and Christiansen, 1982). This period saw the creation of new large-scale tobacco estates and redistribution of communal and estate land from old European families to the Party, the youth league, and the political elite (*ibid.*). President Banda and the MCP, unable to secure foreign finance, ensured the supply of capital for estate expansion from the Commercial Bank and Reserve Bank with the provision of loans, along with licenses for burley production, a key form of patronage (Mkandawire 1999). A number of policy changes in the 1980s led to a rapid expansion of small-scale estates, mainly by mid-level civil servants, previous estate managers, and 'graduating' smallholders (Conroy, 1993).

The United Democratic Front era under Bakili Muluzi saw the first concerted attempt to change the colonial structure of Malawi's economy through smallholder production of burley (Harrigan, 2003). Once restrictions were rescinded, smallholder burley production expanded rapidly: from around 10,000 metric tons in 1994 to over 80,000 tons in 1997-1999. This increase was accompanied by a collapse in estate burley production due to labour shortages and a liberalised marketing structure which undermined the quality of tobacco arriving at the auction floors (see Jaffee 1997, Van Donge 2002). This era also saw the emergence of a cartel

of leaf merchants on the auction floors that depressed producer prices (see Stanbrook, 2005; Prowse, 2011b).

The current era, since 2004, has seen substantial changes: the creation of district markets, introduction of minimum prices, new players entering the auction floors, and greater conflict between government and leaf merchants (see Prowse, 2011b). It has also seen much greater attention to credence issues (such as child labour and green tobacco sickness) by international cigarette manufacturers who are exerting greater pressure on suppliers (the leaf merchants) leading to a shift from auctioned tobacco to contract farming. We find a global value chains (GVC) framework a useful analytical tool for explaining some of these on-going changes. Section 2 provides an overview of the GVC framework with particular emphasis on two key issues: governance and upgrading. Section 3 analyses the changing governance patterns in the Malawi segment of the value chain. Section 4 evaluates process and product upgrading within this segment. Section 5 concludes. We begin by outlining our methodology.

Tobacco is a very sensitive industry: it is a pariah crop, manufacturers try to maintain decent public relations, and leaf merchants are careful not to alienate manufacturers. Conducting research on the industry is challenging. This article is based on long-term research into the industry by the authors: direct observation and dozens of interviews have been conducted in fieldwork visits from 2002 to 2012. Interviews have been conducted with officials from ministries, regulatory bodies, and parastatals. We maintain lines of communication with farmer organisations, leaf merchants, private banks, and actors in the donor community. For understandable reasons, most interviewees wish to remain anonymous. Whilst this means external verification of some assertions is difficult, it is the only way for us to uphold the confidentiality of informants.

2. GLOBAL VALUE CHAINS

Global value chain analysis assesses the totality of processes for a given commodity from production to consumption. Early work in this tradition posited a distinction between producer- and buyer-driven chains (Gereffi, 1994). Producer-driven chains tend to be dominated by multinational manufacturers/producers who locate near key consumer markets.¹ Buyer-driven chains are “...those industries in which large retailers, brand-named merchandisers, and trading companies play the pivotal role in setting up decentralized production networks in a variety of exporting countries, typically located in the Third World” (*ibid.* p. 97).

A number of trends have contributed to buyer-drivenness: the collapse of international commodity agreements enhanced buyers’ power over suppliers and a greater premium on product differentiation and branding enhanced the value (and power) of nodes closest to the consumer (Gibbon and Ponte, 2005). In the value chain literature, *governance* refers to the mechanisms through which chain participants are organized with an emphasis on power asymmetries, i.e. who does what in the chain and who decides who does what? The group of companies who exert the greatest influence in a chain are ‘lead firms’ (e.g. roasters in the coffee chain) whereas first-, second-, or third- tier suppliers tend to have less power and influence.²

In terms of *how* power is exerted in the chain, Gereffi *et al* (2005) elaborate a typology of five governance schemes: markets, modular, relational, captive, and hierarchical. Three factors tend to determine governance type: the complexity of transactions, ability to codify information, and supplier capability (see Table 1 below).³ In GVCs governed by markets, information is easily codified and transactions are simple allowing buyers and sellers to switch easily.⁴ In modular value chains, transactions are complex but information is easily codified and suppliers have high capabilities. Buyers pre-specify orders and suppliers carry them out.⁵ Relational value chains feature firms with high levels of asset specificity and processes with hard-to-codify information. This leads to mutual dependence and mitigates bargaining asymmetries.⁶ In captive value chains, suppliers have low capabilities and find it difficult to switch buyers leaving them in a weak position.⁷ Finally, hierarchical value chains are characterized by vertical integration – buyers exert complete control over production.⁸

[1] Production tends to be technology- and capital-intensive. A prime example is the automobile industry.

[2] The literature usually uses market share as proxy for lead firm (or first-tier supplier) power over their suppliers. See Ponte (2002) for an application of these concepts to the global coffee industry.

[3] The complexity of interactions increases when lead firms “place new demands on the value chain, such as when they seek just-in-time supply and when they increase product differentiation (Gereffi *et al* 2005, p84).” Codifying information, in other words establishing new demands in technical and/or process standards, helps to decrease complexity. Supplier capability, in turn, refers to the ability of upstream participants to meet the requirements of buyers downstream.

[4] Gereffi *et al* 2005 give the example of the sub-Saharan Africa (SSA) to UK horticulture value chain before the mid 1980s. During this period the chain started with African smallholders and ended with UK wholesalers, with most transactions characterized by arms-length market relations.

[5] Gereffi *et al* 2005 suggest governance of the SSA-UK horticulture chain became modular from the 1980s onwards as UK supermarkets reduced the number of suppliers/importers and increased their requirements.

[6] Gereffi *et al* 2005 give the example of the global apparel industry of the 1990s, as apparel companies in East and South East Asia switched to ‘full-package supply’, that is, they were responsible for an increasing number of tasks including sourcing their own inputs.

[7] Gereffi *et al* 2005 give the example of the global apparel industry from the 1950s to the 1980s. During this period production (i.e. assembly) was located in Japan and subsequently in other East and South East Asian countries where companies depended on inputs and detailed instructions from purchasers.

[8] The increased requirements of UK supermarkets described above led to backwards integration of many

Table 1: Types and Determinants of GVC Governance

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base
Market	Low	High	High
Modular	High	High	High
Relational	High	Low	High
Captive	High	High	Low
Hierarchy	High	Low	Low

Source: Gereffi *et al.* (2005, p. 87)

The other key preoccupation of the GVC literature – upgrading – has been divided into four types: inter-sectoral, functional, process, and product (Humphrey and Schmitz, 2002a; Kaplinsky *et al.*, 2003). Inter-sectoral upgrading uses skills and capital (human, physical, social) acquired in one chain to produce a more valuable product in a different chain. Functional upgrading means moving up the chain: for example, engaging in processing instead of exporting a raw material.⁹ Process upgrading refers to improved efficiency in the production of the same item (e.g. through enhanced technology) and product upgrading means “moving into more sophisticated product lines (which can be defined in terms of increased unit values)” (Humphrey and Schmitz, 2002b, p 6).¹⁰

Whilst process upgrading in agriculture is relatively straightforward, e.g. increasing yields and net margins through improved use of inputs, how relatively homogenous agricultural products are differentiated, and hence product upgraded, is more complex. Humphrey (2006, p 579) writes this differentiation can occur:

...on the basis of quality, environmental impact, origin, community development, animal welfare, etc... Product differentiation based on such claims is part of a broader trend towards the increasing importance of credence characteristics in the food industry.

Similarly, Reardon *et al.* (2001, p 424), discuss how agricultural grades and standards have led to the creation of the ‘credence good’: “a complex, new product with quality and/or safety aspects that cannot be known to consumers through sensory inspection or observation-in-consumption.”¹¹ Humphrey (2006) gives the examples of Fairtrade, ecofriendly, and certified organic coffees as differentiated products. Reardon *et al.* (2001) add food safety, food healthiness, and authenticity as further credence attributes. As ‘credence goods’ are differentiated by process attributes which are not evident through physical inspection, traceability is paramount

exporters to gain greater control over quality and standards. In other words, many African exporters started production of horticultural goods in addition to sourcing from farms (Gereffi *et al.*, 2005).

[9] Although the garment chain is given as the classic example of functional upgrading in GVCs (Gereffi, 1999), it is generally understood that lead firms tend to block functional upgrading for upstream actors (Humphrey and Schmitz, 2000; Gibbon and Ponte, 2005; Kaplinsky *et al.*, 2003).

[10] Gibbon (2001, p 352) expands on the notion of process upgrading in agricultural commodity chains as: ...the capture of higher margins on exports of existing forms of unprocessed raw material, by moving up the quality grade ladder, increasing volumes and reliability of supply, securing more remunerative contracts through forward sales and becoming active in hedging risk via utilizing futures and options instruments.

[11] Also see Humphrey and Schmitz (2002b).

(Humphrey, 2006).¹²

Product and process are the most prominent types of upgrading in agricultural GVCs as producers are under pressure to meet buyers' ever-increasing requirements (Giuliani *et al*, 2005). Given the above descriptions, it is apparent there is considerable scope for simultaneous process and product upgrading. This occurs, for example, when smallholders undertake processes to differentiate and upgrade products (e.g. to produce credence goods) in order to meet buyer requirements, which also result in improved efficiency, yields, quality, or reduced risk. However conforming to buyers' requirements often results in a select group of more adaptable firms and farms upgrading while others are excluded from participation in the value chain (Gibbon, 2001).¹³ We now use these straightforward conceptual tools to assess the changing governance patterns in the global tobacco value chain, especially within the Malawian segment.

[12] See Gibbon (2003) on the importance of traceability in value chains.

[13] A classic example of this process is the Kenya-UK fresh vegetable chain where Kenyan smallholders have found it increasingly difficult to conform UK supermarket requirements with production shifting away from smallholders and towards estates (Dolan and Humphrey, 2004).

3- GOVERNANCE OF THE GLOBAL TOBACCO VALUE CHAIN

Global tobacco leaf production has doubled since 1960 due to increases in developing countries (production in developed countries fell by 50% during this period - Shafey *et al*, 2009, p. 48). Turning to burley, Malawi's main export, Table 2 shows Africa and the Middle East produce most followed by Asia and Oceania, and the Americas. Interestingly, the United States is still a major burley producer due to its quality niche: it is claimed US burley is the highest quality and is difficult to emulate.

Table 2: Estimated Burley Production by Region, million green kgs

Region	Year				
	2008	2009	2010	2011E	2012P
North and Central America + Caribbean	117	116	106	110	111
(of which USA)	(95)	(91)	(81)	(79)	(85)
South America	155	184	140	169	130
Europe + CIS	70	73	67	55	50
Africa + Middle East	258	318	293	324	258
Asia + Oceania	136	146	155	139	140
World Total	736	836	760	797	689

Source: Modified from Universal Corporation (2012)

In 2007 the five largest national markets for manufactured tobacco products were China, Russia, Japan, Indonesia and the US due to large populations and cultural attitudes to tobacco (Shafey *et al*, 2009 p. 32-33). Supplying these markets is extremely lucrative and lead firms in the GVC, the international cigarette manufacturers, vigorously protect their positions. Apart from Indonesia, these countries are major exporters of manufactured products, in addition to Germany, France and the UK (*ibid*, p. 52-53).

Entry barriers associated with cigarette manufacturing have increased in recent years. Bans on advertising, on certain chemicals used in production, and on various additives and flavourings have increased costs of entry.¹⁴ Moreover, expenditures required for marketing, litigation and research and development also act as substantial barriers. For example, in 2006 manufacturers maintaining or trying to increase market share spent almost US\$0.75 per pack (Shafey *et al*, 2009, p.58).¹⁵ Having financial and technical resources to deal with litigation, as stressed by van Liemt (2002), is a further case in point. This requires preventive measures, high legal fees, and occasional multi-million dollar payouts. In addition, manufacturers invest in research and development on leaf agronomy, consumer preferences and innovation. In the context of increasing global regulation, manufacturers try to ensure they have new products to

[14] This includes increasing regulation in key markets such as the USA where the Federal Food and Drug Administration has started regulating tobacco as a food crop. This is in addition to the World Health Organisation's Framework Convention on Tobacco Control (FCTC) which aims to decrease consumption of tobacco globally. See van Liemt (2002).

[15] As British American Tobacco (2010, p 18) puts it: "Successful marketing is the bedrock of growth for any fast-moving consumer goods business and ours is no exception... We invest in gathering comprehensive insights into preferences and buying behaviour, then invest in developments across the marketing mix to be truly relevant to consumers' tastes, attitudes, pockets and purchasing patterns".

launch if current products are outlawed.¹⁶ Large manufacturers benefit from these economies of scope.

In addition to these tendencies towards oligopoly, consolidation amongst manufacturers accelerated in the 1990s as liberalisation opened new markets and former state monopolies (van Liemt, 2002). Furthermore, and similar to other buyer-driven chains, in a context of stagnating demand in high-income markets, product differentiation and branding became strategically important. All of the above features contribute to a very high level of market concentration among cigarette manufacturers. The five top firms – Chinese National Tobacco Corporation (41%), Philip Morris International (16%), British American Tobacco (13%), Japan Tobacco International (11%), and Imperial Tobacco (6%) – share 87% market share (BAT, 2010).

Lead firm objectives in Malawi

Phillip Morris International (PMI) is the largest customer and lead cigarette manufacturer for Malawi. Japan Tobacco International (JTI) is the second biggest buyer partly due to acquisition of RJ Reynolds International, a major producer of *American Blend* cigarettes. British American Tobacco (BAT) also has a large presence. Phillip Morris USA, Imperial, and RJ Reynolds are also buyers.¹⁷ These blue chip companies are the most desirable clients for leaf merchants. The Chinese National Tobacco Company (CNTC) does not have a major presence as it mainly sources flue-cured Virginia for the domestic market (which prefers *Virginia Style* cigarettes).¹⁸ Further buyers include the Eastern Tobacco Company of Egypt and KT&G from South Korea.

Blue chip manufacturers require reliable supply of quality leaf at competitive prices, and thus concentrate supplies with a small number of trusted leaf merchants. Importantly, there is increasing pressure for *compliance* with manufacturers' credence concerns through greater oversight and *traceability*. Blue chip manufacturers wish to have intimate knowledge of the production process for the tobacco they purchase. For example, leaf merchants are under increasing pressure to demonstrate they can comply with manufacturers' requirements regarding chemical inputs (pesticides, fertilisers), adherence to good agricultural practices (GAP), reforestation, and, importantly, labour practices (especially the use of child labour). These

[16] For example, Philip Morris International states "developing products with the potential to reduce the risks of smoking-related diseases is one of our top priorities". The company's website boasts it "...recently opened a new, state-of-the-art R&D center in Neuchâtel, Switzerland" and that their "Research and Development Department includes a team of scientists with expertise across a range of disciplines including biology, chemistry, and computing" (see PMI, 2011).

[17] Philip Morris International spun-off from Philipp Morris USA in 2008. Philip Morris USA is owned by Altria which also buys tobacco separately. RJ Reynolds USA is also separate from RJ Reynolds International. The former is an associate company of British American Tobacco whereas the latter is owned by JTI.

[18] There is a government-to government scheme where Malawi sells 5 million kgs of FCV to China. It has been suggested that President Mutharika's decision to cease recognising Taiwan as an independent country in favour of improved diplomatic relations with China was an attempt to increase tobacco sales. Such an assertion fails to recognise China mainly consumes FCV and Malawi mainly produces burley. It is more likely this diplomatic move was to attract infrastructure investments, such as the new parliament building. In some cases, the Chinese have taken over construction of the same roads the Taiwanese were in the process of building.

manufacturers also want a guarantee no non-tobacco related materials (or NTRM in the industry jargon) are present in bales of tobacco.

A number of factors explain current pressure for *compliance* and *traceability*. Global regulations have limited the use of certain chemicals. For example, Methyl Bromide was once widely used on nurseries to reduce nematodes. Its use has been restricted by the Montreal Protocol to limit ozone-depleting gases and has been phased out in Malawi. Apart from NTRM which is enforced due to the fear of potential lawsuits from consumers, the further compliance issues are due to the pariah status of tobacco: manufacturers are under constant pressure to maintain decent public relations to a much greater extent than other industries. Regulators and the anti-smoking lobby use any means to demonize the industry. Blue chip manufacturers have invested very heavily in Corporate Social Responsibility (CSR) strategies and now demand very high standards from suppliers. For example, after pressure from Plan International and other NGOs, labour practices required by manufacturers are more stringent than those suggested by the International Labour Organisation (ILO).¹⁹

Governing the value chain

As we have seen, manufacturers purchase tobacco from a limited number of suppliers but within in the rubric of long-term arrangements (Van Liemt 2002, p. 15-16). In Malawi, the majority of tobacco is bought and sold by subsidiaries of the two leading international leaf merchants: Alliance One International (AOI) and Limbe Leaf (Universal Corporation).²⁰ Alliance One International is the outcome of a global merger between Dimon and Stancom. Together Limbe Leaf and AOI buy about 60-70% of tobacco in Malawi each year. Until 2009 when it was acquired by JTI, Africa Leaf (owned by Tribeck) was another leaf merchant operating in Malawi. Two recently-created leaf merchants in Malawi are Premium-TAMA and Malawi Leaf. Premium-TAMA is a subsidiary of Premium Tobacco Holdings (UK) with the Tobacco Association of Malawi (TAMA) owning a 14% stake.²¹ Malawi Leaf is a subsidiary of Auction Holdings Limited created in 2006 by President Bingu wa Mutharika to inject greater competition on the auction floors.²² It is widely accepted during the United Democratic Front era under Bakili Muluzi leaf merchants operated a cartel in Malawi depressing prices (see Stanbrook 2005; Prowse, 2011b). The extent to which the emergence of Premium-TAMA and Malawi Leaf has inserted more authentic competition on the auction floors is unclear at present. What is certain is the market share of the leaf merchants is still stable with Alliance One International taking 34-35% market share, Limbe Leaf 30-35%, Premium-TAMA 15%, JTI 10-15% and Malawi Leaf around 8%.

[19] For example, PMI has made it clear they expect Malawian producers to adhere to their Agricultural Labour Practices (ALP) which comprise seven elements: no child labour, income of at least minimum wage and working hours at most eight hours per day, fair treatment, no forced labour, safe working conditions, compliance with national law, and freedom of association.

[20] AOI exports more than it purchases because it imports tobacco from neighboring countries for processing in Malawi before re-exporting.

[21] TAMA is one of the largest farmer associations.

[22] For a summary of greater state intervention in the industry as an attempt to introduce authentic competition on the auction floors, see Prowse and Moyer-Lee (forthcoming).

Gereffi et al (2005) highlight different nodes of a value chain can be characterised by different modes of governance. This is the case with tobacco in Malawi. Moreover, the lead firm to first-tier supplier relationship is characterised by different forms of governance between different actors (see Table 3).

Table 3: Lead Firm to First-Tier Supplier Governance

Lead Firms (Cigarette Manufacturers)	First-Tier Suppliers (Leaf Merchants)	GVC Governance Type
JTI	JTI (Malawi subsidiary)	Hierarchy
Other blue chip manufacturers, e.g. PMI, BAT.	Limbe Leaf (Universal Corporation) Alliance One International Premium-TAMA	Modular
Other manufacturers, e.g. Eastern Tobacco Company (Egypt),	Premium-TAMA Malawi Leaf	Market

Source: Authors' analysis

Three modes of governance occur at this point of the chain: hierarchy, modular, and market. To source their own tobacco directly rather than imposing demands on suppliers, JTI integrated backwards by acquiring Africa Leaf in 2009. This has posed challenges for JTI, notably running a business with a very different culture.²³ JTI's Malawi subsidiary sources tobacco solely for its parent company. Backward integration highlights the lengths cigarette manufacturers will go to meet credence requirements, a point not lost on the remaining leaf merchants who lost business from JTI (especially Premium-TAMA).²⁴

A large proportion of Malawian tobacco is sold to other blue chip manufacturers with this relationship characterized by a modular governance structure: blue chips have the upper hand in the relationship, the leaf merchants have high capabilities, orders are pre-specified and manufacturers switch easily between suppliers. To exert power over first-tier suppliers, blue chip manufacturers make small adjustments in purchases (about 3 million kgs per year) from different leaf merchants to punish/reward firms. In recent years manufacturers have used information asymmetries, their oligopsony power, carrot-and-stick buying patterns, and (implicit) threat of backward integration to achieve more beneficial cost structures and relegate unwanted functions upstream. For example, manufacturers have shifted costly and burdensome warehousing to suppliers. These practices are also used to enforce compliance and traceability.

[23] More than two years after the acquisition, JTI was still advertising heavily in national newspapers for management positions.

[24] A number of manufacturers have integrated backwards in other countries, for example BAT in Brazil and Phillip Morris in USA and Brazil.

Relations with other customers can be characterised as market governance. Malawi Leaf in particular, and Premium-TAMA to a lesser extent, trade with cigarette companies such as Eastern Tobacco Company of Egypt.²⁵ These companies tend not to demand much in terms of compliance and traceability. Trading partners are switched easily and contract enforcement can be an issue. One peculiar aspect of the industry is leaf merchants are expected to buy all tobacco produced, or *mop up the market*. The strength of these 'obligations' were much greater in the 1990s as leaf companies agreed to buy all types of burley within a clear price band of US\$1 and US\$1.50/kg (Van Donge, 2002). Early in the last decade this price band was discarded, and low-quality burley received very low prices (but leaf merchants still purchased all tobacco on the floors). Now, leaf merchants continue to *mop up the market* but do so under more challenging conditions. For example, leaf merchants assert there has been considerable over supply from Malawi in the years preceding 2012 and jointly stated their requirements for the 2011/12 season as only 155-160 million kgs, a considerable reduction from the 237 million kgs produced in 2010/11 (including 208 million kgs of burley).²⁶ Whilst there is a degree of scepticism within the industry regarding such claims of oversupply, the nature of current leaf merchant financing offers some evidence to support this proposition. Under normal conditions merchants take out seasonal loans at favourable rates for 'committed stock', an order from a blue chip manufacturer (as the buying order acts as collateral). However, in the 2010/11 season, one major leaf merchant was forced to turn to financial markets to acquire 2-3 year loans to purchase tobacco for storage as they did not have buying orders from blue chips (suggesting demand was indeed lower).²⁷

Pricing and inventories

The traditional pricing model used for sales from leaf merchants to blue chip manufacturers is known (in industry jargon) as 'in the box', where a customer demands a certain type of tobacco and price. The model is implemented between the leaf merchant's sales department and blue chip's purchasing department. Great emphasis is placed on the personal relationships salespeople are able to establish with customers. This is particularly important in that (non-contract farmed) tobacco sold by Alliance One International and Limbe Leaf is indistinguishable.

However, due to increasing professionalization within the industry and increasing power of lead firms over suppliers, manufacturers are shifting to a 'cost-plus' model (where the customer pays the leaf merchant's purchase price plus processing costs and a small 6-12% margin). In this model, leaf merchants' cost structures become the main point of contention, leading to a greater role for accountants (and smaller role for salespeople).

Another emerging trend in the modular governance structure between lead firms

[25] Tobacco is sold by the international leaf merchants to such companies as well although their primary focus is on selling to blue chips.

[26] The Tobacco Control Commission's official crop estimates for 2011/12 was 151 million kgs of tobacco with 134 million kgs of burley. There are widespread concerns these estimates have been inflated and some observers do not expect production to exceed 100 million kgs.

[27] Since liberalisation of production in 1994 there has been little regulation of the total quantity of tobacco produced in Malawi. Since the 2006/7 season farmers' supply response has been compounded by the introduction of minimum prices which are perceived by some to have induced over-supply in 2008/9, 2009/10, and 2010/11 seasons.

and first-tier suppliers relates to manufacturers' inventories. It has been asserted that blue chips are decreasing stock levels to roughly 12 months' cover. This reflects buyer-drivenness in two ways: blue chips' strategy is increasingly orientated towards marketing and branding rather than quality tobacco and production, so reducing stock levels increases efficiency and may raise share values (as with other buyer-driven chains); second, decreased stocks imply increased burdens on first-tier suppliers (through shorter delivery schedules, more unpredictable demands, and greater precision in orders).

Compliance and traceability

The most significant example of lead firms exercising power over first-tier suppliers is through the implementation of *compliance* and *traceability*. In addition to conventional methods of exerting power, blue chip manufacturers have threatened to stop buying non-compliant and traceable tobacco from Malawi within a number of years (even as early as 2013/14). As contract farming allows leaf merchants to control compliance and traceability (see Prowse, 2012), they are lobbying government to increase the amount of tobacco produced this way. Since the 2003/04 season, contracted tobacco has been marketed through a 'silent auction' system on the floors where minimum prices are fixed by the Tobacco Control Commission (TCC) according to pre-determined grades (TCC 2004).

Discussions with leaf merchants reveal they wish to achieve complete contract farming in Malawi due to customers' demands (Table 4 shows contract farming allocations for the 2011/12 season). Greater compliance and traceability requirements have required significant investments by leaf merchants, for example in agronomy departments to institute contract farming.²⁸ There are a number of further costs: leaf companies source inputs, develop relationships with banks for finance, and accept part of the liability for input loans for farmers. Moreover, traceability requirements demanded by manufacturers have led two leading leaf merchants to hire Agronomy Technologies, a private company, to provide data services on crop estimates, chemical use, the use of child labour and other compliance concerns, as well as other issues such as prevalence of malaria and green tobacco sickness.²⁹ This enables leaf merchants to claim full traceability but costs roughly US\$ 6.30 per farmer per season.³⁰ In addition, contract farming does not guarantee meeting blue chip manufacturers' compliance and traceability demands. For example, some elements of compliance are easier to monitor than others: the use of suitable pesticides and chemicals can be encouraged through inclusion in the input package, compliance on child labour is more difficult to monitor and enforce.

[28] The agronomy department for one leaf merchant includes five agronomists, 36 field extension workers, and 69 trainee field extensions workers, responsible for smallholder tobacco production. The company plans on doubling the budget for the following season.

[29] JTI is believed to have its own system of data collection but requires less information as sales are to its parent company. The third leaf merchant selling to blue chips is believed to have a similar system to Agronomy Technologies.

[30] Ten years ago blue chip manufacturers were much less concerned with traceability. They arrived occasionally in Malawi and demanded to visit one of the farmers producing the tobacco they were buying. It was common practice for leaf merchant officials to take the representative to a model farmer who met the manufacturer's standards. Interviews with leaf merchants currently reveal this model is no longer feasible. The ICC representatives now arrive unannounced, with lawyers and agronomists in tow, demanding to see a particular farmer at a particular location.

Table 4: Contract Farming Allocations, 2011/12 Season

Leaf Merchant	2011/12 Contract Farming Allocation (million kgs)
Premium-TAMA	15.4
JTI	14
AOI	17.55
Limbe Leaf	18
Malawi Leaf	0.05
Total	65

Source: Tobacco Control Commission

4. SMALLHOLDER PROCESS AND PRODUCT UPGRADING

The insistence on compliant and traceable tobacco achieved through contract farming is a key example of how lead firms are governing the GVC. From the discussion above, and indeed from the perspective of blue chip manufacturers, we can identify two principle types of tobacco, or two different products. On the one hand there is the conventional burley tobacco, produced by smallholders and sold via auction. We refer to this as standard tobacco. This 'new' product is contracted tobacco produced through the compliant and traceable system (C&T) where correct inputs and the production process are closely monitored. As with other commodities in agricultural value chains, these products are differentiated by their credence attributes.

With C&T farming, farmers receive inputs such as seeds, fertilizer, chemicals and hessian sacks in exchange for exclusive purchase rights over the contracted crop. C&T farmers yield 1700/1800 kgs per hectare compared to standard burley yields of 700/800 kgs per hectare, according to leaf merchants.³¹ In addition, farmers receive credit from a commercial bank and agronomic supervision. Importantly, leaf companies are loaning further products and services. One company's package includes hybrid maize seed and fertiliser, as well as a cash advance of US\$ 107 for three months of the hungry season. A different leaf merchant provides groundnuts and vegetable seed. One leaf merchant provides bags of maize for each contract grower. Enhancing the food security of their growers allows leaf merchants to claim social responsibility which is useful when lobbying government to increase contract farming quotas. More importantly, supplying seed, fertiliser and finance for food security increases the 'self-enforcement' range whereby both farmer and firm are less likely to break the contract due to side-selling (by the farmer) or a failure to buy (by the firm) (see Klein, 1996; Gow et al, 2000; Prowse, 2012).

C&T tobacco represents different elements of product and process upgrading. In the case of product upgrading, and as stated above, the characteristics of C&T tobacco are different enough from standard tobacco for the two to be considered different products. Of these two, C&T tobacco has greater value to lead firms, which explains their demands for all tobacco to be produced through contract farming. Of course, one of the key characteristics of

[31] This latter figure tallies broadly with wider estimates. For example, the average smallholder burley yield in Kasungu Agricultural Development District (ADD) in 2001 was 280.4 per acre (701kgs per hectare) whilst a small-n survey in Kasungu district in 2004 found an average burley yield of 360kgs per acre (900kgs per hectare). More importantly, we can't infer higher yields of contracted farmers are due to the integrated production system alone as these comparisons do not overcome selection bias.

C&T tobacco is that it's traceable, i.e. that data on producers and the production process are available. From the farmers' perspective, contracted tobacco should not only increase incomes (through better quality leaf), but provides an assured marketing channel and wider co-benefits (such as improved food security).³²

In terms of process upgrading, the C&T exhibits characteristics outlined in Section 2 above, namely improved quality, increased volumes and increased reliability. Supervision combined with improved inputs increases volumes, risk is reduced and financial management improved. According to a leaf merchant official, C&T farmers earned 193MKW per man-day (which is above the minimum wage) compared to standard farmers who earned 106 MKW (not only below the minimum wage, but also potentially a loss on investment).

The complexities of upgrading

Whilst for analytical purposes it is convenient to portray process and product upgrading as a dichotomy (Humphrey and Schmitz, 2002b) of standard and contracted tobacco, the reality of upgrading is messier. It may be more useful to conceptualize product and process upgrading as a *continuum* with different contract types reflecting the degree of process upgrading. A first useful distinction is between *contract selling* and *contract growing*. The former refers to a conventional market-specification contract between a farmer and leaf merchant to buy/sell tobacco at a given price. There is no provision of inputs, agronomical supervision, or finance. *Contract growing*, on the other hand, involves the buyer in the growing process, usually through a combination of input provision, supervision and finance. Thus *contract growing* includes resource-providing and production-management contracts (and contracts which include both resources and extension advice) (see Mighell and Jones, 1963). *Contract growing* entails different levels of buyer involvement in the growing process ranging from mere provision of seeds and limited supervision on the one hand to the full integrated production system.

Contract types depend on factors including leaf merchant resources and past experience with given farmers. For example, one leaf merchant currently only engages in *contract selling*. Another is involved heavily in *contract growing* and operates different tiers of farmers' clubs. Such loyalty schemes, where farmers are encouraged to move through tiers via the incentives of better inputs, incomes, and broader products and services, increases the self-enforcement range through increasing expectations of future income gains (see Prowse, 2012).

Product upgrading, to the extent it is proxied by the degree of compliance and traceability, can also be situated on a continuum (see Figure 1 below). As highlighted above, some elements of compliance are easier to control than others. Moreover, data on breaches of compliance, for example on which harvesting process are performed by children, are only a first step to finding appropriate solutions.

[32] According to one leaf merchant, contracted tobacco received higher prices in the 2009/2010 season (by about US\$ 0.60) and the 2010/11 season (by US\$ 0.30–0.40) than the national average price. In the 2011/12 season contract tobacco prices are lower than auction prices due to shortfalls in production.

Figure 1: Degree of Compliance and Traceability

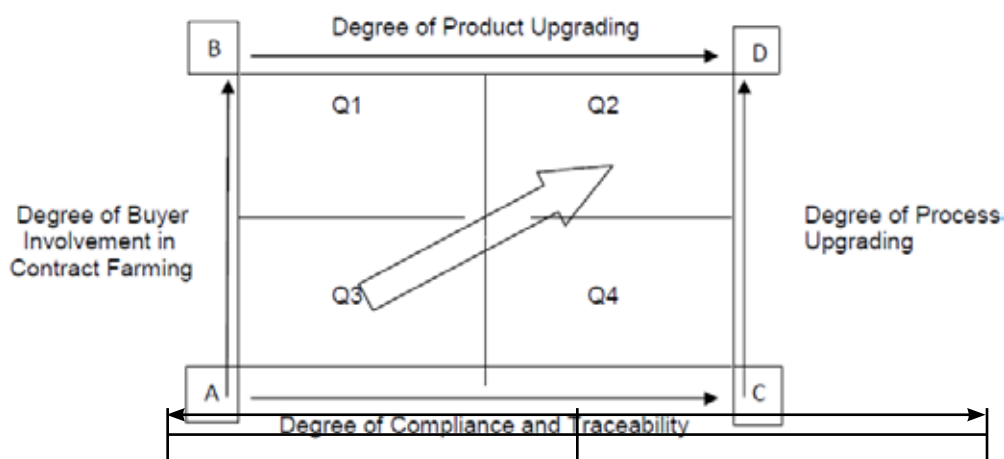
Standard tobacco: no attention paid to compliance factors, no one besides the farmer is familiar with the processes of production

Statistics are available, correct pesticides are used, child labour is prevalent but minimal, no NTRM issues

Full compliance and traceability: no child labour, GAPs are followed, thorough and reliable statistics are available

Source: Authors' illustration

The continuous nature of compliance and traceability, buyer involvement in contract farming, and hence product and process upgrading, are brought together in Figure 2 below. Here we see the degree of product upgrading increases with increasing compliance and traceability. Likewise, the degree of process upgrading increases with greater involvement of leaf merchants in the production process. Box A in Figure 2 represents the 'standard farmer' where tobacco is grown with minimal inputs, limited attention to international agricultural or labour practices, and is sold via auction. Box A is representative of most smallholder burley production today. Box B represents the full integrated production system but without any data collection or attention paid to compliance factors such as child labour and/or pesticide use. This would be unimaginable in Malawi now. Likewise Box C would be unimaginable: full compliance and traceability without a beneficial input package and increases in yields and quality. Box D, on the other hand illustrates blue chip manufacturers' demands: full compliance and traceability through the integrated production system. Smallholder participation in the C&T is illustrated through a movement from quadrant three (Q3) in Figure 2 towards quadrant two (Q2).

Figure 2: The Continuous and Simultaneous Nature of Upgrading

Source: Authors' illustration

An additional common feature of upgrading in agricultural commodity chains is the simultaneous process of exclusion. This occurs when some firms and farms are able to

meet lead firms' requirements, and thereby upgrade, whilst others cannot and are excluded from participation in the chain (Gibbon, 2001). In our case study, when contract farming with smallholders was first introduced (for flue-cured tobacco between 2000 and 2002) only the wealthiest farmers were engaged by leaf companies. It can also be expected contracting with smallholders for burley has initially engaged the wealthier strata of rural communities (for example, see Prowse, 2012) leading to at least some exclusion. The consequences of this exclusion is tempered by at least three important factors.

First, there is still a vibrant auction system in Malawi. Leaf merchants are not legally allowed to source all tobacco through contracting. This forces them to buy via the auction system from standard farmers. In addition, the amount of contract tobacco they finance through contracts is based on the level of purchases on the floors in the previous year. Importantly, all contracted tobacco also has to pass through a 'silent' auction on the floors (which allows the collection of government revenues, the repayment of credit providers, and payment of producer organisations and industrial bodies – see Prowse, 2011b). The second factor is that leaf merchants still *mop up the market*. Smallholders' standard tobacco will be bought (although it might receive very low prices). The third factor, although less important than those outlined above, is there remains international demand for standard tobacco from non blue chip customers.

5. CONCLUSION

We have used a simple GVC framework to understand the changing nature of the global tobacco industry, in particular the increasing power international cigarette manufacturers have over upstream suppliers and how this power is exerted within the Malawian tobacco industry. As in other buyer-driven global value chains, lead firms in this global value chain are highly concentrated and protected by entry barriers. This enables lead firms to make increasingly stringent demands on first-tier suppliers, leaf merchants. Of particular concern to blue chip manufacturers is compliance and traceability, i.e. procuring tobacco whose production processes adhere to strict agricultural and labour practices. First-tier suppliers have attempted to address customers' concerns by implementing contract farming together with extensive data collection on smallholder production. As the full integrated production system implies an improved product and increased yields and quality, we have argued that this form of contract farming represents a form of simultaneous product and process upgrade.

There is considerable scope for further research into the extent to which this institutional evolution is benefiting Malawi, and smallholders in particular. Leaf merchants are already utilising a wider range of contractual innovations to increase the self-enforcement range of contracts and reduce side-selling. These extra elements in contracts include food security measures, group lending, third-party finance, and encouraging crop diversification by providing groundnut and soya seed. Other companies have experimented with split-pricing schedules and offering smallholders preferential shares. Whilst important, there is more to making contract farming schemes work than an appropriate choice of scheme and good contractual design.

Broadening out, the institutional evolution described in this article raises the important question of the optimal balance between contracted and auctioned tobacco in Malawi to ensure the integrity of leaf, competition, more stable production levels and prices (in contrast to the current boom-bust pattern), that no smallholders are excluded from growing tobacco, and diversification in the coming decades. It is here where the experience of leaf merchants with contract farming may prove most beneficial, in particular by being able to also ensure traceability for other crops, such as groundnuts and chillies, allowing easier verification and certification to capture price premiums, new markets and, most importantly, diversify Malawi's economic base away from its century-long addiction to tobacco.

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