

Our latest note examines the impact of a social enterprise's attempts to shorten the supply chain between farmers and small retail stores in Bogota, an idea that was one of the winners of the SME ideas competition.

Shortening Supply Chains for Fruit and Vegetable Vendors in Bogota

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The small retail stores that are prevalent on many street corners in developing countries face very different supply chains for different products. On one hand, multinational suppliers of branded non-perishable products have amazingly efficient supply chains that result in store-door delivery to even the most remote places. In contrast, the fresh fruit and vegetables they sell are part of what are typically much less efficient supply chains, that often end in centralized wholesale markets, requiring substantial travel time and costs for retail store vendors, and increased food costs for the urban poor.

This is the case in Bogota, where the typical store owner gets up at 4:30am each morning, and spends an average of 2 hours travelling to, around, and back from the central market of Corabastos in order to buy fruits and vegetables.

A social enterprise proposes a solution

The social enterprise *Agruppa* was formed with the goals of using new technologies to overcome this problem, reducing travel time and purchase prices for store owners, and in turn reducing the prices charged to poor households who rely on these stores for their fresh foods.

Agruppa's idea was to use technology to agglomerate orders each day from many small retailers, source in bulk directly from farmers where possible, and then deliver the produce to the store fronts of retailers.

The founders pitched this idea at a 2015 [SME ideas competition](#) held by the World Bank, and received some seed funding that, coupled with funding they raised from social investors, enabled them to attempt to scale

this idea. They agreed to an impact evaluation to measure the impacts of this new service.

Experimental Design

Agruppa went door-to-door in poor neighborhoods of Bogota in Jan-Feb 2016 to map stores selling fruit and vegetables. Using larger streets as natural boundaries, these neighborhoods were divided into 63 market blocks, containing 1,620 firms. These blocks were then randomized into 32 treatment blocks and 31 control blocks.

Baseline surveys in these blocks collected information on the firms and their owners, and at the end, firms received a factual explanation of *Agruppa*, and were asked whether they would be interested in being a client should *Agruppa* launch in their block.

Our main analysis compares the 586 interested firms in treated blocks who get offered *Agruppa* to 536 interested firms in control blocks who are not offered *Agruppa*.

We measure usage of *Agruppa* using administrative data on purchases, and conducted seven rounds of high-frequency follow-ups at 2, 4, 6, 10, 14, 26 and 52 weeks after *Agruppa* had launched in a block in order to measure impacts on stores.

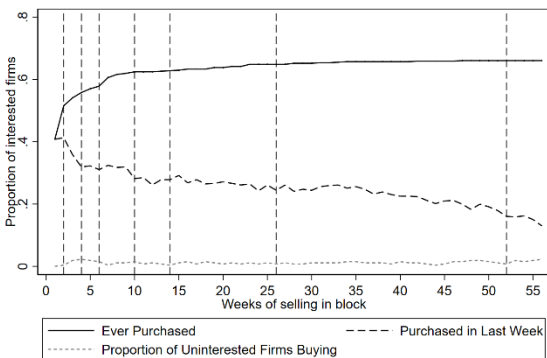
Take-up and Usage

Agruppa launched by selling only five of the most frequently purchased products focusing initially on the bulkier and heavier rotation ones (potatoes, plantains, tomatoes, onions, and spring onions). These core products accounted for just over half of total sales in the retail stores at baseline. They gradually increased their products over time, reaching 28 products during our survey period.

Do you have a project you want evaluated? DECRG-FP researchers are always looking for opportunities to work with colleagues in the Bank and IFC. If you would like to ask our experts for advice or to collaborate on an evaluation, contact us care of the Impact editor, David McKenzie (dmckenzie@worldbank.org)

Figure 1 shows take-up and usage of Agruppa in the treatment blocks. Initial interest is high, with 52% of interested firms making at least one purchase from Agruppa within the first two weeks, and 66% making a purchase at least once in the first year. But after this initial interest, usage tapers off over time, so that only 24% are still using Agruppa after 6 months and only 16% after one year.

Figure 1: Declining usage over time



Impacts on Retailers

- **Agruppa’s service did reduce travel time and costs, just not as much as anticipated.** Over the first six weeks of introducing Agruppa, trips to Corabastos market fell 0.4 days per week for those using Agruppa, and conditional on going to market, firm owners spent less time there. As a result, those using the service saved almost 2 hours per week in travel time, relative to a control mean of 12 hours. Accordingly, firm owners continued to travel frequently to market to buy other products not sold by Agruppa.
- **Work-life stress improved,** particularly measures of having time for family and for all the activities they have planned.

- **Retailers save on purchase costs by 6 to 8 percent, they pass some of this onto consumers in the form of slightly lower prices, but also increase mark-ups.**
- **However, overall sales and profits appear to have fallen, due to less sales of non-Agruppa products.** This finding should be caveated by many firms not revealing their sales. It is consistent with retail firms being less likely to be carrying some of the fruits and vegetables that were not core-Agruppa products.
- **Our results show firms in this sector are not in perfect competition,** with wide cross-sectional price dispersion. This limits the gain in sales to be had from small reductions in prices.

Policy Implications

1. Agruppa was not able to scale-up its model fast enough to break-even, and closed as a business on January 20, 2018.
2. Nevertheless, the underlying idea of shortening value chains in this way shows promise, and at least two new enterprises, Frubana in Colombia, and Twiga in Kenya, are pursuing similar ideas.
3. This case also offers lessons for start-ups and researchers considering implementing randomized trials during the early stages of business launch. There were several advantages of collaborating at this early stage, but also challenges. Future collaborations may benefit from waiting until proof-of-scale can be delivered in one location before then evaluating expansion to another location.

For further reading see: Iacovone, Leonardo, and David McKenzie. 2019. “[Shortening Supply Chains: Experimental Evidence from Fruit and Vegetable Vendors in Bogota](#)”, World Bank Policy Research Working Paper no. 8977.

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