Do search frictions in retail cause upstream misallocation? Evidence from Zambia

Sanjana Gupta, Brenda Samaniego de la Parra, Ajay Shenoy

- Retailers in Lusaka, Zambia, pay widely different prices for identical goods, even within the same market. These differences persist over time, suggesting that search frictions prevent shops from finding cheaper suppliers.
- A randomised experiment providing price information increased the probability of sourcing from a new supplier by up to 8.7 percentage points.
- The effects of information provision are concentrated among shops that already source at relatively lower prices and face lower search costs.
- When retailers face high search costs for suppliers, their sourcing decisions can channel demand toward less productive, higher-cost producers. Reducing these frictions through targeted information interventions can improve resource allocation and benefit consumers through lower prices.

Persistent productivity gaps between developing and advanced economies remain a central puzzle in development economics. A large body of research attributes these gaps to supply-side distortions. Demand-side frictions have received far less attention despite retail employing more people than manufacturing in nearly every country at every stage of development.

This study investigates whether search frictions in the retail sector create a misallocation of demand, and hence, of resources across upstream producers. Using a novel linked supplier-retailer dataset and a randomised controlled trial, we evaluate the impact of providing retailers with information about the distribution of prices charged by alternative suppliers.

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Search frictions in developing country retail markets

In most economies, consumers do not buy directly from producers. They buy from retailers. Since the retail sector intermediates all competitive pressure, it plays a key role in the efficient allocation of resources in upstream markets. When retailers face high costs of searching for or switching among suppliers, their sourcing decisions can channel demand towards less productive, higher-cost producers. Such frictions in retail intermediation can therefore generate upstream misallocation and attenuate the impact of interventions targeting producers. If a policy succeeds in lowering a producer's costs or improving its productivity, the resulting price advantage can only attract new customers if retailers learn about it and switch their sourcing accordingly. When search frictions prevent retailers from discovering these lower-cost producers, the additional demand that should flow to more efficient firms never materialises, muting the productivity gains the intervention was designed to achieve.

Our baseline survey of 842 retail shops across 25 markets in Lusaka reveals five key facts that are consistent with search frictions in the retail sector:

- The prices retailers pay to source goods from suppliers vary widely, even for identical products purchased within the same market and time frame. For onions, the price of a ten-kilogram bag ranges from less than ZMW 50 to more than ZMW 120.
- Retailers' positions in the order-price distribution remain highly persistent over time, implying that the inefficiency of sourcing relationships is stable rather than transient.
- Even neighbouring shops located within a few minutes’ walk of each other sell identical goods at substantially different prices.
- Retailers reporting higher search costs pay significantly higher order prices, underscoring the potential impact of an intervention that reduces search costs.
- Retailers routinely misjudge the distribution of prices charged by suppliers. Two-thirds of respondents believe all suppliers charge roughly the same as their current one, and 20% think some suppliers charge more and none charge less. The vast majority of shops thus overstate how cheap their current supplier is and substantially underestimate the degree of dispersion in order prices.

These facts together reveal a pattern of high order-price dispersion, persistent placement in the distribution of sourcing costs, and widely diverse and inaccurate beliefs about the potential gains from search. Importantly, the inaccuracy in shops' beliefs is not homogeneous across goods; while beliefs

about supplier prices vary widely and diverge substantially from the actual distribution for onions, they are much more compressed and better aligned with reality for cooking oil.

Research design

Given the lack of an official business census in Lusaka, we began by identifying all food retail shops in 25 markets across the city to construct a census. Out of 2,511 shops classified as retailers, we randomly sampled 900 for a detailed baseline survey. We also surveyed 136 suppliers identified during the census. We collected detailed information on prices, units, supplier relationships, beliefs about price distribution, and hypothetical switching behaviour for four target goods: onions, bananas, cooking oil, and water.

We implemented four rounds of high-frequency phone follow-up surveys. During these calls, we asked respondents about their current per-unit sell price and cost of sourcing each target good, their activities to search for new suppliers, and their current beliefs about the distribution of prices charged by alternative suppliers.

The intervention

We randomly assigned shops to three groups. The first treatment arm (T1, "Distribution") received a printed sheet showing the full distribution of order prices that suppliers in their area charged for each target good. This information allowed retailers to see how their current sourcing costs compared to what was available in the market. The second treatment arm (T2, "Quote") received the same distributional information plus an individualised quote from a specific low-cost supplier for each good. The control group received general information regarding the existence of heterogeneity in prices charged by suppliers.

Key findings

Providing price information increases supplier switching

Both treatments significantly increase the probability that a retailer will source from a new supplier. Shops receiving the price distribution (T1) are 6.0 percentage points more likely to use a new supplier, while those receiving an individualised quote (T2) are 8.7 percentage points more likely to switch. These effects are substantial relative to the baseline switching rate, indicating that information provision meaningfully reduces the barriers to finding new suppliers.

Treatment shifts the distribution of sourcing costs

Beyond supplier switching, we examine whether the intervention shifts the distribution of order prices. Both treatments increase the probability that a

shop's sourcing cost falls in the lower deciles of the cost distribution. In the pooled sample, the quote treatment (T2) significantly increases the probability of falling below the third, fourth, and fifth deciles of the cost distribution. These results indicate that the intervention shifts mass from the upper to the lower portion of the order-price distribution, consistent with retailers finding cheaper suppliers after receiving price information.

Effects are concentrated among shops with lower baseline costs and search costs

The intervention's effects are not uniform across all retailers. When we split the sample by shops' baseline order costs, the treatment effects are concentrated among shops in the lower half of the cost distribution. Among these shops, the distribution treatment (T1) increases the probability of using a new supplier by 14.3 percentage points. The quote treatment (T2) reduces log homogenised order costs by 4.3% for below-median shops. For onions specifically, the distribution treatment increases new-supplier adoption by 20 percentage points among below-median shops and reduces retail prices by 7.6%.

A similar pattern emerges when we split the sample by baseline search costs (measured as the expected savings from receiving one additional price quote). Among shops with below-median search costs, both treatments generate large and significant increases in the probability of using a new supplier: 13.6 percentage points for T1 and 19 percentage points for T2.

Policy recommendations

Retail search frictions represent a critical but neglected source of misallocation in developing economies. Understanding and mitigating these frictions can help policymakers design interventions that connect retailers to better suppliers, enhance competition, and accelerate structural transformation. Our findings suggest that relatively low-cost information interventions, such as providing retailers with data on the distribution of prices charged by suppliers, can meaningfully shift sourcing behaviour and improve the allocation of demand across producers.

One key challenge in scaling these findings is that providing retailers with accurate price information requires up-to-date data on the prices charged by suppliers, which is costly to collect manually. A related project developed a mobile application that pools order-price data reported by participating retailers and uses an algorithm to generate personalised supplier recommendations. A digital platform of this kind could substantially reduce the cost of maintaining and distributing price information, making it feasible to deliver the type of intervention tested in this study on an ongoing basis and at a much larger scale.

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