



UNITED NATIONS
UNIVERSITY
UNU-WIDER

The Expansion of Regional Supermarket Chains

Implications for local suppliers in Zambia



Francis Ziba¹ and Mwanda Phiri²

March 2017

Abstract:

The last two decades have seen rapid economic growth in Zambia and the proliferation of foreign supermarket chain stores. However, this growth has translated into neither significant job creation nor significant poverty reduction. Furthermore, while the expansion of supermarket chains in Zambia has continued, local processing firms' participation in supermarket value chains remains limited. This paper assesses the hindrances to local processing firms' participation in supermarket value chains and how those firms' participation might stimulate growth through regional trade. Our results show that local processing firms' participation in regional supermarket value chains is constrained by a number of factors that pose either strategic or structural barriers to entry.

Keywords:

Supermarket, regional, value chains, local processing, growth

JEL classification:

L1, R120, Q18

Acknowledgements:

This study was a collaboration between the Zambia Institute for Policy Analysis and Research and the Centre for Competition Regulation and Economic Development based at the University of Johannesburg in South Africa. UNU-WIDER facilitated the study. The authors warmly thank Antti Pelanteri for his contributions, as well as the Ministry of Commerce Trade and Industry, the Zambia Bureau of Standards, the Zambia Association of Manufacturers, and the research participants.

1 Zambia Institute for Policy Analysis and Research, Lusaka, Zambia, corresponding author: fziba@zipar.org.zm

2 Zambia Institute for Policy Analysis and Research, Lusaka, Zambia, mphiri@zipar.org.zm

This study has been prepared within the UNU-WIDER project on 'Regional growth and development in Southern Africa'.

Copyright © UNU-WIDER 2017

Information and requests: publications@wider.unu.edu

ISSN 1798-7237 ISBN 978-92-9230-__-__

Typescript prepared by xxx.

The United Nations University World Institute for Development Economics Research provides economic analysis and policy advice with the aim of promoting sustainable and equitable development. The Institute began operations in 1985 in Helsinki, Finland, as the first research and training centre of the United Nations University. Today it is a unique blend of think tank, research institute, and UN agency—providing a range of services from policy advice to governments as well as freely available original research.

The Institute is funded through income from an endowment fund with additional contributions to its work programme from Denmark, Finland, Sweden, and the United Kingdom.

Katajanokanlaituri 6 B, 00160 Helsinki, Finland

The views expressed in this paper are those of the author(s), and do not necessarily reflect the views of the Institute or the United Nations University, nor the programme/project donors.

Contents

Executive Summary	iv
1 Introduction	1
2 Stimulating increased industrialization and regional trade through supermarket value chains	3
2.1 Evolution of the wholesale and retail trade and manufacturing industries in Zambia	3
2.2 Dominance of imports of processed goods from South Africa	4
2.3 Trading beyond borders	5
3 Retail modernization in Zambia	7
3.1 Key determinants of the spread of supermarkets into Zambia	8
3.2 Key players in the Zambian supermarket landscape	9
4 Value chain analysis: traditional markets versus supermarkets	12
4.1 Conceptual framework: value chain	12
4.2 Empirical evidence on the impact of the spread of supermarkets on local suppliers	14
5 Data and empirical methods	1
5.1 Data and data sources	15
5.2 Product choice	16
5.3 Sampling	16
5.4 Empirical model	17
6 Quantitative empirical results	19
6.1 Determinants of local processing firms' participation in supermarket value chains — descriptive statistics	19
6.2 The probit model	22
7 Qualitative findings on supermarkets	24
7.1 What products offer opportunities for increased local production?	24
7.2 Structural barriers to entry	25
7.3 Strategic barriers to entry	26
8 Conclusion and policy recommendations	30
8.1 Conclusion	30
8.2 Policy recommendations	31
References	34

Executive Summary

The last two decades have seen rapid economic growth in Zambia and the proliferation of foreign regional supermarket chain stores. This growth however, has not translated into significant job creation or significant poverty reduction. Further, while the expansion of supermarket chains in Zambia has continued, the participation of local processing firms into supermarket value chains remains limited. This low participation of local processing firms in supermarket value chains implies that Zambia's potential for harnessing industrial development, employment creation and export growth through supermarket value chains has not been fully realised. Supermarkets provide formal market value chains that can help trigger industrial development and the associated knock-on effects on employment creation, economic growth and ultimately help in alleviating poverty. Access and full integration of local processing firms into supermarket value chains has the potential to compel local processing firms to improve their production capabilities by acquiring and enhancing their technology and production techniques in a bid to meet the higher quality demands and private standards of supermarkets. Further, once a product is on the shelves of supermarkets in Zambia, that product has the potential to be distributed back to South Africa or to other countries in the region.

This study was undertaken with the aim of comprehending the reasons for the limited participation of local processing firms in supermarket value chains. In so doing, the study also investigated the capabilities required to make local processing firms more competitive and effectively integrate into supermarket value chains and regional markets. It also examined the constraints to harnessing the multiplier effects of increased industrialisation and employment creation that can be derived from the participation of local processing firms in supermarket value chains. The study further assessed the potential for stimulating regional trade through the participation of local processing firms in supermarket regional value chains. A mixed approach was adopted to analyse qualitative and quantitative data obtained from both secondary and primary sources. The maximum-likelihood probit model was employed to analyse the determinants of local processing firms' participation in supermarket value chains. This was augmented with descriptive analyses of data obtained from major supermarkets chain stores in Zambia.

Results indicate that the participation of local processing firms in supermarket value chains is constrained by a number of factors which pose either strategic or structural barriers to entry, exclusionary barriers or limits the development of supplier capabilities. Access to finance is one of the major constraints faced by both suppliers and non-suppliers that hinder the acquisition and enhancement of technology and production techniques. Other challenges limiting supplier capabilities include access to reliable and adequate infrastructure such as electricity and roads. For firms not supplying supermarkets, the long credit period imposed by supermarkets for the payment of goods supplied is the main factor indicated that prohibits their participation. Other major factors include the low level of output produced by local processing firms; growing competition from imported products and the private brands of supermarkets; buyer power of supermarkets; and red tape imposed by supermarkets.

In addition, firms face challenges in penetrating regional markets such as cumbersome border procedures, high transportation costs exacerbated by road blocks and a poor road network, language barriers particularly in key markets such as Angola, Mozambique and the DRC. Bribes are also among the challenges that make exporting more difficult for firms.

To address these challenges, the following policy measures are proposed:

Short-term Policy Recommendations

- i. **Introduction of a local content policy.** In order to promote local participation, Government should enforce a local content policy that requires supermarkets to allocate a quota of their procurement to local processed foods and selected household products.
- ii. **Harmonise ZABS standards with those in regional markets.** This will increase the competitiveness of Zambian products and ease entry not only into supermarket value chains but into regional export markets as well.
- iii. **Voluntary code of conduct between supermarkets and local suppliers.** This could address issues such as the payment period for locally sourced products; shift the balance of buyer power held by supermarkets and allow for firms to better negotiate prices of goods supplied to supermarkets; address information asymmetries on the capabilities required to supply supermarkets; and address transportation costs faced firms through the development of centralised distribution centres.
- iv. **Supermarket regional procurement strategy.** Entry into regional markets could be facilitated through a regional procurement strategy that would allow local processing firms supplying Zambian supermarkets to supply other subsidiary supermarkets in the region. To achieve this, suppliers can leverage on South African trucks which supply products to supermarkets in Zambia but return empty. These trucks could offer domestic firms a cheaper and easier mode of transporting quality Zambian products into South Africa and beyond.

Medium to Long-term Policy Recommendations

- v. **Access to Finance.** Affordable finance should be provided to local firms to facilitate the acquisition of machinery and investment in technological know-how for the manufacture of sufficient volumes of timely, consistent, innovative, competitive and quality well-packaged products is imperative if firms are to improve their supply capabilities.
- vi. **Promoting import substitution for dynamic products.** In order to promote the competitiveness of local products and stimulate increased local production, Government should impose surcharges on imported products that offer the most export potential.
- vii. **Expediting Trade Facilitation Measures.** To grow exports, Government needs to expedite measures aimed at addressing trade barriers such as simplifying and easing border procedures; creating a one-stop office where all export documents can be obtained; developing clearly defined permits for all products; improving the existing road infrastructure; providing access to inaccessible markets; and providing policy consistency on export bans.
- viii. **Establishment of a Supplier Development Fund** as a means of empowering local Zambian suppliers. This will help suppliers improve the quality of their products; expand their existing and potential production capacity; reduce input costs; increase and diversify supermarkets' local sourcing capacity; provide a route to market for local products of good quality; and increase the participation of Micro, Small and Medium Enterprises (MSMEs) that are more constrained but have the potential to grow and supply supermarkets.

1 Introduction

The liberalization of the Zambian economy in the early 1990s precipitated a number of structural changes that attracted an influx of foreign direct investment (FDI). This sustained inflow of investment into the free market economy, coupled with the commodity price boom from the early 2000s, saw Zambia experience record levels of economic growth. With this growth, Zambia has been a beneficiary of the modernization of the retail sector and the regional expansion of supermarket chain stores that has been taking place in sub-Saharan Africa. This wave of retail modernization has mainly been spearheaded by South African supermarkets, which capitalized on the winds of political change in the early 1990s that brought globalization, FDI, trade liberalization and regional integration.

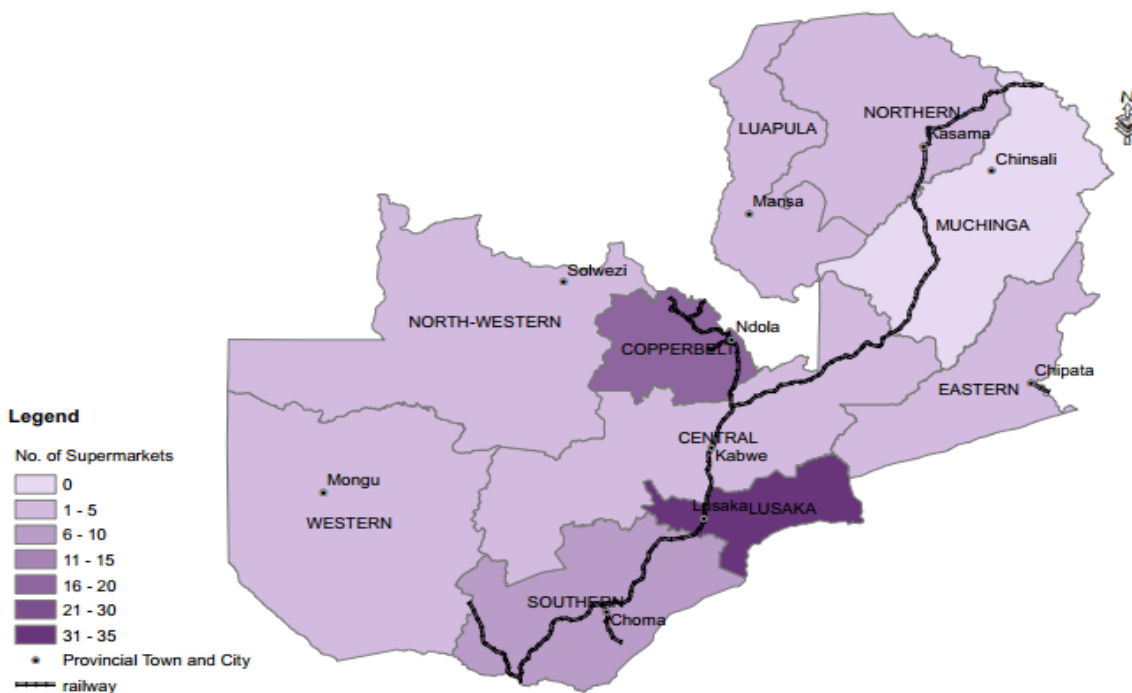
The past 20 years have seen a sharp increase in the number of supermarket chain stores across Zambia (Figure 1). Originally, this rapid expansion of supermarkets was mainly concentrated in the central business districts and prime shopping malls in major cities and urban towns, but it has recently spread into peri-urban low-income areas that are more densely populated and thus offer large market demand for basic food items. The general expansion of supermarkets in Zambia can be attributed to a number of factors including rising urbanization, the emergence of the middle class, supermarkets' adaptation of their business models to better suit poorer areas, and supermarkets' investments in more efficient procurement systems (Weatherspoon and Reardon 2003).

The benefits of the proliferation of supermarket chain stores in Zambia are numerous. For one, this spread of supermarkets has improved the availability of products and services. It has also provided more choice to Zambian customers at competitive prices. In addition, supermarket chain stores have expanded their role beyond simple retail trade over the years, having included various forms of corporate social responsibility that have benefitted communities. The increased presence of supermarkets has also added another dimension to how foodstuffs and other products are sold in the country, whether by producers themselves or through supermarkets directly (Haantuba and Graaf 2003).

Perhaps most importantly for a country such as Zambia, supermarkets provide formal market value chains that can trigger industrial development and the associated knock-on effects for employment creation, economic growth, and poverty alleviation. Access and full integration of local processing firms into supermarket value chains has the potential to compel local processing firms to improve their production capabilities by acquiring and enhancing their technology and production techniques in a bid to meet the higher quality demands and private standards of supermarkets. This in turn could culminate in increased industrial production, efficiency and achievement of economies of scale, increased output and labour absorption, exports, and economic growth.

Notwithstanding these potential benefits, while the expansion of supermarket chains in Zambia continues unabated, there is growing concern that the participation of local suppliers in supermarket value chains remains limited. This low participation of local suppliers at different levels of the supermarket value chain has potentially deprived Zambia of the opportunity to fully harness the potential for industrial development that can be derived from linkages to supermarket value chains. A number of local suppliers have been denied the opportunity to access formal markets, which are generally regarded as superior to traditional markets.

Figure 1: The spread of supermarkets in Zambia, December 2016



Source: authors' illustration.

Typically in most developing countries, local processing firms tend to face both structural and strategic barriers to entry, and lack capabilities to compete against foreign firms in both domestic and export markets. This not only limits the participation of local processing firms in domestic markets, but also hampers their participation in regional trade. This implies that processing firms with low productivity and minimum capacity have to diversify the markets they sell to, or else must close down. In turn, this potentially affects employment and the many lives that were dependent on this source of income.

Furthermore, while Zambia is land-linked and has direct trade access to eight countries—in addition to other regional countries under the South African Development Community and Common Market for Eastern and Southern Africa trade agreements—it still remains a concern for government and other stakeholders that Zambian suppliers have not fully taken advantage of these markets. These trade agreements, however, have facilitated the import of various processed foods from the region into Zambia. For instance, about 80% of processed food stocks in supermarkets operating in Zambia are estimated to be imports from South Africa (Emongor and Kirsten 2009). Notwithstanding their low participation in the value chain for processed goods, Zambian suppliers have made great strides and demonstrated huge potential in supplying agricultural produce, not only to supermarkets within the country but also to those in South Africa and other regional countries.

The inadequate integration of local processing firms into supermarkets' value chains raises concerns for a country such as Zambia, which is striving to industrialize and diversify its economy. Despite the rapid economic growth experienced in Zambia during the last 15–20 years—evidenced by gross domestic product (GDP) growth rates averaging over 6%—this growth has not translated into a significant reduction in poverty among the 54% of the population who continue to live below the poverty datum line. Underemployment remains a challenge, and in particular unemployment rates for the young remain high at 10.5% (CSO 2015). This is even more acute for young people aged 15–19 and 20–24, who face unemployment rates of 17.1% and 13.8% respectively (CSO 2015). Exacerbating the country's challenges is the continued dependency on extractive industries for foreign exchange earnings, which sent shockwaves through the Zambian economy following the fall in international commodity prices in 2015.

‘This study builds on the work of Emongor and Kirsten (2009) and investigates the capabilities required to make Zambian processing firms more competitive and to make them more effective in integrating into supermarkets value chains and regional markets. This report also examines the constraints hindering increased local firm participation in supermarket value chains and the associated opportunities for increased industrialisation and employment creation. Particularly, the paper assesses the effect of supermarket procurement and sourcing policies and strategies, and isolates those which have the potential to promote local firm participation as well as practices that have the potential to reduce local competition. Further, this report aims to inform Government policy on how to promote industrialisation and increase local participation in supermarket value chains.’

The rest of this paper is structured as follows. Section 2 examines the performance of the wholesale and retail trade and manufacturing industry in Zambia and their contribution to GDP. It also analyses trade data on processed foods and selected household products, and discusses the potential for increasing industrialization and regional trade. A historical overview of the supermarket wave in Zambia and the trajectory of FDI in the retail sector is provided in section 3. Section 4 provides empirical evidence on the determinants of local suppliers’ participation in supermarket value chains, and discusses strategic and structural barriers to entry. Section 5 discusses the empirical methods. Section 6 provides the quantitative empirical results from the study, and section 7 presents the qualitative results. The conclusion and ensuing policy recommendations are provided in Section 8.

2 Stimulating increased industrialization and regional trade through supermarket value chains

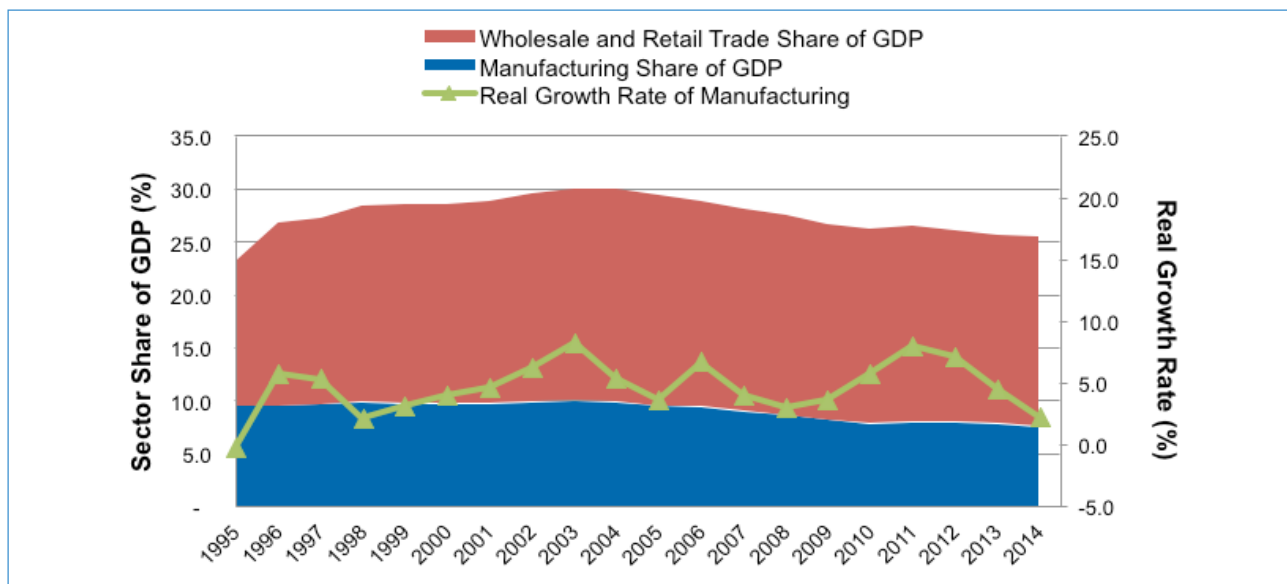
2.1 Evolution of the wholesale and retail trade and manufacturing industries in Zambia

Zambia’s economy has evolved over the last two decades into a largely wholesale and retail trading economy, with the sectoral composition of the economy largely comprising services. Following the rebasing of the national accounts in 2010, wholesale and retail trade is now estimated to contribute the largest share to overall GDP. For the period 1994–2014, the contribution of the sector averaged 18.34% at current 2010 prices. The country’s quandary is that while there has been this transformation towards wholesale and retail trade over the years, along with strong economic growth averaging more than 6%, the country’s export profile is still reminiscent of the 1970s, as it is dominated by metal commodities, which account for 75% of export earnings (BOZ 2015) and are susceptible to international commodity price shocks. Over the years, Zambia has experienced the risks associated with high dependency on foreign exchange earnings from commodities. This risk became more pronounced during 2015 following the fall in copper prices on international markets. As a result, Zambia’s currency depreciated by more than 50%, sparking a rise in inflation, estimated at 22.2% in March 2016 (CSO 2016).

The high dependency on metal commodities signifies not only the country’s failure to diversify its economy and broaden its export base, but also its inability to achieve the structural transformation required to ensure sustained inclusive economic growth (Dinh et al. 2013). Traditional structural transformation requires a change in an economy’s production composition from traditional agriculture to industry, and subsequently a transition to services including modern agriculture. However, Zambia’s economy appears to have skipped the industrial revolution. This in part explains why the country continues to grapple with high poverty levels despite recording impressive economic growth rates. The glaring disparity is that while the country was reclassified as lower-middle income in 2011 owing to its strong economic growth, over 54% of the population still lives below the poverty datum line (CSO 2014). In rural areas this proportion is even higher at 77.9%. The country’s challenge remains how to translate economic growth into poverty reduction.

It is often argued that the presence of supermarkets can act as a stimulus for industrial development that leads to inclusive economic growth through the creation of decent jobs that can potentially provide a reprieve from poverty. However, since the liberalization of the economy in the early 1990s, the performance of Zambia's manufacturing industry has been less than desirable, despite the entry of numerous supermarkets over the years. The manufacturing sector's growth over the past two decades averaged 4.8% per annum, and the contribution to GDP remained flat, averaging 9.2% per annum (Figure 2). Starkly, Zambia's manufacturing sector has failed to achieve transformation. According to World Bank World Indicators data, the sector's contribution to GDP has contracted by more than 20 percentage points since the turn of the economy in 1991. This suggests that not even the growth of wholesale and retail trading and the spread of supermarkets have triggered the envisaged industrial development in Zambia.

Figure 2: Wholesale, retail, and manufacturing sectors' share of GDP, 1995–2014

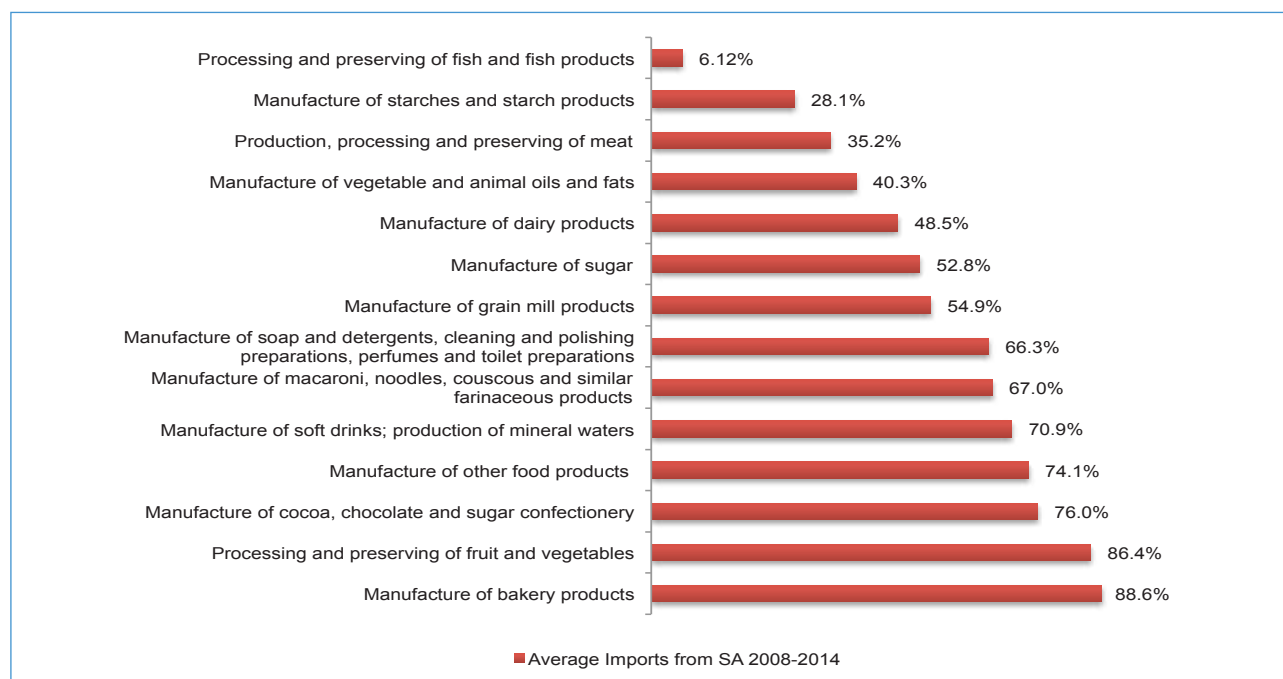


Source: authors' illustration based on CSO (2015) data.

2.2 Dominance of imports of processed goods from South Africa

The Zambian wholesale and retail sector over the last 20 years has witnessed an increase in the spread and growth of regional supermarket chain stores in Zambia. This growth signals increasing domestic demand for consumer goods such as the processed foods and household products found on the shelves of supermarket stores. However, this development has not been commensurate with the growth in the share of local processed goods sold in supermarket chain stores. According to Emongor and Kirsten (2008), about 80% of the processed foods sold in supermarkets in Zambia are imported from South Africa. This assertion is further evidenced by the dominance of imports of selected processed foods and household products from South Africa (Figure 3).

Figure 3: Average share of imports of selected processed foods and household products from South Africa, 2008–14



Source: authors' illustration based on World Bank (2015) data.

On average, over the period 2008–14, more than half of Zambia's imports of various categories of manufactured products were imported from South Africa (World Bank 2015). South Africa continues to dominate the share of processed goods and household products that are imported and sold in regional supermarket chain stores. At the International Standard Industrial Classification (ISIC) four-digit level, South Africa accounts for the highest share of Zambia's imports of manufactured bakery products, processed fruits and vegetables, cocoa and chocolate and sugar products, manufactured soft drinks, mineral waters, soaps, detergents, and other food products.

Incidentally, these product lines, while largely imported from South Africa, offer great potential for increased industrial production in Zambia. The country's favourable climate and arable land give Zambia a comparative advantage in the production of agricultural commodities that serve as inputs for processed foods, suggesting potential for increased agro-processing activities. However, the country's proclivity for imports, while offering more choice to consumers, denies Zambia the opportunity for increased industrialization and the associated knock-on effects for employment creation and economic growth. Nevertheless, the domestic demand for processed foods, and the availability of raw materials required for the manufacture of these processed foods, offers unexploited opportunities to expand the production of various processed products that could substitute for imported processed products and stimulate industrial growth.

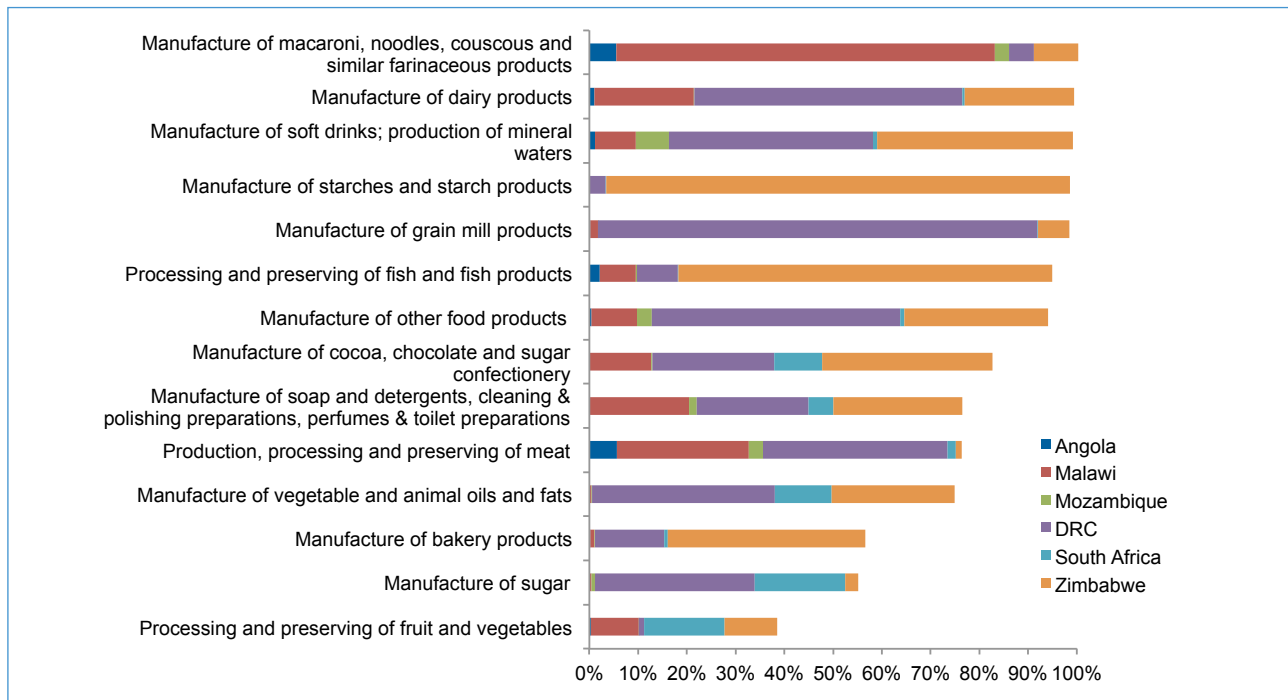
2.3 Trading beyond borders

The manufacturing sector, although dominated by the agro-processing subsector, continues to hold unexploited potential for increased industrialization and a broader export base. The spread of supermarket chain stores, and the growing demand for processed foods and other household products in the region, presents regional market opportunities for finished high-value processed goods. What remains, however, is for Zambia to acquire a competitive advantage in agro-processing and the manufacture of household products for the domestic and regional markets.

Notably, since the year 2010, Zambia has recorded some significant growth in its non-traditional exports. However, this growth tapered in 2013, and in 2014 non-traditional exports completely contracted. Figure 4 shows the average share of Zambia's exports of selected processed foods and household

products to selected countries in the region over the period 2008–14. Among our products of interest, the manufacture of sugar, vegetable and animal oils and fats, grain mills, soaps, detergents etc., and preserved fruits and vegetables formed the top tier in export value over the period.

Figure 4: Average share of Zambia's total exports of selected processed foods and household products to selected regional countries, 2008–14

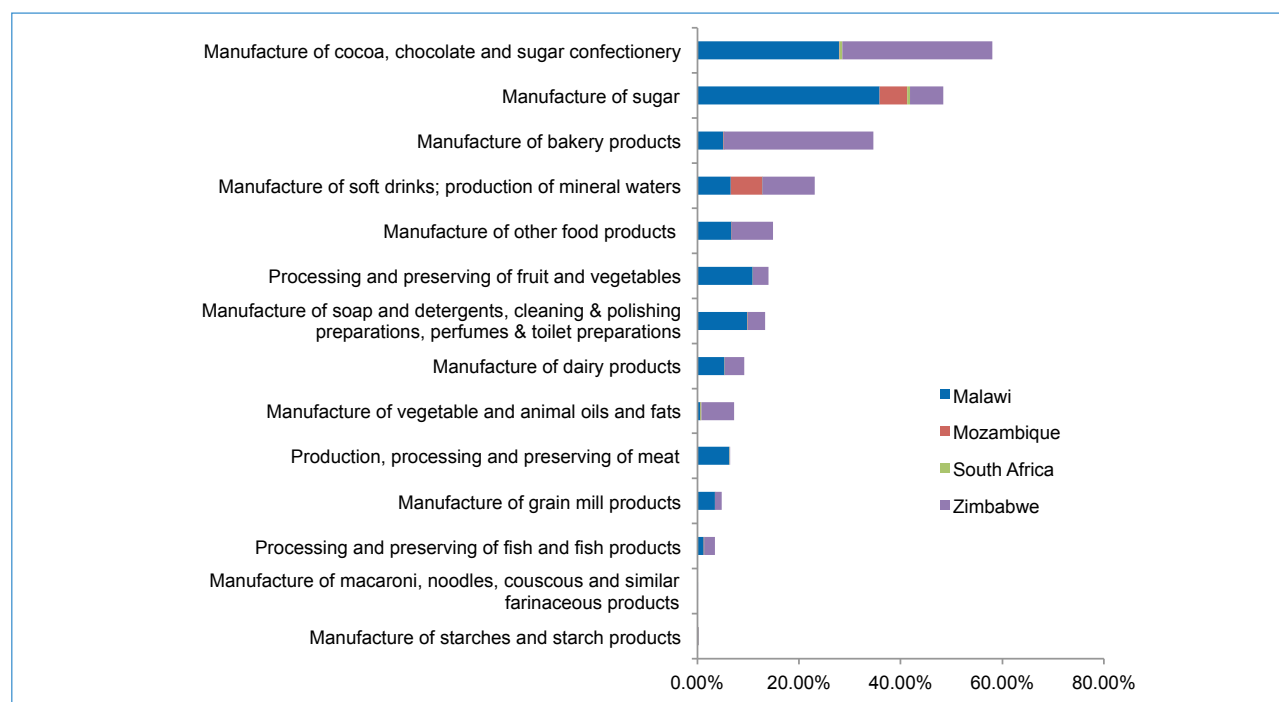


Source: authors' illustration based on World Bank (2015) data.

The graph shows that more than half of Zambia's exports across all the selected processed goods, except for processed and preserved fruits and vegetables, were exported to countries within the region. In particular, the Democratic Republic of Congo (DRC), Zimbabwe, Malawi, and to a lesser extent South Africa accounted for the greatest market share of Zambia's exports of processed goods over the period. Zambia's penetration into these regional countries makes a strong argument for trade strategies to focus on further exploiting opportunities in these regional value chains.

Conversely, Figure 5 shows the share of imports of the same processed goods from Zambia out of the total world imports of the various countries in the region over the same period. Notwithstanding the unavailability of trade data for Angola and the DRC, the low proportion of imports from Zambia suggests that Zambia could be supplying more processed goods to meet the demand for consumer goods in the region. For instance, the current share of imports of selected processed foods and household products from Zambia by South Africa, Malawi, Mozambique, and Zimbabwe is quite negligible for most product lines, with the exception of sugar, cocoa, chocolate and sugar confectionery, and bakery products, for which the share of these countries' imports is above 20%. But even in these product lines, it is only Malawi and Zimbabwe that are mainly importing from Zambia. Of the total imports of the selected processed goods, South Africa and Mozambique imported less than 7% from Zambia in all product lines. This suggests scope for increased exports to substitute for deep-sea imports made by these countries.

Figure 5: Annual average share of imports of selected processed foods and household products from Zambia, 2008–14



Source: authors' illustration based on World Bank (2015) data.

Supermarket chain stores in these regional countries could potentially serve as entry points for processed goods from Zambia. For instance, once a product is on the shelves of South African supermarkets and becomes popular in Zambia, that product has the potential to be distributed back to South Africa or to other countries in the region. Zambia can leverage its central location in the region and the abundance of raw materials for high-value additions to stimulate industrial production, increase its exports to the region, and foster its sustainable economic growth. To achieve this, the country would need to harness the opportunities offered by the growing demand for consumer goods in the region by increasing its competitiveness. The latter requires the country to address the domestic and external constraints to increased industrialization and exports.

3 Retail modernization in Zambia

Prior to the liberalization of the Zambian economy in 1990, the retail industry was comprised of the dominant state-owned stores plus a number of fragmented traditional small-scale retail structures, many of which were family-owned businesses (Haantuba and Graaf 2003). Among the state-owned corporations were stores such as Mwaiseni Stores Ltd, NIEC Overseas Services (Z) Ltd, National Home Stores Ltd, and the Zambia Consumer Buying Corporation. With the collapse of Zambia's economy in the late 1980s, it became difficult for most of these stores to survive due to high levels of bureaucracy and poor management. It eventually became apparent that with the continued losses that most of these corporations were making, the government could not continue to sustain them. Privatization therefore ensued in the early 1990s when the Zambian economy was liberalized.

The liberalization of the Zambian economy in 1990 ushered in a number of economic and public-sector reforms, market reorientation, trade and exchange rate liberalization, and a return to a free market economy, all of which led to structural economic changes. These changes provided legal and regulatory policy reforms that aimed to minimize state intervention in the market. This meant privatizing most of the government-controlled enterprises, and replacing services previously provided by the state with those provided by the private sector. These economic reforms, among others, provided a stimulus for private-sector investment in Zambia.

As the economic reforms began to gather pace, Zambia started attracting unprecedented levels of foreign investment. In the retail sector the investments were compelled by increasing demand for processed foods, which was driven by urbanization and rising incomes among an emerging middle class. The demand for a wider range of consumer goods choices on the part of this growing urban middle class offered an easy entry point for most supermarkets into the country. Increasingly, supermarkets offered greater variety and easier access to processed food products than traditional Zambian retailers, who could not deal with the economies of scale to meet the growing demand (Reardon and Neven 2004).

3.1 Key determinants of the spread of supermarkets into Zambia

The expansion of retail modernization in Zambia has been driven by a number of factors—mainly changes in domestic consumption, the FDI liberalization policy, marketing strategies, production innovations, and trade liberalization. These factors were to some extent associated with the rise in incomes, demographic pattern shifts, development of technology for food supply chain management, and globalization.

Reardon et al. (2007) present a model showing the diffusion of supermarkets into developing countries such as Zambia. The model, which they call the system of demand and supply, speaks to the demand for supermarkets' services by consumers and the supply of these services by suppliers respectively. In this section we provide a theoretical discussion and explore the key determinants that have given rise to supermarkets in Zambia and the region as a whole.

Liberalization of FDI policies

Prior to 1990, FDI inflows into Zambia were constrained by structural and institutional policies that prevented the flow of investments into the country. However, the liberalization of the early 1990s opened up the economy to FDI inflows, one of which was in the retail sector. This was also followed by the government's entry into bilateral and multilateral agreements, mainly with South Africa and other regional countries. A series of different types of FDI in the retail sector ensued.

This FDI has largely shaped supermarket chains in selling foods, apparel, electronics, and other home products. The saturation of the South African retail sector, and the need for growth into newer markets such as Zambia to improve profits, is also among the major reasons for the spread of supermarkets into the region (Dakora and Bytheway 2014). In particular, Zambia's retail market offered greater demand for South African products as the economy continued to grow after emerging from a closed market system.

Income growth

Zambia's economy has been registering consistent growth figures since the 1990s. This has resulted in higher per capita income for the population, and consequently higher consumer spending. Per capita income has risen from just under US\$1,400 in 1990 to nearly US\$3,700 in 2014. This economic prosperity has largely been driven by a rise in China's demand for copper and higher copper prices. Associated with this prosperity has been an emergence of the middle class in Zambia, whose higher spending power has resulted in higher domestic demand for consumer goods. It is this increase in consumer demand that supermarkets, largely South African, have capitalized on by investing in Zambia.

Urbanization

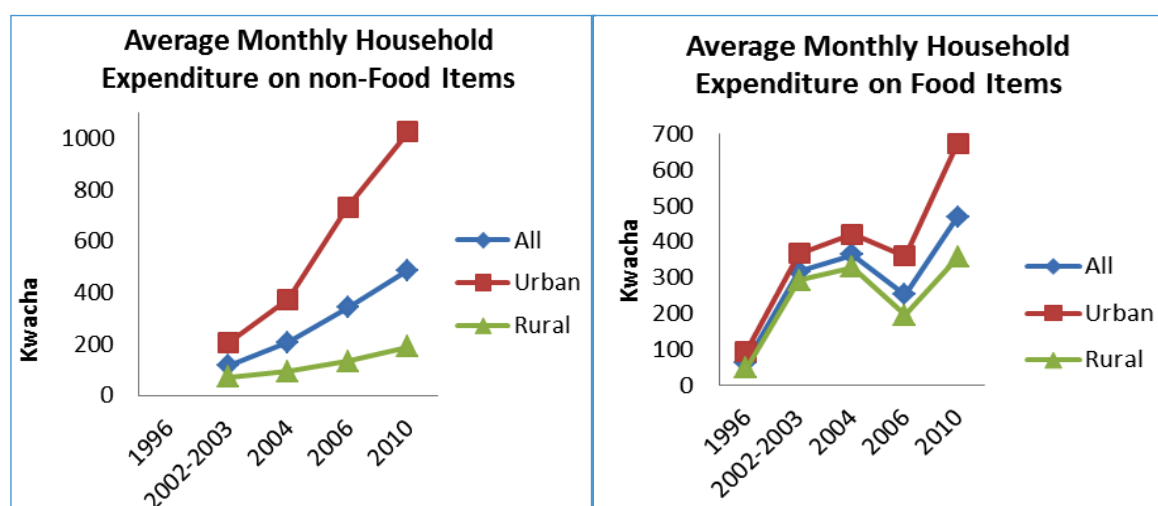
Increased urbanization rates in the urban centres of provinces such as Lusaka, Copperbelt, Central, and Southern have been spurred in the last three decades by the rise in economic activities coupled with the concentration of infrastructure and services in these provinces. Since the 1990s Zambia has experienced a demographic movement of persons towards cities in these provinces in search of better economic opportunities. According to the most recent population and housing census in 2010, the urban population has doubled, increasing by 51% in the inter-census period between 2000 and 2010, whereas the rise in the rural population over the same period is estimated at only 22.6%. In 2010, Lusaka province was estimated to have the highest population density at 100 persons per square

kilometre, followed by the Copperbelt province with a population density of 63 persons per square kilometre. Urban lifestyles tend to differ significantly from those in rural areas owing to different income levels, tastes, and preferences. Urban areas' higher purchasing power, increased demand for consumer goods, and proclivity for more expensive products has thus led to the proliferation and concentration of supermarkets in urban areas.

Changes in food consumption

The last 20 years have seen Zambia's food consumption pattern change following increased access to a wider variety of food choice. Prior to 1991, when Zambia was a closed economy with limited access to external markets, the majority of Zambia's population was very dependent on staple foods and a limited choice of processed foods, most of which were manufactured locally. However, after the liberalization of the economy, the influx of foreign supermarkets brought in a wider food range, which has subsequently changed consumers' diet patterns. Today, these diets have evolved owing to access to wider markets, globalization, and food marketing and advertisements. The shift in food consumption towards higher-value products such as processed goods, fresh produce, and animal products has further propelled the spread of supermarket chain stores (Hallam et al. 2004).

Figure 6: Monthly household expenditure on food and non-food Items, 1996–2010



Source: authors' illustration based on CSO (2012) data.

Figure 6 shows average nominal monthly household expenditure on food and non-food items. Household expenditure has increased over the years, with urban expenditure rising faster than rural expenditure on both food and non-food items. Household expenditure on food items markedly decreased in the year 2006 but rallied soon after.

3.2 Key players in the Zambian supermarket landscape

The supermarket landscape in Zambia is largely dominated in terms of market presence by three main retailers: Shoprite, Pick n Pay, and Spar. Table 1 below shows the spread of supermarkets as of June 2016. These supermarkets are mainly concentrated in urban towns, particularly Lusaka, which has attracted many foreign retail stores owing to its large population size and infrastructure development. In addition to the aforementioned supermarkets, Game Stores, Food Lover's Market, and Woolworths are among the stores that have penetrated the Zambian retail market. More recently a new player, Choppies, whose parent company originates from Botswana, has entered Zambia and opened stores in Lusaka, Chililabombwe, and Solwezi. It is proving to be one of the success stories among the African supermarket stores that have spread across the Southern African region.

In addition to foreign retail chains, Zambia has also had long-standing local and traditional supermarkets, most of which are owned through family businesses. Melissa Supermarket is an example. These

supermarkets have established their own niches in the consumer market as a result of their relatively different and overlapping business growth strategies. These supermarkets target various income segments, primarily low- and middle-income customer segments, and in some instances have differentiated products and services.

Table 1: Major foreign and local supermarkets in Zambia as of December 2016

Name	Origin	Core business	Ownership		Total stores
			Corporate	Franchise	
Shoprite	South Africa	Groceries	30	0	30
Pick n Pay	South Africa	Groceries and apparel	13	0	13
Spar	Netherlands	Groceries	8	8	15
Food Lover's Market	South Africa	Groceries	1	1	2
Game	South Africa	General merchandise and groceries	3	0	3
Woolworths	South Africa	Apparel and groceries	2	0	2
Melissa	Zambia	Groceries	4	0	4
Choppies	Botswana	Groceries	5	0	5

Source: authors' compilation.

As part of our description of the landscape of supermarkets in Zambia, we highlight below the spread of a few selected supermarkets listed in Table 1. These supermarkets were chosen because of their dominant market presence across the country. The information presented was obtained from interviews conducted with the management of these supermarkets.

Shoprite

Shoprite is the largest supermarket retailer by presence in Zambia. The dominant store began operations in Zambia in 1995 as a result of its own expansion strategy, which was precipitated by saturation and competition factors in the South African domestic market. This move was also helped by the improved policy environment and enabling investment climate resulting from economic liberalization, which favoured foreign investments. Shoprite was particularly encouraged to set up shop in Zambia by investment incentives such as open market economic policies with little government interference, the government's move away from exchange controls, and a guaranteed 100% tax repatriation. In addition, the 1993 Investment Act provided further incentives such as tax credits, land acquisition for registered investors, and duty incentives. Being the first foreign-owned supermarket in Zambia, Shoprite capitalized on investment inertia in the retail sector, and the Zambian government was forced to rethink its strategy by withdrawing its participation from the retail sector. Shoprite took advantage of the vacuum left by the dissolution of the parastatal stores and bought up six of their buildings through the Zambia Privatization Agency. Shoprite also negotiated favourable conditions with the government, pledging to open outlets and register a presence in all provinces in return for favourable import tariffs, a five-year tax break, and other incentives that gave them the edge over local chains. This was in addition to the incentives contained in the 1993 Investment Act.

By 2015 Shoprite had managed to fulfil its promise of opening outlets in all of the nine provinces that existed at the time of its entry into Zambia. Currently it is the largest retailer in Zambia, and it dominates the food and grocery market. It operates the largest retail network in Zambia, with 30 corporate stores spread across 18 cities and towns, and is still expanding. Unlike its competitors, Shoprite's unique policy remains to maintain corporate stores without franchising out any of its stores.

Shoprite has been spearheading price competition among Zambian supermarkets by utilizing economies of scale to lead a price war with its competitors. The company which started by buying up six previously government-owned supermarket buildings through the privatization process, has now centred its growth

strategy on building its own stores further consolidating its market position. The company remains the only retailer to have listed on the Lusaka Stock Exchange, and currently employs over 5,000 direct and indirect employees.

Spar

Spar is one of the three largest grocery retailers in Zambia. Unlike the other two major retailers – Shoprite and Pick n Pay, which originate from South Africa, Spar's parent company is domiciled in the Netherlands, having been founded in 1932 by retailer Adriaan Van Well. Spar is currently one of the world's largest retail chains, with over 12,000 stores in 34 countries.

This retail chain operates a business model that combines its corporate shops with a network of franchise shops as a way of penetrating markets that the corporate shops cannot reach. The first corporate store in Zambia was opened in December 2003 in Lusaka. Since then, the chain has expanded to include eight corporate shops, and a network of eight other shops managed by independent retailers under a franchise arrangement. These stores are located in various towns and cities in Zambia, predominantly along the railway routes, although the firm's intention is to cover as many parts of the country as possible. Collectively, the corporate stores employ a total of over 500 employees.

Unlike its major competitors, Spar Zambia is autonomous and is not linked to other Spar stores in Africa. The store's business strategy over the years has been to largely focus on the middle-class and low-end market segments. The high-end market segment has also been important for the store, but to a lesser extent. Furthermore, Spar Zambia offers consumers nutritional tips on health and well-being and food recipes on its website, and prides itself on offering quality, freshness, and choice to customers.

Pick n Pay

Following the success of Shoprite and Spar, Pick n Pay entered the Zambian market in 2010. By 2016 this retail chain was operating 13 stores across Lusaka and the Copperbelt provinces. The shop specializes in groceries and household products, and unlike Spar it also stocks a range of children's and adults' clothing in selected stores. Currently Pick n Pay employs in excess of 2,000 employees across its stores in Zambia.

All the Pick n Pay stores operating in Zambia are corporate, although the corporation has expressed plans to open a number of franchise stores as part of its growth strategy. Pick n Pay's business model is based on a cost focus strategy whereby it capitalizes on cost advantages to target its customers with a narrow competitive scope. This model has worked well for the business, as it focuses on customers from the lower-income segments to the upper-income segment that was its traditional core customer base.

Melissa

Melissa is a Zambian-owned retail chain of supermarkets with three stores located in Lusaka and one in Itezhi-Itezhi. The chain has been operating in Zambia for over 20 years. It was a dominant retail player in Lusaka and for many years was seen as a store for middle- to upper-income families. However, with the coming of foreign supermarkets such as Shoprite and others, it had to reposition and restructure its business and procurement models. The chain is reported to employ a total of 600 employees, and currently competes on the core competences of customer care and quality.

Other supermarkets

The Zambian supermarket landscape has become increasingly competitive in the last decade after being dominated by a few players, which suggests the existence of an oligopoly market. The growing strength of other foreign chains entering the country, plus a few upcoming local shops, has shaken up the market and diluted the oligopoly previously enjoyed by Shoprite, Pick n Pay, and Spar. The smaller supermarkets are increasingly gaining market share and providing competition with the incumbent major supermarkets. The increased competition confers greater benefits for consumers, who now have access to a wider choice of products, lower prices, and other discounts that supermarkets may offer as they strive to maintain their market share.

Game Stores, a subsidiary of Massmart Holdings of South Africa that was a leading retailer of general merchandise for many years in Zambia has diversified into the grocery market. This has provided more competition with the incumbent supermarkets. Currently the shop has three stores, two in Lusaka and one in Kitwe. The initial store was opened in 2001. Other new entrants into the grocery store market include Food Lover's Market and Woolworths. The latter's primary core business in Zambia was initially apparel. In the last two years, however, Woolworths has diversified into food and groceries. Other new entrants include Pound Stretcher, Choppies, and a number of local stores such as Sana Cash and Carry among others. Despite the major incumbent supermarkets' efficient and low-cost purchasing, distribution, and marketing systems, these other stores have managed to penetrate the retail market.

Competition dynamics among key players

The entry of more supermarkets into Zambia over the years has prompted incumbent supermarkets to tighten their price strategies and marketing expenditure in response to the new competition. Supermarkets have been known to use exclusive lease agreements with shopping centres as one strategy for curtailing competition. In Zambia, there are mixed claims regarding the existence of exclusive lease agreements between major supermarkets and shopping centres. On the one hand, some supermarkets attested during interviews to having exclusive leases with the shopping mall so as to be an anchor tenant and the main attraction for customers. On the other hand, others denied the ongoing existence of exclusive lease agreements with shopping malls but admitted to their existence before the enforcement of the Competition and Consumer Protection Commission Act, which discourages exclusivity clauses.

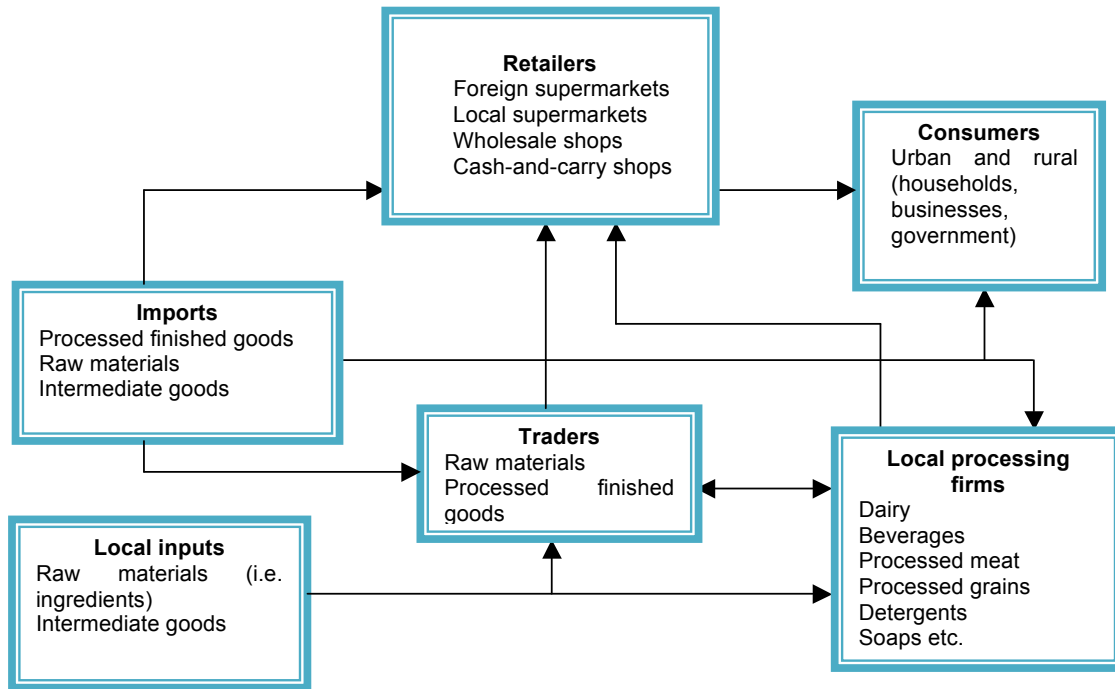
In return for drawing customers, an exclusive lease agreement ensures that the incumbent supermarket does not face any direct competition that would ensue from the presence of other supermarkets in the shopping mall. The tenure of such leases is generally said to be long-term, ranging from 25 to 30 years, although some are relatively short-term. It is worth stating that of the supermarkets interviewed, none reported having been denied access to a shopping mall as a result of an existing exclusive lease between a major incumbent supermarket and the mall.

4 Value chain analysis: traditional markets versus supermarkets

4.1 Conceptual framework: value chain

A value chain is defined as a sequence of target-oriented combinations of production factors that create a marketable (tangible) product or (intangible) service from conception to final consumption. This sequence of activities often includes product design, production, marketing, distribution, and consumption (ILO 2006). Local suppliers have opportunities to extract benefits from participation at various stages of the value chains for processed goods. This might be at the upstream end of the value chain, e.g. growing agricultural produce such as fresh fruits and vegetables, or at the downstream end, which involves higher value-addition activities—for instance, the processing and packaging of foodstuffs such as canned meats, dairy products, beverages etc. (Figure 7).

Figure 7: A typical value chain for processed goods



Source: authors' illustration.

Both supermarket and traditional value chains offer local processing firms market channels through which their processed goods can reach the end consumer. Supermarkets in this paper are defined as large foreign-owned grocery stores whose parent companies are domiciled in other state jurisdictions. Traditional markets include wholesale shops, local grocery retail shops such as corner shops, and cash and carry stores, and are mainly owned by Zambian residents. Access to supermarket value chains is more difficult compared with the more traditional markets, owing to the quality, phytosanitary, and timeliness standards demanded by supermarkets. Of the two routes to market, supermarkets are conventionally argued to offer high value chains that can potentially stimulate industrial development and employment creation, and subsequently provide solutions for addressing poverty.

The advantage of supermarket value chains over those of traditional markets, particularly for processed foods, is that supermarkets have access to a larger and broader market owing to their strategic locations in prime shopping malls and their spread in various towns and cities. Access to a wider market entails demand for higher volumes of processed goods from local processing firms, which could in turn lead to the acquisition of economies of scale as local firms expand their output to meet the higher demand for processed foods. In the long term this could trigger employment creation and poverty reduction. In addition, supermarkets are believed to offer better prices for processed goods, to possess more efficient procurement systems, to be more predictable and consistent with their orders (which aids production planning), and to demand higher standards and quality of produce. The latter is particularly crucial for attracting and retaining consumers. Adherence to strict quality standard instils consumer confidence and loyalty.

Conversely, traditional systems are perceived as inefficient, disorganized, and unpredictable, bringing about higher transactional costs (Ram 2010). Interestingly, the alleged superiority of supermarkets over traditional markets has been challenged in the recent past. Counterarguments point to the ease of exacting payments from traditional markets, and the less stringent quality standards imposed by traditional markets compared with their counterparts. Unlike the on-the-spot payments for goods transacted in traditional markets, supermarkets tend to operate on credit periods that typically range between 30 and 90 days for processed goods. This tends to negatively affect the cash flow and operations of many small processing firms, who are already financially constrained. Notwithstanding these opposing views, past studies have shown a significant positive impact on the sales of local firms supplying supermarkets

compared with those not supplying supermarkets (Emongor and Kirsten 2009).

4.2 Empirical evidence on the impact of the spread of supermarkets on local suppliers

The expansion of supermarket chains in Zambia has had a profound effect on domestic suppliers and how they source their products. As these retail chains consolidate, their marketing structure and systems of procurement adapt to local markets. For Zambia and other regional countries in sub-Saharan Africa, recent studies by Emongor and Kirsten (2009) and Cattaneo (2013) have shown that during the first phase of operations, over 80% of all processed foods as well as other products are imported from the supermarkets' countries of origin. This has made it very difficult for local suppliers to integrate into these supermarkets' value chains.

This configuration of the supplier value chain since the 1990s—when the first foreign-owned supermarket, Shoprite, arrived in Zambia—can be attributed to a number of factors. Firstly, when supermarkets enter new markets, they come with new private standards such as packaging and branding, which they impose on local suppliers, and these have fundamentally changed the structure of the supply chains (Reardon 2006). These standards pose barriers to entry, and as a result local firms find it increasingly difficult to fully integrate into supermarket value chains. The speed at which supermarkets later substitute local produce for imports depends on how adaptable local suppliers are to the needs and requirements demanded by the supermarkets. The larger the competitive gap between supermarkets' established foreign suppliers and local suppliers, the greater the import propensity and crowding-out of local firms from the supplier value chains (Altenburg et al. 2016).

Supermarkets procure bulk quantities, and often prefer suppliers who can supply a chain of their stores consistently in addition to meeting the quality and demand compliance measures for products. The ability to supply consistently to a number of stores suggests large capital requirements, which are often lacking for small firms. As a result, large Zambian suppliers with greater capacity and capital generally find it easier to comply with supermarkets' standards than smaller suppliers. Thus smaller suppliers are often excluded as a result of both structural and strategic barriers to entry (Barrientos et al. 2011).

Emongor and Kirsten (2006) reiterated the same observation. They concluded that the overall impact of supermarkets in Zambia was positive for large farmers and negative for small-scale farmers, because fewer than 5% of small-scale farmers were able to supply their produce to supermarkets. A number of reasons for this exclusion of small suppliers have been advanced. However, there are two main reasons, as observed by Berdegué et al. (2005). Firstly, there appears to be an important fixed transaction cost component in exchanges between farmers and retailers. This makes it more costly for retailers to deal with many small-scale farmers compared with a few large suppliers. Secondly, small farmers are often constrained financially in making the necessary investments, either because they do not have sufficient resources of their own, or because they have problems accessing external funds from financial institutions, particularly in rural areas.

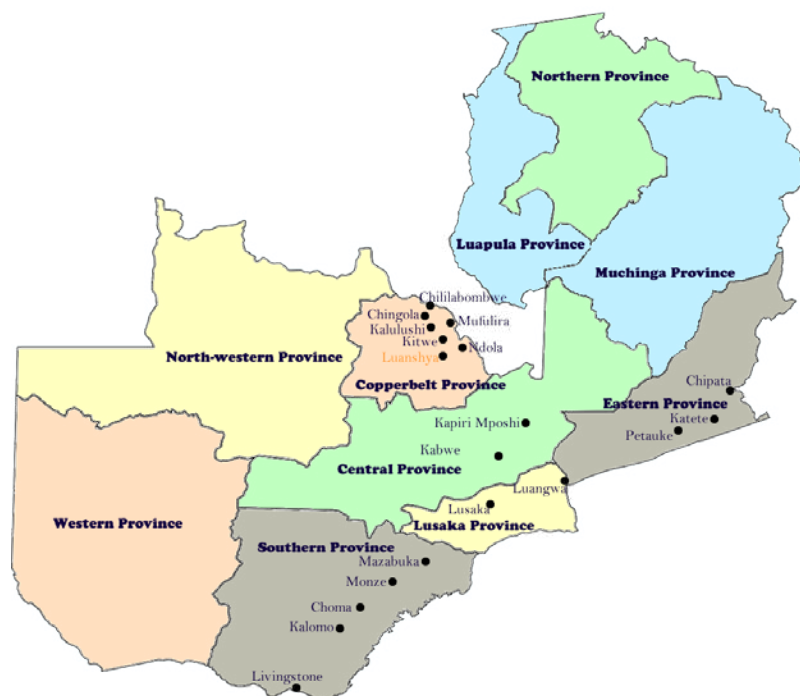
However, as foreign-owned supermarkets become established over time, supply value chains emerge where local suppliers are more integrated into the system. This is a result of cost advantages and the convenience for supermarkets of sourcing their goods locally as opposed to importing large volumes from their home base and other external markets. Emongor and Kirsten (2008) also noted this trajectory in Shoprite's procurement of local fresh fruits and vegetables in Zambia after ten years of operations in the country. Furthermore, as local suppliers became more involved in the supermarket value chain, they tended to develop capacities that enabled them to meet the standards of domestic supermarkets.

The various theoretical and empirical accounts covered in this section all point to the possibility that local suppliers face fairly high degrees of marginalization in the supermarket value chain. The following section describes the empirical approach that this study used to systematically consider some of the anecdotal issues already covered.

5 Data and empirical methods

Figure 8 shows the towns where interviews were conducted with supermarket suppliers and non-suppliers.

8: Survey map of sampled areas



Source: authors' illustration.

5.1 Data and data sources

This study used a mixed analysis of qualitative and quantitative data. It collected and analysed both qualitative and quantitative data obtained from primary and secondary sources. The principal data set for the analysis of the determinants of the participation of local processing firms in supermarket value chains for processed foods and household products in Zambia was obtained from local processing firms. This was augmented by data obtained from five major supermarket chain stores in Zambia. Data for the study was collected using a key informant interview guide and a structured questionnaire. The former was administered to supermarket chain stores and the latter to local processing firms over the period June 2015 to February 2016.

The data collection tools were designed to allow the collection, corroboration, and analysis of the perceptions and experiences of both regional supermarket chain stores and local suppliers regarding the growth of supermarket chains in Zambia and the implications for the development of local suppliers. The supermarket stores were purposively selected based on their dominance in the market with regard to market share, sales turnover, employment, operating capital, and length of operations in the market. The objective of the interviews was to identify constraints faced by supermarkets in procuring from local suppliers. In addition, these interviews were carried out to gain insight into the procurement strategies and business models of supermarkets and the organization of their production and distribution processes for processed foods and selected household products.

Primary data was also collected from other key informants, such as the Ministry of Commerce Trade and Industry, responsible for commercial, industrial, and trade policies, and the Zambia Bureau of Standards (ZABS), responsible for providing standards of quality control for manufactured products. In addition, secondary data describing the growth of supermarkets in Zambia, level of FDI in the retail sector, performance of the manufacturing industry, and exports and imports was obtained from various

sources. These included the Central Statistical Office, the Bank of Zambia, and the World Bank World Integrated Trade Solutions Database.

5.2 Product choice

This study limited the choice of products to key processed foods (listed below) and a few selected manufactured household products frequently sold in supermarkets. The selection criteria were mainly premised on Zambia's comparative advantage in primary commodities, such as agricultural produce, which act as inputs in the production of various processed foods. In addition, the selection was influenced by the potential of these products to promote value addition, increased industrial production, and the expansion of Zambia's industrial base. Furthermore, the government's Industrialization and Job Creation Strategy identifies manufacturing in general and agro-processing in particular as priority areas for sustainable economic growth and employment creation.

The products were identified from the ISIC HS four-digit classification as follows:

- i. Manufacture of bakery products;
- ii. Manufacture of dairy products;
- iii. Manufacture of vegetable and animal oils and fats;
- iv. Manufacture of grain mill products;
- v. Manufacture of other food products not elsewhere classified;
- vi. Manufacture of macaroni, noodles, couscous, and similar farinaceous products;
- vii. Manufacture of soft drinks; production of mineral waters and other bottled waters;
- viii. Manufacture of soap and detergents, cleaning and polishing preparations, perfumes, and toilet preparations;
- ix. Processing and preserving of meat;
- x. Processing and preserving of fish, crustaceans and molluscs, and fruit and vegetables.

At a broader level of classification, these are summarized into dairy products, processed grains, processed foods, edible oils, and selected household products. At a narrow level of classification, specific processed products examined include yoghurts, milk, cheese; fruit juices, bottled water; canned fruits, meat, beans, vegetables; processed meats (polony, bacon, beef, poultry, etc.); pasta products; processed grains (rice, wheat flour, maize flour, cornflakes); processed fish; processed fruits and vegetables (potato chips, food sauces); cooking oil, margarine butter; detergents; household cleaning agents; bath soaps; washing powder, etc.

5.3 Sampling

The primary target population for this survey comprised all local processing firms in the aforementioned product lines operating in the Lusaka, Copperbelt, Eastern and Southern provinces. The sampling frames for the survey were developed from various lists obtained from the Ministry of Commerce Trade and Industry, Zambian Bureau of Standards (ZABS), and ZAM, using purposive sampling techniques. These lists were amalgamated into two clusters or sampling sub-frames—one covering firms identified as supplying supermarkets, and the other covering firms not supplying supermarkets. The samples were then derived from these clusters. This method was employed in the absence of a list of the entire population of local processing firms in Zambia.

Following identification of whether the processing firms were supplying or not supplying supermarkets, the firms were stratified by subsector based on the ISIC HS four-digit classification codes and their location. Stratification was employed to ensure an adequate representation of firms in the subsectors

listed under product choice. At the barest minimum, five firms were sampled from each subsector. Where there were fewer than five firms, all the firms in that subsector were included in the sample. Firms that could not be located because of attrition, a change in their line of business, or inadequate information as to their whereabouts were replaced with other randomly selected firms from the sampling frame. This was done to ensure that an adequate sample was obtained.

Overall, data for 99 local processing firms, consisting of 48 firms supplying supermarkets and 51 non-suppliers, was analysed in this study. This was against a target of 100 local processing firms, of which 50 were to be firms supplying traditional markets as the counterfactual, and the other 50 to be firms supplying supermarkets as the treatment group. This represents a response rate of 99%.

5.4 Empirical model

This study adopts an intuitive model of the determinants of local supplier participation and non-participation in foreign supermarket supply chains in Zambia. The determinants of local firms' participation in supermarkets' supply chains for processed goods in Zambia is modelled using a maximum-likelihood probit model, following Emongor and Kirsten (2006). In the probit model, the dichotomous observation that a local supplier supplies a supermarket or not (the left-hand-side variable) is coded as 0 or 1, where 1 denotes participation and 0 denotes non-participation. In this model the implicit assumption is that every local supplier has some propensity to supply supermarkets, except that the actualization is dependent on several factors that support or impede observed outcomes of whether they supply supermarkets. The probit model is a modification of the ordinary least squares regression called the 'linear probability model' because it readily accommodates instances where the dependent variable is dichotomous. It addresses two main problems associated with the linear probability model: generating predicted values of participation outside the (0, 1) probability range; and imposing a linear linkage between factors that potentially influence local supplier participation in supermarkets and the observed supplier status with respect to supplying supermarkets.

We use the probit model to predict the likelihood that local processing firms will supply supermarkets based on a vector of observed exogenous variables, as follows:

$$\begin{aligned} \Pr (y = 1 | X) &= \Phi (\beta_0 + \beta_1 X_1 + \dots + \beta_k X_k) \\ \Pr (\text{supply} = 1 | X) &= \Phi (X\beta) \end{aligned} \quad [1]$$

where Φ is the standard normal cumulative density function taking on values strictly between 0 and 1: $0 < \Phi(z) < 1$ for all values of the parameters and the explanatory variables.

The implicit assumption that every local supplier has some propensity to supply supermarkets is expressed by the following latent variable formulation:

$$\begin{aligned} y^* &= \beta_0 + \beta_1 X_1 + \dots + \beta_k X_k + e \\ &= X\beta + e \end{aligned} \quad [2]$$

where y^* is unobserved affinity, and e is a residual which is assumed to be uncorrelated with the matrix X so that all measured factors in X are exogenous. The observation of whether a local supplier supplies one or more supermarkets or not is given by:

$$\begin{aligned} y &= 1 \text{ if } y^* > 0 \\ y &= 0 \text{ if } y^* \leq 0 \end{aligned} \quad [3]$$

For computational reasons, the log-likelihood function for the probit is expressed as:

$$\begin{aligned} \ln L (y|X; \beta) &= \sum_{j \in s} w_j \ln \Phi (X_j \beta) + \sum_{j \in /s} w_j \ln \{1 - \Phi (X_j \beta)\} \\ j \in s \quad j \in /s & \end{aligned} \quad [4]$$

where Φ is the standard normal cumulative density function as before, w_j denotes the optional weights,

and L is a set of local suppliers observed supplying supermarkets.

The dependent variable—*supply*—is a binary variable that shows the probability that local processing firms supply supermarket stores with processed foods and selected manufactured household produce, based on a set of predictors that are likely to influence participation in supermarket value chains. This binary variable assumes the value of 1 for firms supplying supermarkets and 0 for those who do not supply supermarkets.

The explanatory variables consist of both categorical and continuous variables whose inclusion is premised on past empirical work, economic theory, and the intuition that they are most likely to influence participation in supermarket value chains. These variables are adapted from Emongor and Kirsten (2006), who used similar variables to determine farmers' participation in the value chains of fresh fruits and vegetables for supermarkets. The explanatory variables are listed below with the rationales for their inclusion.

Turnover: This is the annual total gross sales revenue of the firm measured in kwacha terms. Technically, it is a continuous variable used to denote firm size. The hypothesis is that firms with higher sales volumes (larger firms) have a better chance of supplying supermarkets owing to their greater production capacities, which can enable them to meet the volumes demanded by supermarkets.

Foreign ownership: A firm is defined as foreign-owned if more than 50% of its shares are owned by nationals of other countries. This binary variable denotes foreign ownership and takes the value of 1 for firms that are foreign-owned and 0 for non-foreign firms. The hypothesis guiding the incorporation of this variable is that foreign-owned firms are more likely to be better capitalized, with better production techniques that grant them efficiencies in production and consequently easier access to supermarket supply chains.

Years of operation: This is a continuous variable depicting the number of years of the firm's operation. It is hypothesized that the higher the number of years of operation, the greater the management and production experience, and thus the higher the firms' chances of having the requisite networks, technology, and production capabilities that can facilitate entry into supermarket value chains.

ZABS accreditation: This dummy variable denotes accreditation from the Zambia Bureau of Standards. Under the Zambian Standards Act 1994, it is mandatory for all food and beverage suppliers to have a permit to supply. In addition, ZABS also provides certification for products as proof that a product has been tested and conforms to the required standards. The variable takes the value of 1 if a firm has any form of accreditation and 0 if the firm has none. The hypothesis is that meeting at least one of the ZABS requirements increases the chances of participating in supermarket value chains.

Investment in machinery: This categorical variable takes the value of 1 if a firm has invested in any new machinery for the years 2012–14 and 0 if the firm has not. The inclusion of this variable is guided by economic theory, which postulates that investment in new machinery modernizes production processes, thus improving cost-effectiveness; enlarges the production base, which increases the production capacity of a firm; potentially increases productivity; allows the production of new and improved products, thereby increasing value addition in production; and may lead to the incorporation of international standards and innovation, which is likely to increase the probability of supplying supermarkets and exporting.

Barcodes: Part of the additional demand by supermarkets is for suppliers to have barcodes for all the processed goods they supply to supermarkets. As a result of this requirement, we postulate that the possession of barcodes for goods supplied (or that a firm would like to supply) to supermarkets increases the probability of supplying supermarkets. This is a binary variable that takes the value of 1 for firms with barcodes for the products they supply (or would like to supply) to supermarkets and 0 for firms without barcodes for the said products.

Membership of association: This binary variable represents a firm's affiliation with business associations. It is assumed that membership of an association provides firms with access to industry information and market linkages, and is therefore likely to increase the probability of participating in supermarket value chains.

Improved packaging: The quality of packaging is one of the key criteria that influence supermarkets' procurement decisions, and is therefore included as an explanatory variable. This binary variable takes the value of 1 if a firm has improved its packaging over the years and 0 if it has not. It is assumed that investment in packaging increases the likelihood of supplying supermarkets owing to the improvement in product quality, which makes the product more marketable.

Distance to supermarket: This continuous variable measures the distance in kilometres between a firm's manufacturing plant and the nearest supermarket. The inclusion of the variable is premised on Alfred Weber's location theory, which postulates that firms choose a location of operation that minimizes its total costs (van Otten and Bellafiore, no date). According to Weber, a firm's industrial location is premised on its transport costs, labour costs, and agglomeration economies. Since transport cost is a function of distance, we hypothesize that the closer a firm is to a supermarket, the lower the transport costs and therefore the higher the chances of supplying the supermarket.

CEO's years of experience: This continuous variable measures the number of years of management experience of the chief executive officer (CEO) in charge of running the business. It represents the acquisition of management skills over the years, which can lead to the introduction of new organizational or management techniques that can improve production processes and thus a firm's ability to supply supermarkets. The hypothesis is therefore that the more experience a CEO has, the higher the firm's chances of participating in supermarket value chains.

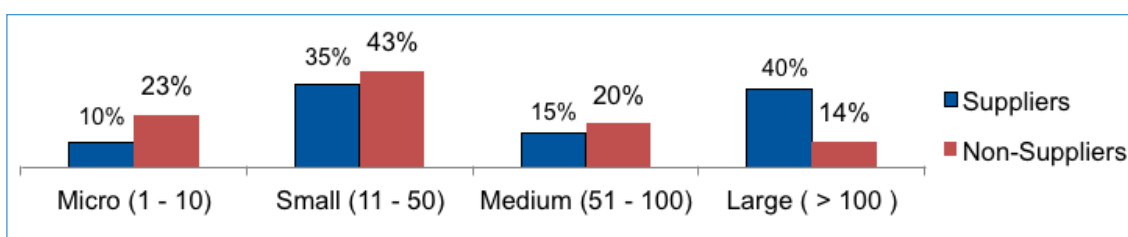
6 Quantitative empirical results

6.1 Determinants of local processing firms' participation in supermarket value chains—descriptive statistics

Firm distribution, registration, ownership, and gender

A total of 99 firms had data that could be used for analysis. Of these, 48% were recorded as supermarket suppliers, while 52% did not supply supermarkets. The largest proportion of firms, estimated at 48%, was drawn from Lusaka province. Copperbelt accounted for 28% of the firms surveyed, while the Southern and Eastern provinces each accounted for 13% of the firms. In terms of firms' distribution by size as measured by number of employees, 40% of the suppliers recorded were large (Figure 9).

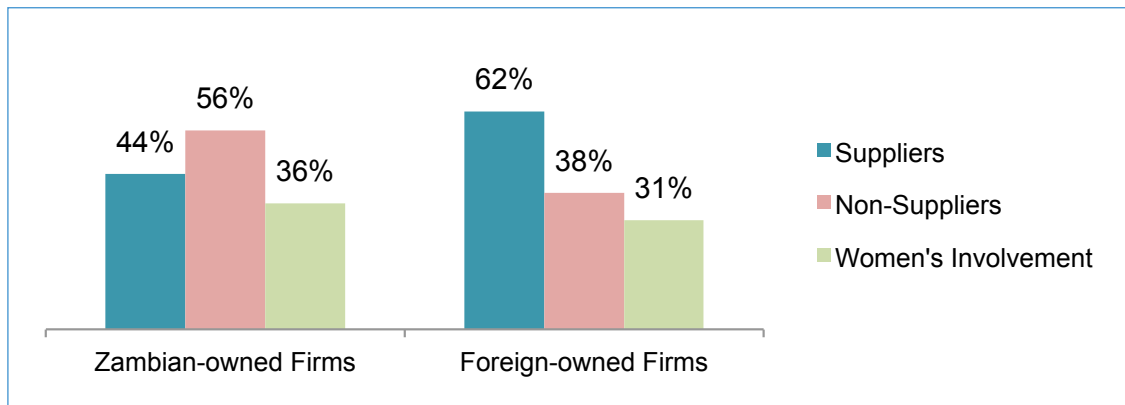
Figure 9: Distribution of firms by size, based on full-time employment



Source: authors' survey data.

Nearly all the local processing firms (99%) covered in the survey were formal businesses—that is, either registered with both the Patents and Companies Registration Agency and the Zambia Revenue Authority or only with the former. According to our definition of foreign ownership, 26% of the firms surveyed were foreign-owned. Women were considered to have some involvement in a business if they owned 1% or more of the shares in the business. Based on this definition, women were involved in 36% of Zambian-owned firms and 31% of foreign-owned firms supplying and not supplying supermarkets (Figure 10). This analysis was done to test for gender balance and involvement in the supermarket value chain.

Figure 10: Distribution of firm ownership

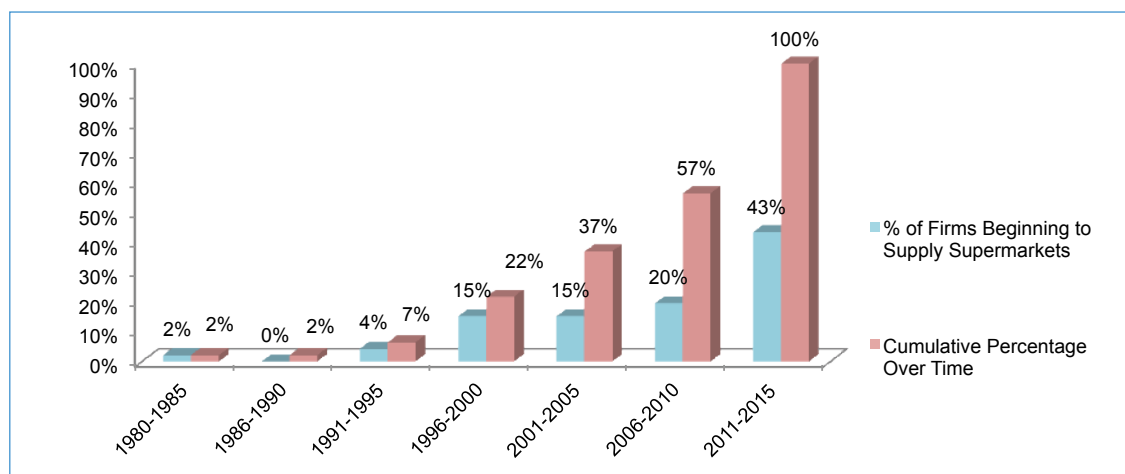


Source: authors' survey data.

Entry into supermarket value chains over time

Out of all the local firms supplying supermarkets, 90% commenced their operations after 1990, a factor which can be attributed to policy changes by the Zambian government when the liberalization of the economy took place in 1991 and ushered in a free market economy (Figure 11).

Figure 11: Change in the proportion of suppliers over time



Source: authors' survey data.

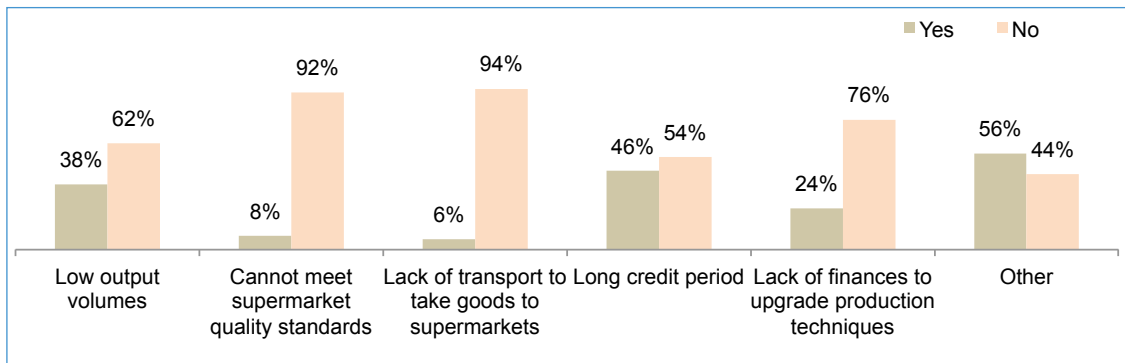
The data shows that by the year 2000 only 22% of domestic firms that had integrated into supermarket value chains had started to supply supermarkets. In the decade that followed, as more supermarket chain stores entered the country, and the spread to towns and other cities along the industrial belt ensued, the number of firms supplying supermarkets increased correspondingly. By the year 2010, when all the major supermarkets—namely Shoprite, Spar, and Pick n Pay—had entered the market, over 50% of current supermarket suppliers had commenced supply to supermarkets. Between 2010 and 2015, momentum took hold and the greatest value addition of local suppliers was observed.

Reasons for not supplying supermarkets

Figure 12 depicts the reasons given by non-suppliers for not supplying supermarkets. The most common reason claimed by domestic firms was the long credit period imposed by supermarkets for payment for goods supplied. Nearly 50% of non-suppliers indicated that this was one of the reasons for not supplying supermarkets. On average, the credit period is estimated to range between 30 and 90 days for processed goods, which presents cash flow challenges for many firms. The second most cited reason was that the firms do not produce adequate volumes to supply supermarkets. Lack of finances to acquire machinery and technology in order to upgrade production techniques was the third most common reason for not supplying supermarkets. Other reasons cited included competition from

imports of processed goods and supermarkets’ private brands; cumbersome procedures imposed by supermarkets; and unfavourable pricing of products by supermarkets.

Figure 12: Reasons for not supplying supermarkets



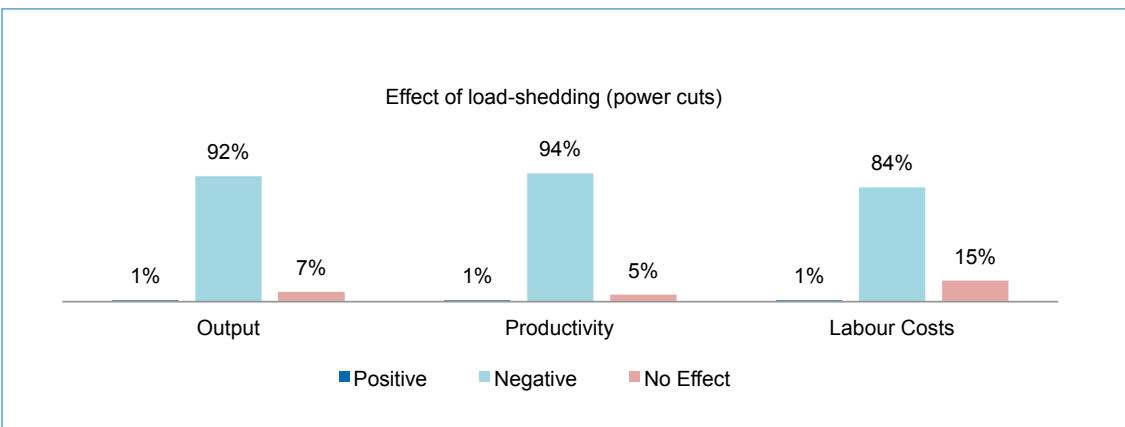
Source: authors’ survey data.

Other domestic constraints faced by local firms

The majority of local firms—suppliers and non-suppliers alike—did not consider the road infrastructure to be a challenge in supplying supermarkets. Specifically, only 31% of all firms (most of which are mainly located in Lusaka) perceived the road infrastructure to be a constraint. On the other hand, the current power crisis in Zambia, which has necessitated power outages (known as ‘load shedding’) to both domestic and commercial consumers, has negatively impacted nearly all firms’ output and productivity, and has increased their labour costs (Figure 13).

Access to finance remains a major constraint for many firms. Approximately 66% of the firms supplying and not supplying supermarkets found it difficult to acquire financing from commercial banks and other financial institutions. Particular challenges include high interest rates, collateral demands by financial institutions, and stringent requirements from financial institutions.

Figure 13: Effect of power outages on firms’ output, productivity and labour costs



Source: authors’ survey data.

Export capabilities

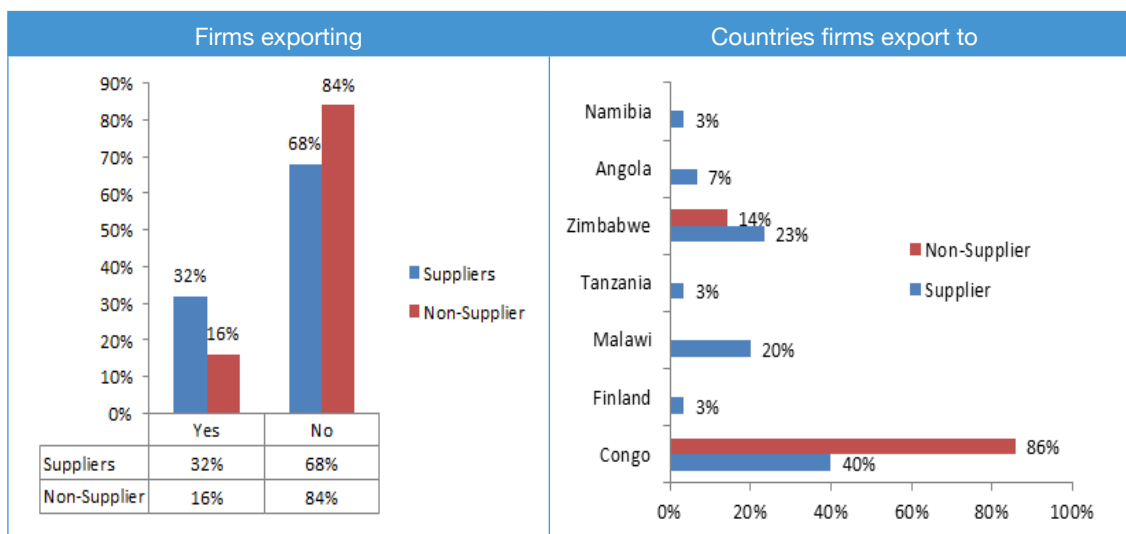
Supermarket chain stores present in regional countries could potentially serve as entry points for processed goods from Zambia. Figure 14 below analyses the potential for local suppliers to integrate into export markets and broaden Zambia’s export base. The data shows that the majority of both suppliers and non-suppliers (68% and 84% respectively) do not export their products. For non-suppliers, this result suggests that their inability to penetrate domestic supermarkets value chains increases their likelihood of not accessing export markets, which may have more stringent requirements. Notably, the major export destination for both suppliers and non-suppliers who export their products is reported to

be the DRC, followed by Zimbabwe and Malawi. These markets are attractive for firms due to strong demand for processed goods such as crisps, dairy products, and flour; proximity to Zambia; and higher prices, which result in higher profits.

Particularly for the DRC, the high level of informality provides a ready market for most products supplied by non-supermarket suppliers. Furthermore, the borders between the DRC and Zambia are quite porous, which tends to attract a lot of smuggling and informal trade. This also presents high risks for businesses. Nonetheless, the DRC offers a large potential market for Zambian products, which explains the concentration of trade on the DRC borders. In particular, Katanga province is estimated to have a population of 16 million people, which provides a bigger market for Zambian goods and an opportunity for firms to maximize their sales. The recent trade agreement signed between the Zambian and Congolese governments could bring about some semblance of normality that might offer security to trading firms and result in increased formal trade.

While there is potential to increase Zambia's exports to the region, through either supermarkets or other market routes, a number of challenges are faced by exporters and would-be exporters. These include cumbersome border procedures, such as delays in obtaining and processing export permits and border clearances. High transport costs exacerbated by roadblocks and a poor road network also presents challenges for exporters, as they render Zambian exports less competitive. Language barriers, particularly in Angola, Mozambique, and the DRC, present communication challenges and consequently increase transaction costs. Bribes are also among the challenges that make exporting more difficult for firms.

Figure 14: Export capabilities



Source: authors' survey data.

6.2 The probit model

The capabilities required for local firms to participate in supermarket value chains are determined using the maximum-likelihood probit model against the null hypothesis that the respective regression coefficients of the explanatory variables are equal to 0, i.e. they do not affect local firms' participation in supermarket value chains. Table 2 below shows a summary of the explanatory variables in the data set, and checks whether our binary outcome variable is correctly coded with 0s and 1s.

Table 2: Summary of explanatory and dependent variables

Variable	Obs.	Mean	Std dev.	Min.	Max.
Log turnover	83	15.61	2.39	10.18	20.19
Barcode	93	.54	.50	0	1
Improved packaging	99	.60	.49	0	1
ZABS accreditation	98	.74	.44	0	1
Distance to nearest supermarket	99	5.84	12.72	0	86
Foreign-owned	99	.26	.44	0	1
Membership of association	98	.54	.50	0	1
Years of operations	99	14.58	10.80	0	57
CEO's years of experience	97	18.55	9.61	1	50
Improved production machinery	99	.76	.43	0	1
Supply	99	.49	.50	0	1

Source: authors' compilation.

Table 3 below depicts the regression results and shows the determinants of local suppliers' participation in supermarket value chains. The number of observations is reduced to 74. This represents the total number of observations in the data set for which all of the response and predictor variables are non-missing. Robust standard errors are obtained to increase the validity of the coefficients. The results show that only two of the explanatory variables, namely barcodes and investment in machinery, are statistically different from 0 at 5% significance level and have positive coefficients. Based on this result, we can conclude that local firms that have barcodes for products they supply or would like to supply to supermarkets are more likely to supply supermarkets. Similarly, firms that have invested in new production machinery stand a higher chance of supplying supermarkets.

Table 3: Determinants of local suppliers' participation in supermarket value chains

Variable	Coefficient	Robust Std Err.	Z	p value
Constant	-1.966953	1.244205	-1.58	0.114
Turnover	.0014183	.0869493	0.02	0.987
Possession of a barcode	1.671103	.3844063	4.35	0.000**
Improved packaging	-.3833772	.3736645	-1.03	0.305
Accredited to ZABS	-.1377651	.4276549	-0.32	0.747
Distance to nearest supermarket	-.0247078	.0149043	-1.66	0.097***
Foreign ownership	-.0359864	.3824747	-0.09	0.925
Membership of association	.12736	.4105323	0.31	0.756
Number of years of operations	.0073323	.0180596	0.41	0.685
CEO's years of experience	-.0144431	.0179568	-0.80	0.421
Investment in machinery	1.029162	.4841402	2.13	0.034**

\sNumber of observations = 74

Wald chi-square (10) = 31.22

Prob. > chi square = 0.0005

Pseudo R-square = 0.3482

** 5% significance level

*** 10% significance level

Source: authors' compilation.

At 10% significance level, the variable distance to the nearest supermarket is significant with a negative coefficient, in line with economic theory. At this statistical level of significance, we can conclude that the further a firm is from the nearest supermarket, the lower its probability of supplying supermarkets. Counter-intuitively, we find that firm characteristics such as firm size, foreign ownership, number of years of operation, and number of years of CEO experience do not influence participation in supermarket value chains. Equally, key factors that influence supermarkets' procurement decisions, such as packaging, are statistically insignificant. Accreditation from ZABS and membership of an association also do not seem to affect participation in supermarket value chains. It is worth noting that it is probable that the sample size accounts for these counter-intuitive results.

The Wald chi-square of 31.55 with the associated p value of 0.0005 leads us to conclude that at least one of the predictors' regression coefficients in the model is not equal to 0. This tells us that our model as a whole is statistically significant and fits significantly better than a model with no predictors.

7 Qualitative findings on supermarkets

The following discussion is premised on key informant interviews in major supermarkets in Zambia, ZABS, and the Ministry of Commerce Trade and Industry. One of the caveats associated with the following discussion is that three interview guides obtained from major supermarkets were incomplete, largely as a result of failure to secure follow-up interviews with these supermarkets. Notably, one of the supermarkets went into rehabilitation and consequently ceased its operations. As a result, most of the discussion regarding supermarkets pertains to only two supermarkets, which are nonetheless dominant in the industry and thus provide a basis for gauging the sentiments of supermarkets.

7.1 What products offer opportunities for increased local production?

The most dynamic products, in terms of fast-moving goods sold by supermarkets (measured by volume of sales), include fresh milk, maize meal, corned meat, cooking oil, and detergent paste. These products are limited to the categories of processed foods and selected household products of interest, listed in section 5.2 above (Table 4 below shows the top three products sold by supermarkets). Canned products are among the products that offer domestic firms the best opportunities for increased local production, due to the low local production of canned products. Over the years, the market source of canned foods has remained from abroad, particularly South Africa. The dominance of canned foods from this market points to opportunities for import substitution by domestic firms.

Table 4: Top three products sold by supermarkets for each product category (by sales volume)

Dairy	Processed grains	Processed foods	Edible oils	Household products
Fresh milk	Maize meal	Baked beans	Cooking oil	Detergent paste
Lacto	Bread	Corned meat	Margarine butter	Bathing soaps
Yoghurts	Rice	Honey	Olive oil	Dish washing soaps

Source: authors' compilation.

Notably, supermarkets' procurement of locally produced dairy, processed grains and foods, edible oils, and household products has increased over the last five years. These are products where local production already exists and is growing. Availability and government intervention are among the factors that have propelled the increased procurement of these products. For instance, the ban on the import of maize and wheat has implied that maize (mealie) meal is wholly sourced locally. Because maize-based mealie meal remains the staple food for Zambia, and owing to the high prices of maize meal in the domestic market and the high demand and prices in regional markets, opportunities exist for increased production that could lead to increased supply, and consequently to lower prices and increased exports to countries in the region.

Although edible oil, specifically olive oil, is reportedly among the products highly demanded by consumers, it does not offer many opportunities for import substitution for domestic firms, due to the unsuitability of the climate to growing olives for its production. Nonetheless, opportunities abound in the production of other forms of edible oil, such as sunflower and vegetable oils and margarine butter. Household consumables such as detergents, bathing soaps and other cleaning agents, while produced by a few firms, also provide opportunities for increased local production. Currently, there is only one dominant local firm in Zambia providing a broad range of household products to supermarkets, with the rest being procured largely from abroad.

7.2 Structural barriers to entry

Unequivocally, supermarkets demand adherence to all Zambian legal standards, such as those stipulated by ZABS, the Zambia Environmental Management Agency, the Medicines Act, and the Sale of Goods Act, by domestic firms to ensure public health protection and safety, consumer protection, and environmental safety. But these legal requirements in themselves present regulatory barriers to entry for local suppliers.

ZABS is one of the key regulatory institutions responsible for promoting product quality assurance, setting Zambian standards and promoting their use. ZABS is guided by the Standards (Amendment) Act, Cap. 416 of 1997, which sets out standards of quality control for certain commodities, conditions under which manufactured goods can be supplied, guidelines for the promotion of commodities, and guidelines about dangerous or defective commodities. Standards developed in the Act include both voluntary and mandatory standards. While ZABS does not have a mandate to enforce voluntary standards, in order to ensure public safety, health, and environmental protection, ZABS seeks to ensure that all the legal mandatory requirements set by the government are adhered to by firms. As of December 2015, there was a total of 50 products for which ZABS required firms to hold a mandatory permit to supply supermarkets.

ZABS provides two types of accreditation: permit to supply and certification. A permit to supply is required for all mandatory products, whereas certification is a voluntary accreditation that can be used to add a quality mark to any product to signal to consumers that it meets the standards set by ZABS. To

acquire a permit to supply for the first time, a company has to be inspected four times within one year. These four inspections comprise an initial inspection followed by three surveillance inspections. A fifth inspection is made the following year to renew the accreditation. For a firm to acquire certification, ZABS has to carry out two intensive inspections. The acquisition of these accreditations presents additional costs for firms, who have to pay inspection fees in order to be inspected by ZABS. These costs are based on the firm's production capacity, and although they may be relative, the process and additional paperwork involved impose regulatory barriers to entry.

In the same way, the quality of domestic regulatory standards could potentially impose barriers to entry into export markets. A notable challenge that may affect the export competitiveness of firms in Zambia is the disparity between ZABS standards and international standards. ZABS states that it sets the minimum acceptable international standards to accommodate many local firms who cannot meet more stringent international standards. While these national standards are adjusted to fit the local context, the adjustment makes products from Zambia less competitive, and is likely to negatively affect export demand if the products do not comply with international standards.

For instance, the Hazard Analysis and Critical Control Point (HACCP) is an internationally recognized system for reducing the risk of safety hazards in food. The HACCP system requires that potential hazards are identified and controlled at specific points in the process, including biological, chemical, and physical hazards (FAO 1997). A firm that is involved in the manufacture, processing, or handling of food products can use HACCP to minimize or eliminate food safety hazards in its products. Growing consumer awareness of food-borne illness is said to be driving the use of HACCP and HACCP-based certification programmes among firms. As a result of this growing awareness and usage, consumers in external markets are likely to demand products that are produced under a HACCP system, as this confers greater confidence in product quality and safety. However, while the system is fully operational in Zambia, it is costly and voluntary, and is mostly implemented by large companies that can meet those costs. Since domestic firms have to meet the standards set in their export destination of interest, in order to promote export growth and competitiveness it is imperative that all Zambian products meet international standards such as HACCP. Failure to do so is likely affect the export competitiveness of firms.

7.3 Strategic barriers to entry

Supermarkets' procurement strategies

Typically, at the establishment of supermarkets, the proportion of imported processed goods outweighs the proportion of locally sourced goods. Emongor and Kirsten (2009) observed that about 80% of processed food stocks in supermarkets operating in Zambia were estimated to be imports from South Africa—the domicile country of most supermarkets. This strategy tends to exclude many local processing firms from entering supermarket value chains during the inception and early years of foreign supermarkets. Over time, however, a shift towards the increased procurement of goods produced in the country of operation is expected.

Supermarkets have increasingly gravitated towards local procurement, and this shift has increasingly been observed in the procurement strategies of most supermarkets in Zambia. Roughly 20–78% of various product lines on supermarket shelves are now locally sourced, according to interviews conducted with the supermarkets. At product level, dairy products, processed grains and foods, edible oils, and selected household consumables are predominantly being sourced locally, with the exception of products that are not available domestically. Maize meal is almost exclusively procured locally. This development suggests increasing participation of local suppliers in supermarket value chains, although it has not been established whether the increase stems from an increase in the number of local firms supplying supermarkets or from increased sales by existing supermarket suppliers. The latter would explain why local suppliers' participation in supermarket value chains in Zambia is considered to still be limited.

Among the challenges local suppliers could be facing in integrating into supermarket value chains is the level at which procurement decisions are made. Store managers do not have discretion to select local suppliers for corporate stores. This is almost exclusively the decision of top management at head office, often with inputs from the group head office. This presents some entry barriers, particularly for local suppliers operating in locations where the head office corporate store is not located. In contrast, supermarkets operating as franchises have more flexibility with regard to making decisions about which firms should supply their store. This suggests that it is relatively easier to enter the supermarket value chains of franchise stores compared with those of corporate stores.

Supermarkets' procurement criteria: exclusionary barriers?

In addition to adhering to all the legal requirements stipulated by ZABS and other regulatory institutions, supermarkets more often than not impose additional, private standards not mandated by law that domestic firms are expected to meet in order to be able to supply them. These additional criteria may further exclude some domestic firms from supplying supermarkets.

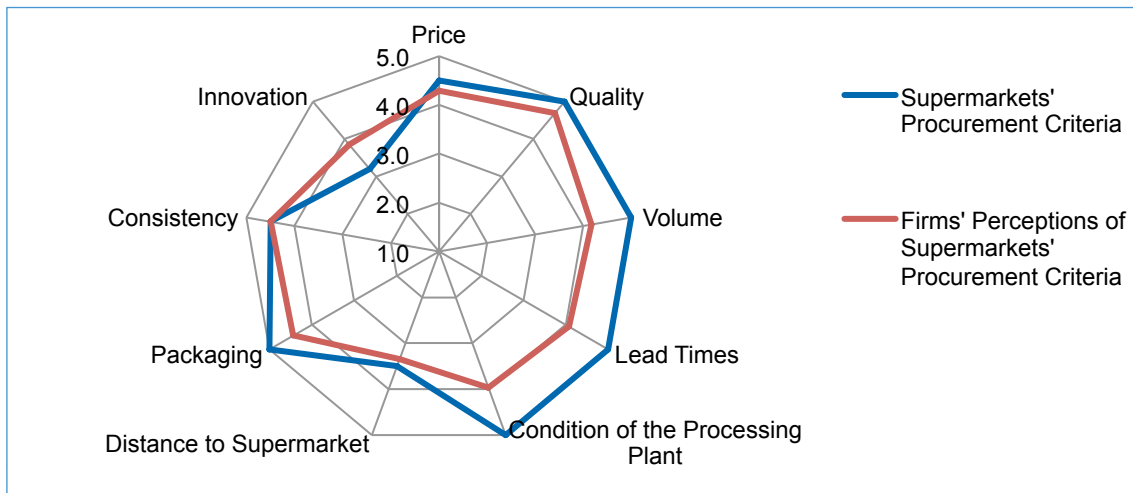
Additional demands made by supermarkets include: possession of barcodes for goods supplied, for inventory and sales records purposes; allocation of a marketing budget for the promotion of the firm's goods; hire of merchandisers to staff the firm's shelf space in the store; arrangement of the firm's own transport logistics when supplying goods; and for some supermarkets, the ability to supply a certain minimum number of stores in the country. Notably, the last condition is not extended to firms producing niche products. These demands impose additional costs on local firms, as they require additional capital injections in order to be fulfilled. This tends to act as a barrier to entry for local firms, particularly for small firms that are more financially constrained. Other private standards crucial for supermarkets include the ability of firms to supply products consistently; the ability of firms to meet predetermined delivery timelines throughout the year; and the quality and attractiveness of the packaging of the products. The latter is particularly important for ensuring customer satisfaction and attracting and retaining customer loyalty, and is thus a critical criterion for supplying supermarkets.

Asymmetry in perceptions of supermarkets' procurement criteria

A divergence exists between the importance supermarkets attach to a number of factors that determine their procurement decisions and their perception of the capabilities of local firms to meet these factors. Overall, supermarkets demand higher standards than those met by local firms. This is evidenced in Figures 15–18.

Using a scale of 1 to 5, where 1 is ranked not important at all and 5 is ranked extremely important, supermarkets self-ranked the importance of price, quality, volumes, lead times, distance to supermarket, the condition of the firm's processing plant, consistency, packaging, and innovation in influencing their decision to procure dairy, processed grains and foods, edible oils, and household products (Figure 15). To triangulate this result, local firms were also asked to give their perception of the importance supermarkets attach to the said factors in procurement decisions. This was done in order to assess and corroborate the perceptions of local firms.

Figure 15: Supermarkets' procurement criteria versus firms' perceptions

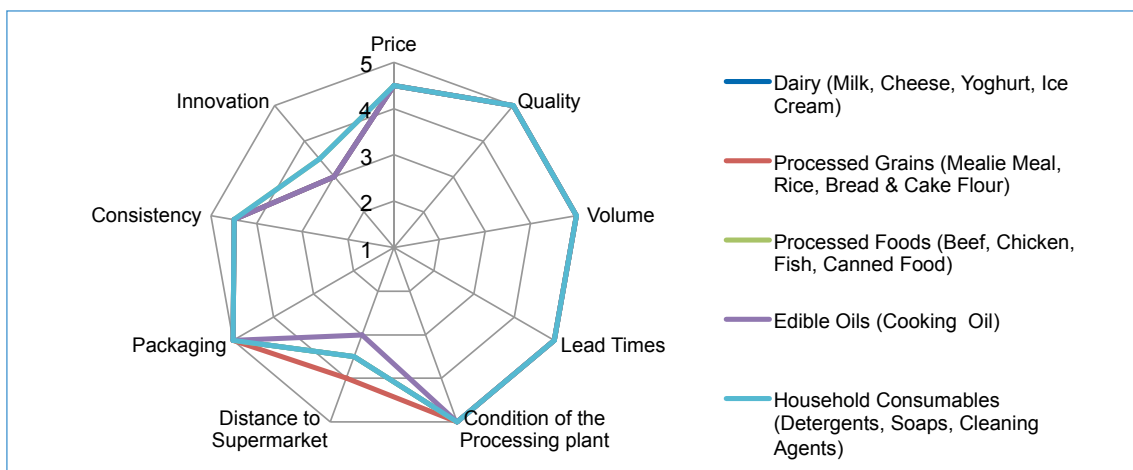


Source: authors' survey data.

On average, supermarkets attach extreme importance to quality, volume, lead times, the condition of the processing plant, and packaging compared with the perceptions of domestic firms. On price and distance to market, supermarkets view these factors to be slightly more important than local firms believe. Innovation is not as highly considered by supermarkets as by local firms. It is only on one factor – consistency – on which local suppliers' perceptions of the importance supermarkets attach to it are actually on a par with the views of supermarkets themselves.

At product level, on average supermarkets attach the utmost importance to quality, volume supplied, lead times, packaging, and condition of the processing plant for dairy, processed grains and foods, edible oils, and household consumables (Figure 16). The ability of firms to supply consistently, as well as their pricing of goods supplied, is also a decisive factor for all products, albeit to a lesser extent. Innovation and the distance of the firm from supermarkets, while important, are not crucial factors, especially for edible oils.

Figure 16: Supermarkets' procurement criteria by product category



Scale: 5 = extremely important, 1 = not important at all

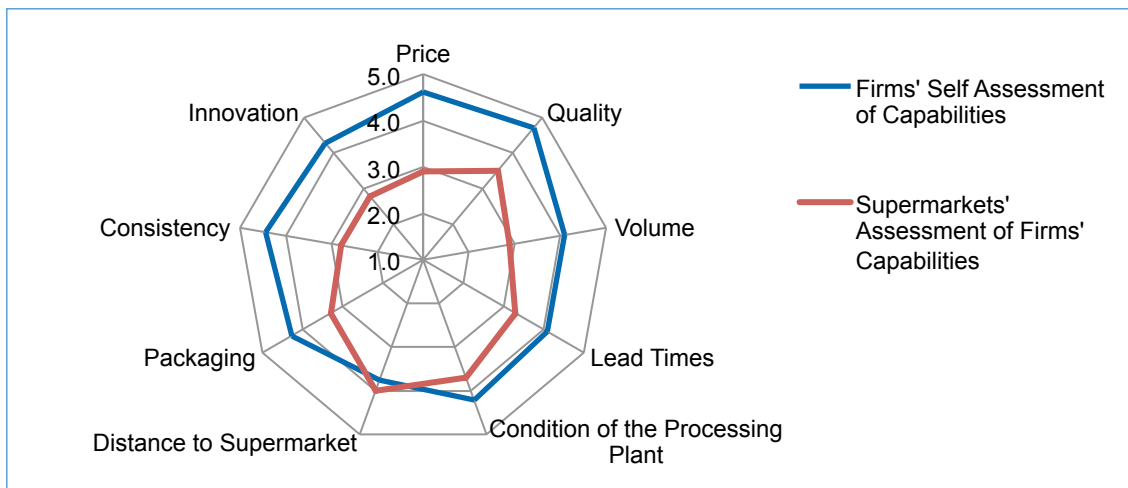
Source: authors' survey data.

Asymmetry in perceptions of firms' capabilities

In the same vein, the capabilities of local processing firms were assessed by supermarkets using a 1–5 point scale to gauge the competitiveness of domestic firms in meeting the nine factors that

influence the procurement decisions of supermarkets. This was corroborated with local firms' own perceptions of their competitiveness to assess and validate local firms' perceptions. Figure 17 depicts supermarkets' average perception of the capabilities of domestic firms collectively versus local firms' average perception. Overall, local firms rank themselves as highly competitive on all but one factor—distance to supermarkets—compared with supermarkets' ranking of their competitiveness. In contrast, supermarkets viewed local firms as average with regard to competition on all factors with the exception of distance to supermarkets, where domestic firms were viewed as very competitive.

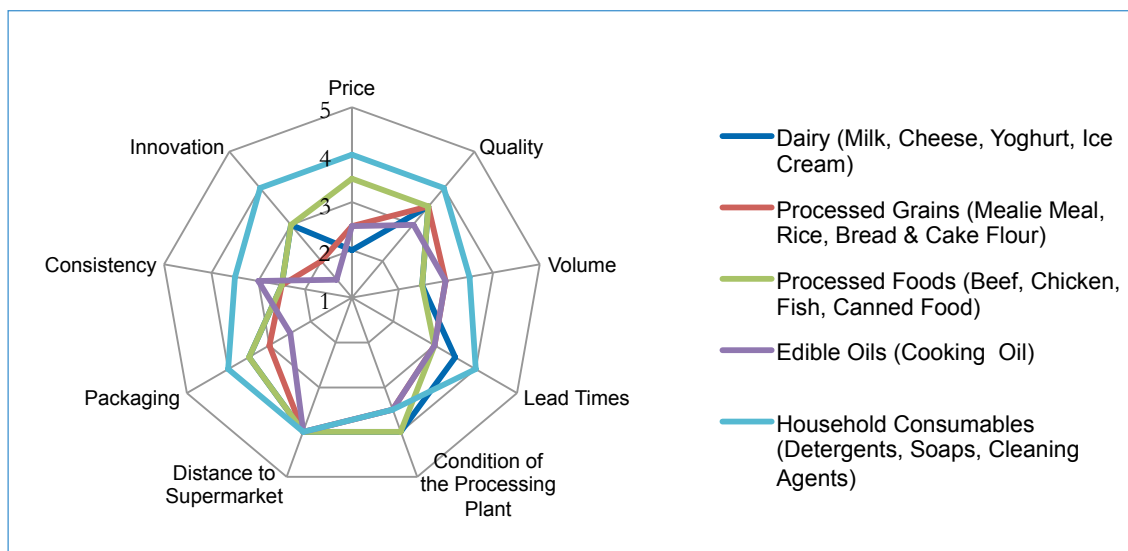
Figure 17: Overall supermarkets' perception of firms' competitiveness versus firms' perception of their own competitiveness



Scale: 5 = extremely important, 1 = not important at all

Source: authors' survey data.

Figure 18: Supermarkets' perception of local suppliers' capabilities by product category



Scale: 5 = extremely important, 1 = not important at all

Source: author's survey data.

At product level (Figure 18), on average local suppliers are considered to be very competitive on price, quality, lead times, packaging, innovation, and distance to supermarkets for household consumables. This is largely attributed to the strong supply capabilities of the dominant producer of household consumable products in Zambia. In addition, domestic firms are perceived to be slightly competitive on price, quality, lead times, packaging, and the condition of processing plants for processed meat,

poultry, and other foods. However, they are considered less competitive on price for dairy products, edible oils, and processed grains. Similarly, domestic firms manufacturing edible oils and processed grains are considered not to be very innovative. Notably, none of the firms is perceived to be extremely competitive on any of the factors for any product of interest.

Supermarket supply contract conditions: benefit or constraint?

Typically, supermarkets enter into formal written contracts with local suppliers, which are inherently more binding than informal contracts and offer guaranteed market access for local products. Formal contracts ensure lower transactional costs than informal contracts, as the former provide firms with full information on the terms and conditions of supply, such as volumes to supply and lead times. This aids firms' production planning. On the other hand, the payments terms offered by supermarkets can be quite problematic, particularly for micro, small, and medium enterprises. In contrast to the spot payments made in traditional markets, on average supermarkets pay suppliers 30–45 days from the date of supply for processed goods. This longer payment period presents cash flow challenges, especially for smaller processing firms, and potentially deters entry into supermarket value chains.

Competition from growing vertical integration of supermarkets

The growing production of supermarkets' own label brands presents rivalry with locally produced goods. Over the years, supermarkets have ventured into the production, distribution, and retail of various products, such as processed foods and household products, under their own supermarket brands. These products are manufactured by firms in various countries. While a few of the products are manufactured locally, the bulk is made in South Africa and other countries. The extension of the functions of supermarkets to include production, distribution, and marketing, while conferring efficiency on supermarkets, creates vertical integration linkages that have the potential to exclude goods produced by domestic firms. Because the goods are produced by supermarket stores' manufacturing firms, market access to supermarket stores is guaranteed for these supermarket private brands. Furthermore, to promote their own manufactured products, supermarkets have an incentive to raise barriers to entry for locally produced goods. This can be achieved by imposing more stringent requirements for supply.

A silver lining to the development of supermarket private brands is the opportunity for the manufacture of these products domestically. Domestic firms can be contracted by supermarkets to produce and supply private branded goods on behalf of supermarkets. While this precludes local manufacturing firms from developing their own market brands, it could provide a stimulus for industrial production.

8 Conclusion and policy recommendations

8.1 Conclusion

The proliferation of supermarket chains stores in Zambia has the potential to confer greater benefits than the mere provision of various goods and services. While Zambian consumers now enjoy increased consumer choice and the availability of an assortment of products, greater benefits can be extended to the revitalization of the country's manufacturing industry. Supermarkets provide one avenue through which industrial production can be stimulated with the participation of local processing firms in their value chains. The supply of supermarkets offers potential to boost manufacturing growth in Zambia, which over the past two decades has averaged real growth of 4.8% per annum and has contributed an average of 9.1% per annum to GDP. Supermarkets can also aid the broadening of Zambia's export base to counter the risks associated with dependence on metal commodities, which are susceptible to international price shocks. In addition to being a stimulus for industrial development, the presence of supermarkets can also lead to knock-on effects for employment creation that can offer citizens a reprieve from poverty.

The growing demand for processed products within regional markets provides export growth opportunities for Zambia. In particular, potential major export markets for Zambia include the DRC, Zimbabwe, Malawi, and South Africa, where Zambia already has a footprint. These countries account for the greatest market share of Zambia's exports of processed goods. Nonetheless, contra-import data for these countries shows that Zambia's current market share of imports of selected processed foods and household products by these countries is very negligible for most product lines. This suggests scope for increased exports to these and other regional countries that can substitute for deep-sea imports made by these countries. It is thus imperative for Zambia to exploit the opportunities for industrial development obtainable from the presence of supermarket stores in the country through the integration of local processing firms into supermarket value chains. However, the participation of local processing firms is constrained by a number of factors, such as supermarkets' procurement strategies, supply contract conditions, private standards, and the vertical integration of supermarkets, which pose either strategic or exclusionary barriers to entry.

Furthermore, access to adequate finance for investment in equipment and other assets is another challenge faced by firms. For instance, investment in machinery is one of the factors likely to influence domestic firms' participation in supermarket value chains. Having the requisite capital is therefore essential if firms are to expand and acquire better machinery and technology to improve their packaging, product quality, and production capacity and efficiencies. This is also crucial for export growth. Equally important for enhancing domestic firms' capabilities is access to adequate infrastructure such as electricity. For these reasons, unlocking Zambia's full potential for industrial growth, employment creation, and export growth requires calculated measures and strategies that will address constraints to industrialization and export growth and will grow the supply capabilities of domestic firms.

8.2 Policy recommendations

In order to encourage FDI, the government needs to strike a balance, providing an enabling business environment that is free from government interference while at the same time promoting the growth and development of local processing firms. The following policy recommendations aim to strike this balance.

Short-term policy recommendations

Introduction of a local content policy: In the current supermarket value chain, local firms, particularly small firms, have little or no bargaining power, and are at the mercy of supermarket chains that exert a lot of control and influence. The government needs to facilitate local firms' entry into supermarkets' value chains. This can be achieved by introducing a local content policy that requires supermarkets to allocate a quota of supermarkets' procurement of goods to local processed goods. The development of such a policy will require the participation of both the government and supermarkets in order to collectively agree on the proportion to be allocated, the product quality, and the assessment of local capacity. This will ensure that such a policy is embraced by all stakeholders and meets with no resistance from supermarkets. A survey by Africa Practice and Pinsent Masons (2014) shows that a regulatory system that offered fiscal incentives for compliance with local content requirements would be the most effective way of encouraging local content.

Harmonization of ZABS standards with those in regional markets: The standards governing the quality, packaging, and safety of Zambian products to a large extent affect the competitiveness of these products, and consequently the ability of local firms to supply supermarkets as well as regional markets. Currently ZABS sets the barest international minimum standards in order to accommodate the profile of domestic firms in Zambia, which cannot afford to meet higher standards. However, this implies that Zambian products become less competitive compared with rival imported products, because the standards are often not recognized in some regional markets. Over time, ZABS should gradually enhance the mandatory standards for processed goods to bring them up to par with international standards in the region and other advanced standards such as the HACCP. This will increase the competitiveness of Zambian products and ease entry not only into supermarket value chains but into

regional export markets as well.

Voluntary code of conduct between supermarkets and local suppliers: A voluntary code of conduct between supermarkets and suppliers could help promote and manage a supermarket-supplier relationship that allows learning and knowledge transfer. Such a relationship would facilitate discussions to address critical issues faced by firms such as the long payment period for goods supplied, the buyer power exerted by supermarkets, and the information asymmetry regarding the critical factors that influence supermarkets' procurement decisions.

Supermarket regional procurement strategy: The presence of South African supermarket chains in Zambia and the region as a whole could potentially offer domestic firms routes into regional markets for processed products. For instance, Zambian grapes are currently being sold through Shoprite in South Africa. Entry into regional markets could be facilitated through a regional procurement strategy that would facilitate the entry of local processed goods supplied in Zambian supermarkets into other subsidiary supermarkets in the region. This would entail supermarkets developing a deliberate policy aimed at promoting the sale of products successfully sold in Zambia in other countries where their supermarkets are operating. To capitalize on such an opportunity, local suppliers can leverage South African trucks, which supply products to supermarkets in Zambia but return empty. These trucks could offer domestic firms a cheaper and easier mode of transporting quality Zambian products into South Africa and beyond.

Medium- to long-term policy recommendations

Access to finance: Access to finance is one of the major constraints faced by both suppliers and non-suppliers that hinder the acquisition and enhancement of the technology and production techniques required to develop supplier capabilities. Particular challenges faced by firms include high interest rates and the collateral demanded by commercial banks. The financial constraints are exacerbated by the lack of a viable and dynamic financial market that is able to accommodate the risks of micro, medium, and small enterprises or that offers a range of financial products tailored to the needs of such enterprises. The provision of affordable and adequate finance to local suppliers would allow them to acquire machinery and invest in technological knowhow for the manufacture of sufficient volumes of timely, consistent, innovative, competitive, quality, well-packaged products. It is therefore imperative for the government to improve the policy and regulatory environment in order to strengthen financial institutions such as micro-finance institutions, as well as to encourage cooperatives for greater competition and cheaper finance. The establishment of venture capital finance with contributions from the government and private sector should also be encouraged with the aim of building local capacity. Financial players can also be motivated to further improve access to finance by offering products such as factoring schemes where supermarkets act as guarantors for suppliers to the bank.

Promotion of import substitution for dynamic products: Zambia has a high propensity for consuming imported finished consumer goods. Trade data shows that more than half of Zambia's imports of the categories of manufactured products that offer the greatest potential for increased industrial production in Zambia are imported from South Africa. The country's comparative advantage in the production of agricultural produce that serves as raw materials for processed foods suggests potential for increased high value addition agro-processing activities. However, the country's proclivity for imports, while offering more choice to consumers, denies Zambia the opportunity for increased industrialization and the associated knock-on effects for employment creation and economic growth. In order to promote the competitiveness of local products and stimulate increased local production, the government should impose surcharges on those imported products that offer the most potential for local production.

Expedition of trade facilitation measures: To grow exports, the government needs to expedite measures aimed at addressing trade barriers by simplifying and easing border procedures. The processing of export documents should also be made easier and faster by creating a one-stop office where all export documents can be obtained. The government should also require clearly defined permits for all products. Furthermore, there is a need to improve the road infrastructure and provide access to markets such as

Angola, which is currently inaccessible. The government should also ensure the security and safety of exports to markets such as the DRC by developing a better banking system between the two countries. Lastly, there is a need for policy consistency on export bans and to facilitate market access through engagement with embassies, trade shows, etc.

Establishment of a supplier development fund: The lack of skills remains one of the major constraints faced by most domestic firms that hinder the development of supplier capabilities and consequently limit participation in supermarket value chains. The establishment of a supplier development fund financed by supermarkets could empower local Zambian suppliers to build capacities and capabilities that would enable them to fully participate in supermarket supply chains. This initiative was implemented in South Africa by Massmart-Walmart, who established a R240 million supplier development fund to assist the development of South African suppliers, particularly small and medium enterprises that are black-owned, black-empowered, or local manufacturers of products (Massmart 2013). The overall objective of the supplier development fund was to assist Massmart's existing and new suppliers to enhance the quality of their products, thereby improving their procurement and supply chain. Such a fund in Zambia would equally help local firms to improve the quality of their products; assist them to expand their existing and potential production capacity; potentially reduce firms' input costs; enable supermarkets to increase and diversify their local sourcing capacity; provide a guaranteed route to market for local products of good quality; establish and build long-term, effective supplier partnerships between domestic firms and supermarkets; and increase the participation of micro, small, and medium enterprises that are more constrained but have the potential to grow and supply supermarkets. Such a fund would be of equal benefit to supermarkets. Increased local sourcing by supermarkets would mitigate the currency risk exposure arising from the volatility of the Zambian kwacha in particular. Furthermore, it would reduce cross-border transport costs and other border procedure-related costs. In addition, such support to local firms would enhance the goodwill of supermarkets.

References

- Africa Practice and Pinsent Masons (2014). 'Africanisation: Local Content and the Evolving Investment Reality'. Available at: www.africapractice.com/wp-content/uploads/2014/03/Africanisation-The-Africa-Sessions-Q1-2014.pdf (accessed 10 March 2017).
- Altenburg, T., E. Kulke, A. Hampel-Milagrosa, L. Peterskovsky, and C. Reeg (2016). 'Making Retail Modernisation in Developing Countries Inclusive: A Development Policy Perspective'. Discussion Paper 2/2016. Bonn: German Development Institute.
- Barrientos, S., G. Gereffi, and A. Rossi (2011). 'Economic and Social Upgrading in Global Production Networks: A New Paradigm for a Changing World'. *International Labour Review*, 150(3–4): 319–40.
- Berdegue, J.A., F. Balsevich, L. Flores, and T. Reardon (2005). 'Central American Supermarkets' Private Standards of Quality and Safety in the Procurement of Fresh Fruits and Vegetables'. *Food Policy*, 30: 254–69.
- BOZ (2015). 'Balance of Payments Statistical Tables'. October edition. Lusaka: Bank of Zambia.
- Cattaneo, O. (2013). 'Aid for Trade and Value Chains in Agrifood'. Geneva: World Trade Organization.
- CSO (2012). 'Living Conditions Monitoring Survey Report 2006 and 2010'. Lusaka: Central Statistical Office.
- CSO (2015). '2014 Labour Force Survey'. Lusaka: Central Statistical Office.
- CSO (2016). 'Monthly Bulletin'. April edition. Lusaka: Central Statistical Office.
- Dakora, E., and A. Bytheway (2014). 'Entry Mode Issues in the Internationalisation of South African Retailing'. *Mediterranean Journal of Social Sciences*, 5(4): 194–205.
- Dinh, H., P. Kumar, A. Morris, F. Yagc, and K. Fitzgerald (2013). 'Light Manufacturing in Zambia: Job Creation and Prosperity in a Resource-Based Economy'. Washington, DC: World Bank.
- Emongor, R.A., and J.F. Kirsten (2006). 'Supermarkets in the Food Supply System in Southern African Community Development: A Case Study of Zambia'. *Journal of Applied Sciences*, 6: 800–9.
- Emongor, R.A., and J.F. Kirsten (2008). 'The Determinants and Impact of Smallholder Farmers' Participation in the Supermarkets Fresh Fruit and Vegetables Supply Chain in Southern African Development Community: A Case Study of Zambia'. Discussion paper. Kikuyu: Kenya Agricultural Research Institute.
- Emongor, R.A., and J.F. Kirsten (2009). 'Supermarket Expansion in Developing Countries and Their Role in Development: Experiences from the Southern African Development Community (SADC)'. *Agrekon*, 48(1): 60–84.
- FAO (1997). 'Hazard Analysis and Critical Control Point (HACCP) System and Guidelines for its Application'. Annex to CAC/RCP 1-1969, Rev. 3. FAO Corporate Document Repository. Rome: FAO.
- Haantuba, H., and J.D. Graaf (2003). 'Linkages Between Smallholder Farmers and Supermarkets: Lessons from Zambia'. In E.B. McCullough, P.L. Pingali, and K.G. Stamoulis (eds), *Transformation of Agri-food Systems: Globalization, Supply Chains and Small-Scale Farmers*. Rome: FAO.
- Hallam, D., P. Liu, G. Lavers, P. Pilkauskas, G. Rapsomanikis, and J. Claro (2004). 'The Market for Non-Traditional Agricultural Exports'. Commodities and Trade Technical Paper. Rome: FAO.
- ILO (2006). 'A Rough Guide to Value Chain Development'. Geneva: ILO.
- Massmart (2013). 'Massmart Supplier Development Fund'. Available at: www.massmart.co.za/iar2013/summary-relating-to-the-supplier-development-fund/ (accessed 20 April 2016).
- Ram, R. (2010). 'Formal versus Informal Markets'. Available at: dapa.ciat.cgiar.org/formal-versus-

[informal-markets/](#) (accessed 21 January 2016).

Reardon, T. (2006), 'The Rapid Rise of Supermarkets and the Use of Private Standards in their Food Product Procurement Systems in Developing Countries'. In R. Ruben, M. Slingerland, and H. Nijhoff (eds), *Agrofood Chains and Networks for Development*. Dordrecht: Springer.

Reardon, T., S. Henson, and J. Berdegú (2007). 'Proactive Fast Tracking Diffusion of Supermarkets in Developing Countries: Implications for Market Institutions and Trade'. *Journal of Economic Geography*, 7(4): 399–431.

Reardon, T., and D. Neven (2004). 'The Rise of Kenyan Supermarkets and the Evolution of their Horticulture Product Procurement Systems'. *Development Policy Review*, 22: 669–99.

van Otten, G., and D. Bellafiore (no date). 'Critical Geospatial Thinking and Applications: Alfred Weber's Basic Industrial Location Model'. Available at: www.e-education.psu.edu/geog597i_02/node/787 (accessed 17 December 2016).

Weatherspoon, D.D., and T. Reardon (2003). 'The Rise of Supermarkets in Africa: Implications for Agrifood Systems and the Rural Poor'. *Development Policy Review*, 21(3): 333–55.

World Bank (2015). 'World Integrated Trade Solution'. Available at: wits.worldbank.org/Default.aspx?lang=en (accessed 17 December 2015).



Zambia Institute for Policy Analysis and Research (ZIPAR)

P.O. Box 50782, Lusaka, Zambia
CSO Annex Building
Corner of John Mbita and Nationalist Road, Lusaka
Phone: +260 211 252559
Fax: +260 211 252566
Email: info@zipar.org.zm
Website: www.zipar.org.zm
www.facebook.com/OfficialZIPAR
Twitter: @ZiparInfo