Research Article

Analysis of Emerging Markets and Resilience: A Study of Zambian Food Market

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About Article

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ABSTRACT

This study investigates how labor and input costs affect pricing, profits, and resilience in Zambia's food retail stores. Escalating production costs—worsened by currency depreciation and a reliance on imports—have led to significant price hikes, exacerbating food insecurity among poor families. Using Cost-Plus Pricing and Resilience theories, the research finds that while larger retailers counteract cost pressures with diverse supply strategies and price controls, smaller retailers are overwhelmed by rising operational expenses and limited resources. The study concludes with policy recommendations including labor cost subsidies, investments in industry-specific infrastructure, regulatory reforms, and the promotion of local supply chain collaborations.

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1. INTRODUCTION

1.1. Background

Rising production costs (labour and inputs) have a large impact on food market prices and stability, particularly in developing countries, e.g. Zambia, in Africa. For example, in Zambia, reporting showed rising input costs for fertilisers and agriculture-based goods among others due to the devaluation of the currency and over reliance on imports (Mwansa & Chileshe, 2022). Low-income families are also experiencing increasing food insecurity, particularly due to the rise in staple prices, such as maize. Additionally, the migration of the workforce to urban locations from rural areas in Zambia has created a constrained labor market, which may lead to higher labor expenses that could become challenging for agricultural producers and food sellers (AfDB, 2022).

Restrained business environment because of poor infrastructure and regulatory bottlenecks contributes to increased cost and overstay of the market for Zambia's food retail industry (Dawson et al., 2019). This is why the likes of Shoprite, are adopting adaptive pricing and supply chain strategies to help them mitigate those challenges. On the other hand, the majority of small retailers, with limited resources, struggle to survive and show significant differences in the market (Chanda & Mbewe, 2021). Noting the importance of the sector, there is a paucity of comprehensive studies investigating the interaction between production costs, regulatory factors, and market resilience in the landscape of food retailing in Zambia (Banda & Simuchile 2021).

This study applies Cost-Plus Pricing Theory (Eilon, 1962) and Resilience Theory (Folke, 2016) to examine pricing, profitability and market resilience that are based on labor and input expenditure. It even considers how barriers to infrastructure and regulation define Zambia's food retail competitive landscape. This study fills these gaps in knowledge by providing useful insights that can help guide policy and practice action that will bolster the resilience of Zambia's food markets and sustain food prices in the face of the economy

1.2. Statement of the problem

With labor and material costs on the rise, the production costs of food in Zambia's food market are on the tragic increase, a situation fraught with consequences for economic stability and the ability to afford food. Domestic farming inputs, predominantly used in Zambia, and the incessantly falling value of that nation's currency over the last ten years have accordingly had a substantial impact on the cost of farming in the country (Mwansa & Chileshe, 2022). These pressures have driven stores to raise prices on basic goods, to the detriment of the 60 percent of the population that lives in poverty. Households with limited income are increasingly vulnerable as economic strain spreads across supply chains.

While big retailers such as Shoprite have adopted flexible strategies — from widening supplier networks to tightening budgets — they can afford to take a hit; the small businesses often cannot. This has led to higher costs and lower profit margin for local suppliers. In this regard, and compounded by the fact that Zambia has poor infrastructure compounded by inefficient transport networks, and frequent utilities problems,

high distribution costs and destroyed market efficiencies constitute further challenges (UNECA, 2019)

At the same time, complex and restrictive regulations create even more hurdles and disproportionately disadvantage small businesses (Brown et al., 2018).

Yet out of this urgency, few studies have examined how labor and material costs inform pricing decisions or profitability in Zambian local food-retailing. Indeed, there has been less focus on the manner in which infrastructure gaps and policy frameworks can influence the adaptability of markets. Our analysis here serves to link these gaps together by investigating how production costs, regulatory conditions, and pricing dynamics together determine retailer sustainability and economic resilience. The findings are intended to help inform policies that would stabilize food prices and make Zambia's agriculture sector more resilient to continued shocks.

1.3. General objective of the study

To evaluate the effects of production costs on food pricing and profitability in Zambia's food market, we analyzed the influence of the business environment on market efficiency and economic resilience.

1.3.1. Specific Objectives of the study

    i. To analyze effects of cost of production (labour and input cost) on pricing

    ii. Analyze the profitability of food markets and economic resilience.

    iii. To assess effects of business environment factors on food market and profitability

1.4. Theoretical framework

Using two conceptual lenses—Cost-Plus Pricing and Resilience Theory—the research interrogates the relationships among the costs of production, pricing strategies, and adaptive capabilities in Zambia's food retail sector.

According to Theory of Cost-Plus Pricing, companies establish prices at a gross material cost+margin basis (Eilon, 1962). In Zambia, volatile exchange rates play a pivotal role in input costs for imported fertilizers and cooking oil, as such retailers are forced to adjust pricing on a regular basis to protect margins. Bigger retailers use the benefits of buying in bulk to extract lower, less volatile costs and hence more stable consumer prices. Smaller firms do not have this capability, and frequently are forced to pass on increased costs to consumers, aggravating food accessibility for low-income segments (Berkes et al., 2003).

Resilience Theory, which originated out of environmental research (Folke, 2016), assesses the ability of entities to withstand and recover from insurgent disruptions and continue to operate (Walker et al., 2004). This framework means food sector in Zambia assesses adaptability to cost spikes, policy constraints and logistical bottlenecks. Although large retailers show more resilience through dependable suppliers and agile operations, smaller businesses, already strained by fragmented supply chains and limited financial reserves, stay susceptible to economic disruptions (Christopher, 2020).

These theories offer a comprehensive insight into systemic

disparities within Zambia's retail sector. Big firms are insulated from cost pressures by their scale and by their flexibility, and small vendors face challenges maintaining pricing when resources are limited. The study also shows how systemic weaknesses, specifically infrastructural gaps and regulatory complexity, create major risks for those marginalized players (Holling, 2001). The proposed integrated analysis unites these different perspectives to identify actionable pathways that enhance sector-wide adaptability, address inequities, and promote long-term stability for Zambia's food economy.

2. LITERATURE REVIEW
2.1. Effects of labor and input costs on pricing
Effects of Labor and Input Costs on Pricing
Whether in an industrialized economy or a developing economy, labor and material expenses are a significant part of the equation that drive food costs, business strategies and ultimately the ability for consumers to gain access to inexpensive goods. Studies by Walker et al. (2019) shows how in closely regulated workplaces in labor, as Western Europe, firms ability to pass-through rising wages and supply prices to customers to absorb profit margins. By contrast, some locations with flexible labor market policies, such as parts of Eastern Europe, maintain stable prices by absorbing some of the shocks through cost savings or suppressing wages (Gould, 2006).

Zambia's food industry is plagued by labor and input cost instability because of entrenched challenges such as currency devaluation and reliance on foreign agricultural imports. Dhuwa, Mwansa, and Chileshe (2022) note a 50% rise in fertilizer prices over five years, attributed to the devaluation of the currency and dependence on imports. This rise in inflation has led to significant hikes in the prices of essential items like maize, worsening the struggles of impoverished families (Devereux & Maxwell, 2019).Concurrent with this, Zambian labor costs remain stagnant while rural regions face increasing pressure from young people migrating to urban centres for better opportunities, which could drive agricultural wages upwards in the future. Similar trends show up in other developing countries. Chakraborty and Basu (2021) link rising costs of food in Indian cities to a shortage of rural labor, migration from rural areas to cities and the impact of industrialization. Similarly, Mugendi et al. (2020) noted that rising prices of fertilizers and seeds have forced

In Zambia's retail market, major chains such as Shoprite leverage competitive threshold power over significant aggregators and employ diverse sourcing techniques to reduce input cost fluctuations (Martin & Sunley, 2015). In contrast, smaller retailers, reliant on unreliable supplier networks and restricted funds, are unable to counteract increasing operating costs. The absence of sufficient infrastructure and weak logistics intensify these issues, as noted by Chanda and Mbewe (2021), leading to difficulties for small businesses in adapting to increasing expenses. These differences underscore the ongoing strain on Zambia's food sector due to labor and material expenses.

2.2. Profitability of food markets and economic resilience
food-market success, is mostly determined by how well those businesses can weather economic storms. Take the increasing production costs for instance, widespread price rises (inflation) and distribution network problems. Research by Smith and Riley (2021) in North America and Europe suggests larger food stores weathered economic downturns better than smaller organizations due in part to extensive coverage (economy of scale) and the ability to diversify income streams. Consider online purchases or items from store brands, for instance. Smaller organizations, on the other hand, which had fewer resources and less flexibility, often faced difficulties adapting to inflationary and volatile costs threatening their profitability (Cavallo Eichengreen, 2020).

This creates a situation where food systems may become profitable when functioning effectively, but are affected by inherent issues within the system and unexpected economic disruptions, especially in developing nations, as illustrated by Zambia. According to Chanda and Mbewe (2021) rising prices (inflation), devaluation of the local currency, expensive transport etc. take a significant portion out of the profit of the small stores. The bigger supermarket groups, however, tackled those issues at a tactical level. For example, major retailers lowered their spending by improving their supply networks, securing more favorable deals, and buying products from local sources to lessen the impact of fluctuating import prices.

The ability to recover is essential for ensuring food businesses remain profitable in volatile economies. According to the theory of Resilience, corporations need the ability to adapt to unforeseen external events, but without losing their core functions (Folke, 2016). He points to how major food retailers in Zambia have demonstrated this ability, employing strategies such as bulk purchasing, identifying other suppliers and operational efficiencies to put a buffer between themselves and increasing costs. smaller stores, by contrast, often lack the resources to do those things, making them far more vulnerable to economic troubles.

Similar trends are found in research studies from other parts of the world (Ehrenberg & Smith, 2020). For instance, in Kenya, Mugendi et al. (2020) discovered that small-scale farmers and shopkeepers were struggling with declining profit margins owing to increasing supply costs and challenges in securing loans at affordable interest rates. In Mozambique, Mbaku and Simelane (2018) demonstrated that investing in regional supply chains and establishing connections between retailers and producers boosted profits and enhanced resilience against economic shocks by reducing reliance on imports with volatile pricing.

In Zambia, the potential for food stores to achieve substantial profits continues to be limited by insufficient infrastructure and challenges with government regulations. As highlighted by Chisanga and Chibesa (2022), a retailer's ability to adapt to rising costs and distribution challenges is crucial in determining its survival or potential closure.

2.3. Effects of business environment factors on food markets and profitability
The profitability of the food markets is highly linked with the broader business environment, where the quality of the infrastructure, the stability of regulatory systems, and

competitive pressures have direct influence on operating performance and cost management. As Porter and Kramer (2019) indicate through their research, retailers can reduce distribution costs and have more stable operations in areas with secure infrastructure, such as efficient transport and energy systems. On the contrary, places that lack infrastructure have higher shipping fees, delayed delivery, and goods loss, translating into lower earnings in the long run.

Zambia's food industry illustrates these difficulties. A study by Chanda and Mbewe (2021) highlights that poorly developed road infrastructure and inconsistent electricity supply increase operational expenses, particularly for retailers in rural areas. These inefficiencies choke the channel of low-cost goods, driving up consumer prices and reducing business competitiveness. Exchange rate volatility and supply chain interruptions affect exchange rate-vulnerable import-dependent retailers more severely.

Regulatory dimensions also influence profitability. The Asian market study by Liu and Zhang (2020) suggests that clear, business-friendly policies increase the efficiency of the market so that the retailers can focus on growth and innovation. Conversely, complex or unclear rules have significant administrative burdens, which comparatively weigh more on smaller firms. In Zambia, Chisanga and Chibesa (2022) observe that sluggish moving licensing and inconsistent enforcement provide an even greater disadvantage to small retailers, widening the margin with larger competition that can more readily cope with regulative demands.

Competition levels similarly influence outcomes. Competitive markets, like those in industrialized economies, stimulate innovation and cost-efficiency. For example, retailers in North America and Europe frequently integrate digital tools like e-commerce platforms and automated inventory systems to cut costs (Smith & Riley, 2021). In Zambia, however, Chanda and Mbewe (2021) argue that weak competition—combined with infrastructure and regulatory shortcomings—limits innovation, leaving many retailers unable to streamline operations or reduce prices effectively.

2.4. Establishment of research gaps

Recent studies underscore the global influence of escalating labor and material expenses on food affordability and business viability, especially in developing economies grappling with inflation, currency instability, and logistical shortcomings (Walker et al., 2019; Mwansa & Chileshe, 2022). Research further distinguishes how major retailers counteract cost increases through bulk purchasing advantages and supply chain refinements, whereas smaller businesses endure uneven strain due to financial and operational limitations (Chanda & Mbewe, 2021) Although these insights exist, localized studies of Zambia's food retail sector are still limited, resulting in key questions remaining unanswered.

Despite the availability of these insights, there are still few localized studies on Zambia's food retail sector, leaving important questions unresolved. Current research typically links production costs to food prices but infrequently examines their effects on profitability and flexibility for Zambian retailers dealing with unique economic difficulties. The convergence

of currency collapse, regulatory issues, and infrastructure deficiencies—and their varying effects on large and small businesses—warrants detailed examination. For example, how do systemic inefficiencies exacerbate risks for smaller retailers, and what strategies do larger companies use to succeed despite these challenges?

Secondly, although policy institutions and infrastructure are recognized as factors influencing market performance, there are limited studies examining Zambia-specific issues like inadequate road conditions, unreliable power supply, or lengthy licensing processes. There is limited empirical research on how these factors lead to higher operational costs, price distortion, and decreased competitiveness, particularly for resource-scarce companies.

Third, although resilience is widely studied in global contexts, Zambia-specific adaptations to economic shocks—such as input cost surges or supply chain breakdowns—are poorly documented. Little is known about how local retailers recalibrate pricing, sourcing, or operations to survive disruptions, or how these tactics affect long-term market stability.

This study fills in these voids by investigating how in Zambia's food sector's resilience to shocks, profitability, and infrastructural flaws interact to affect manufacturing costs, It compares the flexible strategies of major retailers with the limitations encountered by smaller businesses, providing detailed insights to inform policies that enhance market equity, bolster crisis readiness, and protect food availability in Zambia's unpredictable economy.

3. METHODOLOGY
3.1. Research Design

The research is a case study of bread to investigate the trends in prices, cost fluctuations, and responses people employ in Zambia's food retail market. Bread being a product with regular consumer demand and being a function of local and imported raw materials, it is a suitable proxy to consider how responsive the supply chain is and how resistant prices are. This is in agreement with the Market Systems Resilience Index (MSRI) framework, which identifies the function of individual groups of products in defining the market resilience overall (Gittinger, 1982).

Both qualitative and quantitative methods were applied. In-depth interviews with top managers of the top food retailers like Cheers, Pick n Pay, Shoprite, and Choppies produced primary data and were supported by field observations of customer reaction, stock handling, and reaction to supply chain breaks. Quantitative data on production cost, labor cost, and price movements was also sourced from financial statements and performance reports for input into the statistical analysis. By focusing on a single product segment, the study provides a thorough insight into the market resilience of Zambia and depicts a model which can be extended to generalized trends in the food industry.

3.2. Target Population

The study targeted managers in Zambia's major food retail chains, such as Shoprite, Choppies, and Pick n Pay. They were selected due to their key position in setting prices, managing

labor, and cost control and are thus in a good position to provide information on the dynamics and power of the food market.

3.3. Sampling size and sampling procedure
3.3.1. Sampling Design
For eliciting actionable knowledge of Zambia's food retailing issues, the research uses focused sampling strategy involving managers and high-level staff personally responsible for managing costs, sourcing, and supply chain functions. The approach maximizes the certainty that respondents possess operating experience and the authority to articulate first-hand knowledge of pressures on profitability as well as counter-strategies.

3.3.2. Determining Sample Size
40 respondents have been selected in a cohort to meet requirements of both feasibility and scope of analysis. They are managers with responsibility for various functions—such as procurement, logistics, and operations in stores—of Zambia's large retail chains. Such numbers enable sector-specific issues to be examined at a high level of detail without overburdening qualitative richness.

3.4. Data collection procedures and methods
3.4.1. Data Collection tools
A survey-interview mix will make data collection easier during participants' hectic schedules. Standard questionnaires will quantify trends in cost management and supply chain stability through structured questions, with brief follow-up interviews to contextualize answers and add qualitative depth to numbers. Surveys will target standardized measures (e.g., cost volatility, logistical disruptions) to ensure uniformity.

3.5 Analysis of Data
Data analysis will be performed using Excel and Stata. Quantitative data will undergo statistical analysis using Stata to detect patterns, trends, and correlations within the collected data. Data organization, visualization, and descriptive statistics will be performed using Excel for an in-depth analysis of results.

4. RESULTS AND DISCUSSION
4.1. Background Characteristics of the Respondents
The analysis includes data from 40 managers at key retail stores in Lusaka, representing major retail chains: Shoprite, Pick n Pay, Choppies, cheers, woolworths, melissa and Spars.

Table 1. Frequency Distribution of Retail Stores

Retailer store	Frequency	Percent.	Cum.
Cheers	3	7.5	7.5
Choppies	6	15	22.5
Melissa	2	5	27.5
Pick n pay	12	30	57.5
Shoprite	15	37.5	95.0
Spars	1	2.5	97.0
Woolworth	1	2.5	100

Table 2. Distribution of Education Levels Across Retail Stores

Retailer store	Bachelor	Diploma	Masters	Primary	Secondary	Total
Cheers	2	1	0	0	0	3
Choppies	2	0	1	0	3	6
Melissa	0	1	1	0	0	2
Pick n pay	5	2	3	0	2	12
Shoprite	8	1	3	1	0	15
Spars	1	0	0	0	0	1
Woolworth	0	0	0	0	0	1

Table 2 presents the distribution of education levels among employees at different retail stores. shoprite has the highest proportion of employees with Master's degrees at 33.33%.
Table 3 provides a summary of key demographic and employment variables. The average age of employees is 31.825 years, with a standard deviation of 4.486375. The average monthly wage is 14788.48 currency units, with a standard deviation of 3388.596.

Table 3. Descriptive Statistics of Key Variables

Variable	Obs	Mean	Std. dev	Min	Max
Age	40	31.025	4.486375	28	41
Yearsinrole	40	3.785	1.976626	4	7
monthlwage	40	14708.48	3388.596	9127	14567

Table 4. Retail Store by Gender

Retail Store	Female	Male	Total
Cheers	1	2	3
Choppies	3	3	6
Melissa	0	2	2
Pick n pay	7	5	12
shoprite	7	6	15
Spars	1	0	1
Woolworth	1	0	1

Table 4 presents the gender distribution across different retail stores. Shoprite has the highest proportion of female employees at 57.14%. In contrast, choppies has an equal distribution of male and female employees.

4.2. To analyze the effects of cost of production (labor and input cost) on pricing

Table 5. Descriptive Statistics

Vaiables	mean	Std dev	min	Max
Pricing	22.547	6.2341	12.1	39.6
Monthly wage	9854.62	2347.456	6500	14200
Total labour cost	145672	39876.123	98000	418000

The statistical analysis in reveals interesting relationships between pricing, monthly wages, and total labor costs in the Zambian market. The descriptive statistics in table 5 show that across 40 observations, pricing averaged 22.55 units (SD = 6.23), with values ranging from 12.1 to 39.6. Monthly wages averaged 9,854.62 Kwacha (SD = 2,347.46).

Table 6. Correlation matrix between monthly wage and total labor cost

Vaiable	Pricing	Monthly wage	Total labor cost
Pricing	1.000		
Monthly wage	0.6847	1.000	
Total labor cost	0.7295	0.8238	1.000

In table 6 Pricing shows a substantial positive correlation with monthly wages (r = 0.6847), indicating that higher wages strongly correspond with higher prices.

The model as a whole performs strongly, with an adjusted

Table 7. Multicollinearity Diagnostics

variable	VIF	1/VIF
Monthlywage	1.01	0.993556
totallaborcost	1.01	0.993556
Total labor cost	0.7295	0.8238

R-squared of 0.7336, indicating that approximately 73% of the variation in pricing is explained by the predictors.

To make sure there was no multicollinerality we ran VIF and the runs are presented in table 7.

4.3. Analyze the profitability of food markets and economic resilience

Table 8. Correlation Analysis of Turnover Rate, Pricing, and Inventory Turnover

Variable	Turnover Rate Last Year	Pricing	Inventory Turnover per Month
Turnover Rate Last Year	1.000		
Pricing	-0.2772	1.000	
Inventory Turnover per Month	-0.5243		1.000

Turnover Rate Last Year and Inventory Turnover per Month exhibit a moderate positive correlation (0.6159), indicating that companies with higher historical turnover rates tend to have higher inventory turnover in the current period. This suggests a positive association between past performance and current inventory efficiency.

Table 9 suggests that there is a significant association between Turnover Category and Retail Store. The distribution of turnover categories is not the same across different retail stores.

Table 9. Frequency Distribution of Turnover Categories Across Retail Stores

Turnover Category	Cheers	choppies	Melissa	Pick n pay	Shoprite	spars	woolworth	Total
Low(0)	3	2	1	7	5	1	1	
High(1)	0	4	1	5	10	0	0	

Chi-square test results:
$\chi^2(6)= 7.6667$, p = 0.014

Table 10. Pricing Category by Retail Store

Turnover Category	Cheers	choppies	Melissa	Pick n pay	Shoprite	spars	woolworth	Total
Below median (0)	2	5	2	6	8	1	1	
Above median (1)	1	1	0	6	7	0	0	
Chi-square test results: $\chi^2(6) = 4.8711$, p = 0.560								

The chi-squared test in table 11 revealed no significant association between pricing category and retail store ($\chi^2(6) = 4.871$, p = 0.560). This suggests that the distribution of pricing categories is similar across different retail stores. Which is correct given this research uses bread across these retail to study resilience.

Table 11. Correlation Analysis of Price Adjustment, Competitive Pricing, and Profit Margin Change

Variables	Price Adjustment (Competitive)	Profit Margin Change
Price Adjustment (Competitive)	1.000	
Profit Margin Change	0.3247	1.000

The model as a whole performs strongly, with an adjusted R-squared of 0.7336, indicating that approximately 73% of the variation in pricing is explained by the predictors.

4.4. To assess effects of business environment factors on food market and profitability

Table 12. Interrelationships between Pricing, Competitive Pricing Impact, and Competitive Adjustment Frequency

	Pricing Category	Competitiveness	Competitive Adjustment
Pricing Category	1.000		
Competitiveness	-0.452	1.000	
Competitive Adjustment	-0.230	-0.1665	1.000

Table 12 shows the negative correlation between Pricing and Competitive Pricing Impact Frequency (-0.452) indicates that adopting competition-based pricing strategies is associated with a decline in pricing levels, which can directly and negatively impact profit margins.

Table 13. Frequency Distribution of Competitor Adjustment Frequency Across Retail Stores

Retail stores	0	1	1	0	1
Cheers	0	1	2	2	1
Choppies	1	0	0	1	0
Melissa	2	3	4	1	2
Pick n pay	2	3	6	3	1
Shoprite	0	0	1	0	0
Spars	0	0	1	0	0
Woolworth	0	0	1	0	0

The table 13 shows the relationship between Retail Store and Competitor Adjustment Frequency. While the p-value (0.152) does not meet the standard threshold for significance, it suggests a marginal association. This indicates that stores adopting more frequent competition-based pricing strategies might experience variability in profit margins.

Table 14. ANOVA Table for the Effects of Retail Store and Competitor Adjustment Category on Turnover Rate Last Year

.anova turnoverratelastyear RetailStoreNumeric##CompAdjCategory

Number of obs	=	40	R-squared	=	0.7123
Root MSE	=	1.12248	Adj R-squared	=	0.6794

Source	Partial SS	df	MS	F	Prob>F
Model	121.60	12	10.133	8.06	0.0011
RetailSto~c	45.214309	6	7.535718	5.99	0.0005
CompAdjCa~y	20.547829	2	10.273914	8.17	0.0017
RetailSto~c#CompAdjCa~y	55.838362	4	13.959590	11.12	0.0002
Redidual	49.80	27	1.844444		
Total	170.4	39	4.3692308		

Both retail store type (p = 0.0005) and competitor adjustment frequency (p = 0.0017) significantly impact profitability. Moreover, the interaction between these factors is highly significant (p = 0.0002), suggesting that the effect of competitor adjustments on turnover varies across store types.

4.5. Examination of Research Findings

The examination shows important relationships in the Zambian food retail system and how production costs, price settings, financial performance, and rules all combine to produce an ability to withstand the shocks that are experienced by the market.

4.5.1. Cost Structures and Price Formation

The relationship between worker costs and retail prices (r = 0.7295) confirms basic pricing theory (Eilon, 1962) and indicates that workers costs are constantly contributing to the retail price setting in Zambia, as it had been observed to happening around the world (Walker et al., 2019; Mwansa & Chileshe, 2022). Even if on systemic levels we could safely assume the most skeptically lethargic consumer price responsiveness, which little matters when it comes to meat staples like eggs or maize, consumption levels remain relatively unaffected by skyrocketing costs leading to a cost-focus pricing approach in such a case.

Though monthly wage data shows marginal statistical significance (p = 0.073), its tight coupling with aggregate labor outlays (r = 0.8238) reveals its latent influence on pricing frameworks (Sexton et al., 2022). This underscores how ostensibly peripheral wage components cumulatively affect pricing logic in captive markets with few buyer alternatives (Chakraborty & Basu, 2021).

4.5.2. Earnings Sustainability and Adaptive Capacity

In Zambia, as a retailer, you survive by balancing sales turnover, inventory, and cost containment. The negative association between stock turnover and price levels (r = -0.5243) reveals trade-offs between margin retention and the turn of inventory, consistent with evidence regionally (Chanda & Mbewe, 2021). That is, large retailers do better via purchase aggregation and diversification across suppliers, a model of resilience that is consistent with what we observed in other contexts (Mbaku & Simelane, 2018). While localized models succeed in Kenya's informal sector (Mugendi et al., 2020), Zambian small-scale retailers grapple with acute capital constraints and inflated relative costs. Significant turnover disparities across business types (χ^2 = 0.014) confirm systemic imbalances favoring corporate retailers with structural advantages.

4.5.3. Market Rivalry and Profitability Strains

When the price levels appears to be negatively correlated with both total price adjustments made by competitors (r = -0.452) and rates of final adjustment by competitor (r = -0.230), this shows how cutthroat competition drives down profitability—consistent with negative perspectives on such unregulated market competition (Ocampo & Stiglitz, 2018). And while competition should, in principle, spur innovation, infrastructure bottlenecks in Zambia—poor transport networks, erratic utilities—get in the way of the ability of retailers to translate rivalry into efficiency gains (Chisanga & Chibesa, 2022). In contrast to richer economies, that have infrastructure that supports agile responses (Porter & Kramer, 2019).

4.5.4. Systemic Barriers: Infrastructure and Policy

Between the two, considerable gaps in infrastructure seem to be the main factor hindering market efficiency, reducing transport costs and operational friction. The smaller retailers are impacted the most, akin to the effects observed in India's urban markets when logistical challenges affected pricing (Liu & Zhang, 2020). Depending on alternatives like local sourcing or technology-driven logistics overlooks Zambia's small businesses lacking capital, which cannot take advantage of these changes (Drury, 2021).

Regulatory structures add to these challenges. Although intended to promote fairness, complex compliance regulations—outlined in Nigeria and Kenya (Ogunyemi & Balogun, 2020; Mugendi et al., 2020)—generate administrative burdens that unfairly impact smaller entities. Zambia's inconsistent enforcement increases uncertainty, discouraging adaptive investments. Bigger companies, equipped with specialized compliance teams, avoid these expenses, deepening market disparities.

4.5.5. Theoretical Relevance in Context

This study, therefore, builds the extant theory of Cost-Plus Pricing and Resilience Theories based on empirical evidence from Zambia reality. Robust cost-price correlative (r = 0.7295) confirm dominant cost-driven pricing in the low-elasticity markets, placing naysayers who strike its applicability a thwack in the developing economies. Similarly, the focus of Resilience Theory on adaptive capacity aligns with how scaled retailers' large-scale purchasing and supplier variety illustrate the shock-absorption tactics advocated in the literature. Critics who dismiss the validity of these theories across different contexts overlook how adaptable and re-targetable they are to local limitations.

5. CONCLUSION

In Zambia, labor costs and input costs essentially shape food retail pricing strategies. The strong correlation between total labor cost and price (r = 0.7295) demonstrates that cost-based pricing strategies are important, and align with basic economic models. While the monthly wage figures were not statistically significant (p = 0.073), their indirect contribution to total labor cost further emphasizes their utility to price.

Viability in the market relies on keeping costs minimal and turning over more. The corporate chains (e.g., Shoprite, Pick n Pay) are low-cost companies due to their bargaining power and relationship with suppliers, while small traders have low overheads and capital limitations (p = 0.014). System constraints, particularly inadequate infrastructure, and inefficient logistics exacerbate these imbalances and further perpetuate the challenge for retailers in rural and peri-urban areas. In addition, the regulatory climate in Zambia adds another dimension of complexity, and pressure on profitability.

Inefficient transport infrastructure and delayed regulatory approvals incurs cost, and fragmented retail market squeezes margins with low returns for financial risk and investment. The impacts of compliance and regulatory uncertainty have the potential to disproportionately hit small businesses in a challenging retail environment and wi den imbalances with higher-resourced rivals.

RECOMMENDATIONS

We need to ensure that there is development of infrastructure related to transportation and logistics — which government has to take up on priority. Improved roads and power supply will lower costs for rural and peri-urban retailers. Robust Infrastructure begets efficient operations and cost-effective consumers. Improvements to attract sector investment could be funded through public-private partnerships.

Keen also with regulatory reforms in providing friendly business environment Simplified licensing, food safety and taxation procedures would lessen the administrative burden. Simplified procedures would save costs and hurdles, one-stop-shop for registration of business. Enforcing the rules consistently would provide stability to business planning.

At the business area, retailers need to prioritize making operational efficiencies. Bigger retailers could lean into supply chain efficiencies, improve inventory management and reduce waste; smaller retailers could adopt better logistical practices and source more goods locally, lowering transportation costs. These could be complemented by government assistance, including incentives to adopt new technologies and management systems to better overall efficiency.

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