

Understanding the implications of multinational investment in African grain wholesaling: A case study of Zambia

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Abstract

African agrifood systems are being transformed by an influx of multinational capital. Research on this transformation focuses primarily on the rise of supermarkets and demand for African land. An under-appreciated facet of this transformation is multinational investment in African grain wholesaling. This article examines the implications of this investment wave in Zambia. It finds that investments have proved beneficial, in terms of declining wholesale market margins, increased trustworthiness and professionalism in the sector, and enhanced advocacy for predictable agricultural policies. However, there is concern that if poorly managed they could spark industry consolidation and a reversal of these positive gains.

1. Introduction

Multinational capital is flowing into African agrifood systems in ways that are dramatically altering how food is produced and consumed in the region. While multinational investments in African food systems is not new, shifts in the political, economic, and demographic landscape of the region have expanded the scope and scale of these investments. Over the last decade or so, much of Sub-Saharan Africa (SSA) has witnessed rapid urbanization, sustained GDP growth, single digit inflation, and the emergence of an African middle class (Losch, 2012; Fine et al. 2012; Ncube et al. 2011; Chikweche and Fletcher 2014). These domestic transformations are taking place within a global context of increasing uncertainty over global grain supplies and prices (Dewbre 2008). The interactions between these domestic, regional, and global factors have created incentives for multinational investment throughout African agrifood systems, from food production to retailing.

To date, research on the transformation of African agrifood systems has focused most intently on the rise of supermarkets (Weatherspoon and Reardon 2003; Reardon et al 2003; Neven et al 2009) and the growth in demand for African land for commercial agricultural purposes (Deininger and Byerlee 2011; Cotula 2009; Hall 2011). This research has highlighted important system-wide benefits of the corporatization of African agrifood systems, including improved capacity to manage environmental and financial risk, increased pace of technology adoption, and supply chain modernization (Collier and Dercon 2014; Reardon and Berdegú 2008; Minten et al 2009).

However, there is considerable concern over the potential ramifications of the transformation of African agrifood systems to small-scale producers, who continue to make up the majority of the population in SSA and among whom poverty levels remain unacceptably high (Weatherspoon and Reardon 2003; Haggblade et al. 2012). This includes the displacement of traditional food markets by supermarkets, which may weaken the capacity of smallholders to tap into expanding urban demand opportunities (Reardon et al 2003; Weatherspoon and Reardon 2003; Tschirley et al 2014), and the enclosure of smallholder farming areas by commercial agriculture investments (Jayne et al 2014; Hall 2011; Cotula 2009).

Missing in the debates over the role of multinational capital in the transformation of African agrifood systems is the growth of multinational investment in African cereal and oilseed wholesaling. This investment interest has been prompted, in large part, by the same sets of incentives driving investments in other aspects of African food systems, including growing urban demand on the continent, increasing uncertainty over global food prices, and higher potential profit margins relative to global averages. What are the implications of this long wave of investment interest in African grain and oilseed wholesale

markets? More specifically, can this investment interest be harnessed in ways that are beneficial for smallholders and consumers? In this article we use Zambia as a case study to examine the effects of multinational investment in cereal and oilseed wholesaling. We argue that investment in grain and oilseed wholesaling is becoming an increasingly important dimension of Africa's agrifood transformation, and one that if well managed has the potential to: 1) improve competition within the intermediary markets that most smallholders depend on; 2) lower margins in food marketing systems; 3) stimulate rural non-farm opportunities, particularly in grain assembly and transport; and 4) add a powerful voice for free cross-border trade in food staples within Africa. Yet, our analysis suggests that the potential exists for a less positive outcome. In particular, this investment wave may squeeze out domestic competition in the sector, as well as to provide a conduit for multinational firms to gain control of domestic food markets through ancillary investments in input supply, domestic processing and production (Anseeuw and Ducastel 2013). By highlighting the potentially divergent pathways this investment wave can stimulate, we hope to provide concrete recommendations to policy makers on how to effectively manage this investment interest to maximize its beneficial effects.

2. Data Sources

The data for this article are predominantly qualitative and were derived from multiple sources. To understand the ways in which smallholder grain markets function and the effects of multinational investment in grain wholesaling on these markets we carried out interviews with smallholder farmers, small-scale assembly traders, and local grain wholesalers in five districts in Zambia. These are detailed in Table 1. Districts were selected because they are high production areas and have witnessed recent investments from multinational firms in domestic grain wholesaling.

Farmers selected to participate in focus group discussions were identified with the help of local Ministry of Agriculture and Livestock extension officers. Only farmers who sold grain in the previous year were selected to participate in the discussions. During focus group discussions farmers were asked to identify local traders in their area. This snowball sampling strategy enabled the identification of local assembly traders and the primary local wholesaler(s) in each market.

Table 1: Interview respondents

Districts	Chipata, Katete, Choma, Mpongwe, Mkushi
Farmer Focus Group Discussions with smallholders	25
Total number of farmers	382
Assembly Traders	44
Local small and medium- scale wholesalers	7
Large-Scale multinational wholesalers	5

To understand how and why multinational firms have begun investing in Zambia's grain wholesaling markets we conducted interviews with representatives of five of the major firms in Zambia, which we complemented with online research of company websites. Both local and multinational wholesalers also provided data on wholesaling costs and prevailing prices that enabled us to calculate trends in wholesale margins over time.

Finally, we interviewed a representative of the Grain Traders Association of Zambia, who provided key informant data on broader industry trends and changes in association membership composition.

3. Substantiating the investment wave in wholesaling

In Zambia, ten multinational firms of various national origins have made substantial investments in cereal and oilseed wholesale markets. While investments in grain wholesaling began soon after market liberalization in the 1990s, uncertainty over government trade policies, coupled with limited tradable supplies and domestic market opportunities pushed most of these initial investors out of the market (Dorosh et al 2009; Nijhoff et al 2002). According to the Grain Traders Association of Zambia (GTAZ), by 2002 multinational firms played an inconsequential role in Zambian grain wholesale markets. Yet this all changed in 2008, in the wake of the global food price spike. Beginning in 2008 multinational firms began establishing wholesaling operations in Zambia or initiated an expansion of existing agricultural operations into grain wholesaling. The scale of these investments has been astounding. According to industry experts, multinational firms went from playing an inconsequential role in domestic grain wholesaling in 2006 to controlling approximately 80 per cent of the trade in maize and soy beans by 2014.

The timing of the current multinational investment wave in Zambia is not a coincidence, nor is it only occurring in Zambia. Interviews with representatives from multinational firms in Zambia suggest that similar investments in grain wholesaling are occurring in all major grain producing countries in eastern and southern Africa, including Malawi, Tanzania, Kenya, and Mozambique. This has been partly driven by increased uncertainty over global grain supplies and prices, which has made the region's historical reliance on cheap grain imports from abroad more costly and tenuous. This uncertainty, combined with

a growing and more affluent urban populations, have prompted firms to explore opportunities to tap into domestic production to meet a greater share of domestic and regional demand.

Firms also indicate that margins in Zambia's grain markets, like those in neighboring countries, tend to be higher than in more advanced markets, due to the large number of intermediaries involved in the markets, high transactions costs associated with limited economies of scale and poor infrastructure, and limited market information leading to opportunities for rents to be earned through asymmetrical market information. Through economies of scale and investment in market information, multinational firms see opportunities to overcome some of these transactions costs in ways that enable them to capture higher margins relative to more established global grain markets.

This wave of multinational investment into wholesaling has occurred along three primary paths. The first is through an expansion of existing cash crop operations—particularly cotton in Zambia— into the grain sector. Changes in Cargill Corporation's investment strategies in Zambia, and Africa more broadly, reflect this investment pathway into grain wholesaling. Cargill's initial African investments focused on traditional cash crop procurement and processing, including tea handling and storage in Kenya, cotton procurement and ginning in Zimbabwe, Zambia, and Uganda, and cocoa in Ghana and Ivory Coast. As global grain prices began to rise in 2007/08, Cargill began a "process of strategic growth into grains and oilseeds" (Cargill website). This included expansion into maize and soybean origination and wholesaling in Zambia (2010), Zimbabwe (2011), Mozambique (2013), and Kenya (2013).

The second pathway is through an extension of established African operations into new African markets. This pathway includes the migration of established South African firms, including Afgri and Senwes, into other African grain markets, including Zambia. Yet it is not just South African firms moving north. In Zambia two large East Africa firms— Export Trading Group and the Metl Group—have entered Zambia's grain wholesale markets. These firms are also well established in other major production areas in SSA.

The final pathway for multinational firms to establish a presence in new African markets is through the acquisition of an existing domestic firm or establishment of a new domestic subsidiary. For example, in Zambia the South African firm NWK Agri-Service, in partnership with Louis Dreyfus, acquired Dunavant Cotton Company and then subsequently expanded operations into grain wholesaling. Other companies, such as Holbud Limited based in the United Kingdom, have established grain wholesaling subsidiaries in Zambia. In this case Holbud Limited operates in Zambia under the name DomZam.

It is important to note that many of the firms making investments in Zambian and other African cereal and oilseeds markets have diverse investment interests and expertise, which may have important implications for their broader impact on domestic food markets. These include interests in production financing, input supply, direct food and fiber production, and food processing. These diverse areas of interest and expertise raises concerns that by establishing a foothold in African grain markets through investments in wholesaling, these firms will seek to gain greater control of the production and marketing systems through the vertical integration of input supply, marketing, storage, and processing (Anseeuw and Ducastel 2013). There are indications that this process is underway in Zambia. Of the ten multinational firms currently operating in Zambia two have acquired shares or outright ownership of processing firms, two are involved in commercial agricultural production in Zambia and other African countries, and three are involved in input supply. While this provides opportunities to develop institutional arrangements to overcome persistent smallholder market failures, it also raises concerns about the smallholders' loss of control over production and marketing decisions (Key and Rusten 1999; Kirsten and Sartorius 2002).

Ultimately, the specific outcome of this investment wave for smallholders is contingent on the policy decisions being made today. To guide these policies it is critical to examine how these firms are

integrating into domestic wholesale markets and what this means for the structure and performance of the markets.

4. Multinational integration into domestic markets

Grain markets in sub-Saharan Africa are often characterized as embedded within social networks, where repeated transactions and local reputations enable the markets to function in the absence of statutory contract enforcement mechanisms or structured trading platforms (Fafchamps 2004). Understanding how multinational firms, which often lack the local social capital that domestic firms enjoy, integrate into these markets is important for assessing their implications on domestic and regional food markets.

The primary comparative advantage that multinational firms enjoy relative to domestic firms is their ability to access significantly cheaper financing than is available in domestic credit markets. In Zambia, lending from domestic banks to the agricultural sector is limited, while interest rates on short-term loans can exceed 20 per cent. This high cost, combined with large collateral requirements, makes access to commercial credit for domestic actors difficult. Multinational firms do not face the same sorts of credit constraints. Due to their considerable scale and global reach, these firms can source credit from numerous sources, including from within their own corporate structures or from commercial banks outside of Zambia that offer significantly cheaper credit terms. Indeed, many of these firms maintain headquarters or subsidiary branches in the United States, Singapore, or Dubai, which facilitates access to low cost lending.

Access to low cost financing enables multinational firms to engage in grain procurement and storage strategies that are generally not available to their domestic counterparts. Multinational firms routinely

use their access to cheap financing to provide credit to smaller scale grain buyers in surplus regions to buy grain on their behalf. In most surplus regions of Zambia several medium-scale local traders have traditionally competed for smallholder maize. These medium-scale traders have well established networks of small-scale grain assemblers that operate in smallholder production areas. By providing credit to these medium-scale local buyers, multinational firms are able to tap into existing procurement networks without necessarily establishing a physical presence in these regions.

These grain assembly networks are complex and require substantial amounts of local knowledge to navigate. In particular, these networks enable the aggregation of marketable lots of grain from extremely dispersed smallholders with limited surpluses to sell and who lack the economies of scale to ferry their grain to district markets (Sitko and Jayne 2014; Poulton et al 2006). The complexity of this aggregation market is a function of the prevailing smallholder market participation structure in Zambia. In 2010/11, which was a very good production year, only 40 per cent of Zambian smallholder sold maize, though nearly 90 per cent grew maize. Of these, 5.4 per cent accounted for 50 per cent of the total marketed surplus, with the other 50 per cent provided by the remaining 35 per cent of surplus producers (Chapoto and Jayne 2011). Therefore, without effective grain aggregation and intermediation services, most surplus producers in Zambia would find it difficult to sell their grain.

Data suggest that Zambian intermediary assembly markets are widespread and competitive. As shown by Chapoto and Jayne (2011), 75 per cent of maize sellers travelled less than 3 km to sell their grain. When farmers sell through these markets they are paid roughly 82 per cent of the prevailing price in nearby wholesale markets (Sitko and Jayne 2014). Interviews with assembly traders and local wholesalers suggest that the influx of multinational capital into these markets has enabled both an expansion of the number of assembly traders and greater price competition. Sustaining these

competitive assembly markets that poorer rural households depend on will require continued competition at the wholesale level. As Barrett (1997) has shown, competition at the assembly stage of grain markets is conditioned by the degree of competition at the local wholesaling stage (Also see Sitko and Jayne 2014). To the extent that multinational capital injections into local wholesale markets can continue to drive competition in assembly markets, then this investment will prove beneficial for both smallholders and for other types of rural non-farm economic activities, including assembly trading and transport. However, there is concern that by utilizing local traders to buy on their behalf, multinational firms may in the medium to long-term decrease competition in these assembly markets by limiting available downstream markets. Prior to the infusion of multinational investment, local traders sold grain to a wide range of downstream buyers, including commercial processors and local, informal consumer markets. If the provision of capital to these local traders limits their available markets then the effect will be to decrease price competition throughout the local market networks.

While the majority of multinational firms operate their smallholder grain purchasing operations through the sorts of local contractual arrangements discussed above, a growing number of these firms have established buying points in key production areas. The majority of these are firms with established cash crop buying operations, such as Cargill and NWK, which have been adapted to handle grain trading. Other firms, namely Afgri, have also opted to by-pass local trader contracts and instead source grain from established buying points in the major smallholder production regions of Southern, Eastern, and Central Provinces.

Established local buying points enable these firms to more fully integrate into smallholder markets and production systems. In particular, these firms often link their buying activities to other sorts of investments, including input credit and extension services. These sorts of linked production and

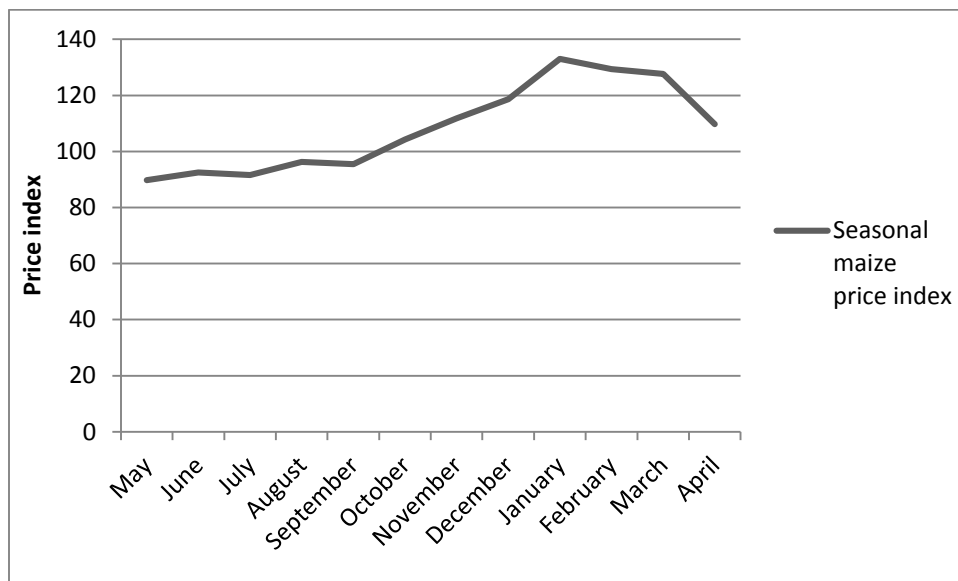
marketing activities are primarily being explored by firms with longstanding relationships to smallholders through cash crop outgrower operations (Chamberlin et al 2014). Through these cash crop operations, firms have already assumed many of the costs associated with screening potential input credit recipients. With cheap credit to acquire inputs and an established group of farmers with a record of input credit repayment under cash crop outgrower schemes, these firms have begun exploring opportunities for input credit for grains. Cargill, for example, provided over \$12 million in input credit to maize farmers in Eastern Province Zambia in 2013.

Cheap financing also supports multinationals' integration into domestic grain market structures by enabling investment in grain storage and seasonal arbitrage. In Zambia, storage infrastructure has traditionally been concentrated in the hands of the state, as part of its Food Reserve Agency (FRA), and the commercial milling sector. Few domestic wholesalers or small-scale traders are willing or able to store grain. In rain-fed, unimodal agricultural systems like Zambia's grain storage is critical for smoothening seasonal price fluctuations and limiting crop losses. The lack of domestic investment in grain storage is, therefore, detrimental to grain price stability. Due to the high cost of domestic credit most domestic wholesalers utilize their own capital to purchase grain. Obstacles to grain storage are further exacerbated by the price uncertainty created by the government's involvement in maize markets resulting from ad hoc releases of subsidized grain into domestic consumer markets and trade restrictions (Jayne et al 2006). As a result of the costs and risk to storage, domestic traders rely primarily on earning smaller margins from back to back trades spread over as much volume as possible. Yet as one domestic wholesaler stated during an interview "storage is where the money is."

As shown in Figure 1, seasonal grain price movements in Zambia are substantial. Figure 1 shows the average monthly price index for real wholesale maize prices in Zambia between 2000 and 2013, with a

score of 100 representing the average annual price. It shows that wholesale maize prices tend to be there lowest in May, as the smallholder maize harvest begins, and reach their peak in January, the middle of what is called the hunger period in Zambia. On average, wholesale maize prices in Zambia increase by 48 per cent between May and January, representing a substantial profit opportunity for firms willing and able to store grain.

Figure 1: Zambian wholesale maize price index 2000-2013



Source: Central Statistical Office Price Bulletin Data, Zambia

Access to cheap financing enables multinational wholesaling firms to assume the costs and risks of storing smallholder grain than their domestic competitors. Moreover, they are capable of utilizing their access to finance to enter into collateral management arrangements with commercial farmers in Zambia, thereby providing production financing to commercial farms and ensuring themselves access to grain during the smallholder production season. Through these two mechanisms multinational wholesalers are able to play a beneficial role in Zambia's grain markets, both in terms of supporting commercial producers to access inputs and smoothing supplies in Zambia's seasonal markets.

5. Effects of multinational investment on grain markets

In this section we examine the effects of multinational investment wave on the performance of grain markets in three different ways. First, we explore smallholders' perceptions of how grain markets have evolved as a result of the establishment of grain buying points by multinational firms in their areas. Second, we examine how domestic wholesalers, both medium and large-scale, perceive these investments. Finally, we examine trends in wholesaling margins for maize over the period of multinational firms' expansion in Zambia. Together, this assessment will highlight both the benefits of multinational investments in grain wholesaling, as well as areas of concern.

a. Smallholders' perceptions

Focus group discussions with smallholders operating in regions that have seen an expansion of multinational investment in grain trading share a broadly positive view of this market transformation. Farmers were asked to compare the experience of selling to these firms relative to selling to local wholesalers and to the parastatal Food Reserve Agency (FRA). Smallholders' responses to these questions were surprisingly consistent. Respondents stated that relative to local market actors, multinational firms provide a higher level of professionalism and trustworthiness in their interactions with farmers. Several key points that were repeated are: 1) multinational firms utilize weighing scales are more reliable than local traders'; 2) they provide additional services, including SMS-based market updates, input credit in some cases, and extension advice, and; 3) they offer more competitive prices.

Relative to the FRA, these firms are generally thought to offer low prices, but they provide a valuable alternative because farmers are paid cash on delivery, while the FRA is notorious for delayed payments

due to lack of available funding. Moreover, some focus group respondents indicated that accessing FRA markets frequently required making payments to FRA depot managers, a problem not encountered with multinational firms.

The enhanced professionalism and efforts to build trust among smallholders can be viewed as a broadly positive development for local grain markets. If these attributes become sources of comparative advantage, they may force local actors and government parastatals to improve the ways they engage with smallholders in order to retain market share. However, the accounts described here relate only to farmers selling directly to depots operated by these firms. As discussed previously, many of the firms utilize local buyers and their assembly agents to purchase on their behalf. Moreover, the majority of maize sellers do not enjoy the economies of scale needed to transport their maize to an established buying point. This raises some concern, as the contractual arrangements that exist between the firms and local buyers are such that they may actually increase incentives for the sorts of unscrupulous market behaviors that farmers frequently complain about. In particular, cash advances to local traders are typically for a predetermined quantity of grain, with the local traders' margins coming from the cash remaining after the specified quantity is acquired. In this context, incentives exist for local traders to maximize their margins through the manipulation of weighing scales and by offering lower prices than were anticipated in the contract. Thus, while focus group discussions were clear that the presence of multinational firms in local markets is beneficial to those farmers able to sell directly to their depots, the broader impact on smallholder marketing is less clear.

b. Local wholesalers' perspectives

Whether or not multinational investment in grain wholesaling triggers improvements in smallholder marketing conditions depends in large measure on the extent to which this investment improves

competitive conditions in local assembly markets. There are two primary ways in which multinational investment can effect market competition. The first is through the expansion or contraction of wholesale market opportunities within local markets. This comes down to whether or not the entry of a multinational wholesaler into a local market serves to expand the number of existing wholesalers or whether it leads to consolidation. Although other mitigating factors are also likely at play, including the large and unpredictable role of the FRA in smallholder market markets, three attributes of multinational firms' integration into local markets suggest that they may contribute to local wholesale market consolidation. These are: 1) Access to cheap finance and larger economies of scale, which enable these firms to operate on smaller margins than local traders; 2) the use of local traders to procure on their behalf, which from a competition standpoint is functionally equivalent to these traders exiting the market, and; 3) a seeming preference among smallholders for multinational firms over local domestic traders leading to less trade volume passing through local traders' hands.

Although we are unable to directly measure changes in the number of small and medium scale domestic traders in Zambia we are able to infer how the sector has changed by examining their contribution to the Grain Traders Association of Zambia (GTAZ). Membership in GTAZ is required for traders to acquire import and export permit and is the primary conduit for licensing a grain trading firm in Zambia. Thus, changes in membership fees likely reflect changes in actual trader numbers. According to GTAZ, over the period 2008 to 2014, the contribution of small and medium scale domestic traders to GTAZ dropped from over US\$ 3000 to less than US\$1000. This is indicative of a substantial decline in active domestic trading. This decline is, of course, not solely the result of an inability to compete with multinational firms. During this same period the FRA substantially expanded its role in smallholder grain markets. However, local traders confirm that their business has been placed under pressure by multinational entry into their markets, thus limiting tradable volumes and leading to some traders exiting the market.

Because this wave of investment is in an early stage in Zambia, it is unclear if the apparent consolidation of local wholesaling will prove beneficial to the grain trading sector, by forcing out high margin, inefficient traders, or will limit competitive market opportunities for smallholders.

The second mechanism by which multinational firms influence competition in local domestic wholesaling is through their policy advocacy efforts. Trade and price policies for agricultural commodities in Zambia are characterized by high unpredictability, which increases risks for grain traders and limits incentives to develop transparent, structured trading platforms such as commodity exchanges (Sitko and Jayne 2012). While this policy-induced uncertainty can generate rents for those with asymmetric knowledge about government's intentions, the overall effect on the sector is to limit investment and willingness to take riskier positions in the market. As such, multinational firms have invested considerable time and effort advocating to policy mechanisms that can improve the predictability of government trade policies, the scope and scale of the FRA in domestic markets, and to put in place legislation to enable the creation of a functional commodity exchange. To the extent that these advocacy efforts are successful, they can enable more level playing field for all actors in the market to participate.

In 2014, advocacy efforts of large scale trading firms, both domestic and multinational, succeeded in convincing the Minister of Agriculture to sign a Statutory Instrument that enables the trading of warehouse receipts in Zambia. The warehouse receipts, which will be linked to a commodity exchange, can theoretically help both small and large domestic wholesalers to access lower cost financing and improve their capacity to store grain. Thus, through their advocacy efforts multinational firms may support the development of more competitive market conditions for local traders.

c. Trends in grain wholesaling margins

Thus far we have highlighted the potentially divergent ways in which the multinational investment wave can affect the performance of domestic grain markets. Whether or not the effects of this investment is positive or negative for the performance of the market can be gauged by examining trends in wholesaling market margins. A decline in wholesaling margins over time would indicate increasingly competitive conditions, which would be beneficial to both producers and consumers. Conversely, an increase in margins would indicate a decline in competitive forces and would reflect market concentration.

To measure trends in wholesaling margins we conducted a survey of 12 grain wholesalers, five multinational and seven local, drawn from seven provinces of Zambia. This survey sought to determine trends in costs and margins in grain wholesaling from 2008/09 marketing season to 2013/14 season. The major cost items identified during the survey were labour/handling, fumigation, transport and the farm-gate cost of maize grain. Table 2 summarizes trends in the maize costs and marketing margins from the 2008/09 to the 2013/14 marketing seasons.

Table 2: Costs and Margins Estimates for Maize Wholesaling in Zambia in Real US\$ per Ton

Cost item in US\$ per ton	Marketing Season					
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Labour and handling	14	12	12	12	12	12
Fumigation	1.3	1.0	1.0	1.0	1.0	1.3
Transportation	36	30	31	31	31	31
Maize purchase price	192	164	195	203	212	224
Total	243	206	238	247	256	268
Selling prices (into-mill-price)	312	252	259	284	286	282
Margin	69	46	21	36	31	14

We find that between 2008/09 and 2013/14, wholesale margins for maize in Zambia declined from \$69/ton to \$14/ton. Though the decline has not been secular in dollar terms, it has been in local kwacha terms. The volatility of dollar costs and margins are associated with sharp movements in exchange rates during this period. The substantial declines in margins are driven by both an increase in the price paid to acquire grain, which rose 16 per cent in this period, and a decline of 9.6 per cent in average selling prices. Cost associated with storage and transport all remained stable over this period.

This trend in marketing margins is, therefore, beneficial to consumers and producers, and is indicative of an increasingly competitive wholesale grain market. This decline in margins coincides with the expansion of multinational investment in grain wholesaling from a small market share in 2008 to roughly 80 per cent control of grain markets in 2013/14. Yet, there is concern that this decline in margins could be short

lived. With prevailing margins as low as \$14 per ton smaller scale domestic wholesalers suggest it is increasingly difficult to remain in business. The concern is that as these margins begin to force smaller volume, but otherwise relative efficient traders from the market, competition within Zambia's wholesale and assembly markets will decline. If that is the case, then the positive trends in marketing margins may reverse.

Yet it is important to note that the entry of multinational capital into Zambian grain wholesaling is not the only factor driving declining wholesaling margins. Another important contributing factor is government price controls. Over the period of interest, the government has expanded its role in smallholder grain markets through its FRA operations, purchasing up to 80 per cent of the smallholder maize crop in 2010 (Sitko and Kuteya, 2013). The FRA offers pan-territorial prices and therefore tends to pull up average farm-gate prices. Thus, grain wholesalers are forced to raise their buying price from farmers in order to compete with the government price. At the same time, the government sells maize to millers at prices lower than the purchase price in order to maintain low consumers prices of mealie meal (a staple food in Zambia). In order for grain wholesalers to sell their grains locally, grain wholesalers have to match the lower government price. The net effect is that wholesale margins are squeezed, thus substantially undermining the capacity of wholesalers, particularly lower volume local traders, to be profitable.

6. Conclusion and Recommendations

Our analysis suggests that the wave of multinational investment into Zambia's grain wholesaling sector has thus far proved broadly beneficial to the performance of the market. Smallholder farmers who sell grain suggest that the influx of these multinationals has provided them with more cost competitive,

trustworthy, and professional market outlets than before. Moreover, some of these firms are providing ancillary services to farmers, including market price information, input credit, and extension advice. In addition, these firms are in some cases pumping credit into local wholesale markets through contractual arrangements with local traders, which enables an expansion of assembly trading activities. Finally, this investment wave has coincided with a sharp decline in wholesale marketing margins, which is beneficial for both consumers and producers.

Yet this positive story must be read with some caution. While the sharp decline in wholesaling margins has likely helped to improve efficiency in the market and forced higher margin traders out, there is concern that relatively efficient, lower volume traders, cannot profitably remain in the market under current conditions. If this is the case we would anticipate a steady rise in wholesaling margins as these traders exit the sector and competition for grain begins to dwindle.

What can policy makers in Zambia, and other African countries facing the same sort of investment interest, do to capitalize on the beneficial aspects of this investment while managing its risks? Our analysis suggests that addressing differences in the cost of credit for domestic and multinational firms is a potentially important point of leverage, which can enable domestic firms to be cost competitive with multinationals. Addressing these differences requires developing strategies to lower both the cost and collateral requirements for domestic wholesalers to borrow.

Two strategies exist to improve credit conditions for local wholesalers. The first is to develop a credit guarantee facility aimed at off-setting some of the risk of commercial lending to the sector. This would require government oversight and funding, and commercial bank agreement. The second strategy is through the development of a warehouse receipt system linked to a functional commodity exchange.

While the Zambian commodity exchange has languished in recent years, the recent designation of a warehousing authority holds some promise that the exchange can be revitalized (Sitko and Jayne 2012). Warehouse receipts can enable local wholesalers to utilize grain stocks held in certified warehouses as collateral to access commercial credit (Coulter and Onumah 2002). This has the dual advantage of improving credit conditions for these traders and enabling them to store grain in anticipation of higher prices later in the season.

However, while credit facilities or warehouse receipts offer potential instruments to improve lending to the sector, the effectiveness of these interventions ultimately requires a more predictable policy environment. Current state interventions in grain markets are not only driving down margins in the wholesaling sector, and thus putting substantial pressure on smaller-scale local wholesalers, the unpredictability of these interventions also stymies lending to the sector. Banks may be unwilling to lend against warehouse receipts, or will only lend a small percentage of the current value of stocks held in warehouses if future price uncertainty is high due to policy unpredictability.

Thus, in many ways Zambia's grain markets, and indeed the grain markets of the region, are at a critical juncture. If the policy status quo is maintained, Zambia is likely to see industry consolidation and a substantial decline in competition in the grain wholesaling sector, which will have long-run detrimental effects on producer and consumer prices. Yet, if pro-active steps are taken to improve policy predictability and increase credit availability to local wholesalers, the opportunity exists for a truly radical and pro-poor transformation in the functioning of these markets. It is hoped that by elevating the visibility of this on-going transformation, this article can play a role in informing current policy discussions on grain market development.

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