

Colombia - Shortening Supply Chains: Experimental Evidence from Fruit and Vegetable Vendors in Bogota 2016-2018

David McKenzie

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Overview

Identification

ID NUMBER

COL_2016-2018_IPMC_v01_M

Overview

ABSTRACT

Fruit and vegetable vendors in Bogota travel most days to a central market to purchase produce, incurring substantial costs. A social enterprise attempted to shorten the supply chain between farmers and vendors by aggregating orders from many small stores and delivering orders directly. We randomized the introduction of this service at the market-block level. Initial interest was high, and the service reduced travel time and costs, and increased work-life balance. Purchase costs fell 6 to 8 percent, there was incomplete pass-through into lower prices for consumers, and markups rose. However, stores reduced sales of products not offered by this new service, and their total sales and profits appear to have fallen in the short-run, with service usage falling over time. The results offer a window into the nature of competition among small retailers, and point to the challenges in achieving economies of scale when disrupting centralized markets for multi-product firms.

KIND OF DATA

Sample survey data [ssd]

UNITS OF ANALYSIS

Firm

Scope

NOTES

The survey covers firms in Bogota that sell fruit and vegetables and were part of an impact evaluation

The scope of the survey includes:

Baseline survey : Preliminary questions; Vendor information; Business information; Financial information; Agruppa products; Purchases; Work life balance; Interest in agruppa

Follow-up survey (6 months and 12 months): Preliminary questions; Vendor information; Agruppa products; Business information; Financial information; Purchases; Work life balance

High Frequency Survey: Preliminary questions; Purchases; Agruppa products; Business Information

Customer Survey: Preliminary questions; Shopping decisions; Customer information

Coverage

GEOGRAPHIC COVERAGE

Southwest Bogota

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
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David McKenzie	World Bank
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OTHER PRODUCER(S)

Name	Affiliation	Role
Leonardo Iacovone	World Bank	co-PI

FUNDING

Name	Abbreviation	Role
World Bank	WB	Funder
World Bank	WB	Funder
World Bank	WB	Funder
Innovations for Poverty Action	IPA	Funder

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Development Economics Data Group	DECDG	The World Bank	Documentation of the DDI

DATE OF METADATA PRODUCTION

2020-02-27

DDI DOCUMENT VERSION

Version 01 (February 2020)

DDI DOCUMENT ID

DDI_COL_2016-2018_IPMC_v01_M_WB

Sampling

Sampling Procedure

All neighborhoods in Bogota are classified by the government into one of six socio-economic strata, classified from 1 (poorest) to 6 (richest). Our focus is on poor neighborhoods (strata 1 to 3) in the South-West of Bogota, not immediately adjacent to Corabastos. Agruppa went door-to-door along streets in these neighborhoods in January and February 2016 (see Appendix 2 for a study timeline) to identify stores that sell fruit and vegetables, excluding the few large supermarkets and chain stores. Their aim was to map approximately 2,400 stores. Using larger streets as natural boundaries, these neighborhoods were then divided into 69 blocks, with a median block size of 36 retail shops per block. Six of these blocks were then dropped for safety reasons, leaving 63 blocks. Blocks were formed into matched pairs on the basis of geographic location and number of firms in the block, and then ordered according to the sequence in which Agruppa desired to expand operations. One block within each pair was then randomly assigned to treatment, and the other to control, for a total of 32 treatment blocks and 31 control blocks.

This yielded a sample of 1,620 firms, comprising 852 firms in treatment blocks and 768 firms in control blocks. On average, 69 percent of firms in treatment blocks and 70 percent of firms in control blocks expressed interest in Agruppa, giving us samples of 586 interested firms in treatment blocks, 266 uninterested firms in treatment blocks, 536 interested firms in control blocks, and 232 uninterested firms in control blocks.

Response Rate

IPA Colombia conducted five rounds of high-frequency short-term follow-up surveys at 2, 4, 6, 10, and 14 weeks after the launch of Agruppa in a block. We would survey a treatment block and its corresponding control block in the same week, staggering the timing to match the staggered timing of the baseline surveys and introduction of Agruppa. The response rate averaged 79% for firms interested in Agruppa (81% in treatment blocks, 77% in control blocks), and 69% for not-interested firms (70% in treatment blocks, 68% in control blocks).

We then collected two longer surveys at six-months and twelve months after the launch of Agruppa in a block. In addition to the information collected in the high-frequency surveys, these questionnaires also asked about business opening hours, sales of some other products, pricing strategies, crime, record-keeping, and work-life balance. The response rates for interested firms were 78% at six months (80% in treatment blocks, 75% in control blocks), and 76% at twelve months (77% in treatment blocks, and 74% in control blocks), and were again lower for uninterested firms

Questionnaires

Overview

The Baseline and Follow-Up survey questionnaires are published in Spanish and English, and provided under the Documentation tab.

Data Collection

Data Collection Dates

Start	End	Cycle
2016-04-01	2016-11-30	Baseline
2016-05-01	2017-03-01	High-frequency surveys
2016-10-01	2017-05-01	6-month follow-up
2017-04-01	2017-11-01	12-month follow-up
2017-11-01	2018-01-30	Customer surveys

Data Collection Mode

Computer Assisted Personal Interview [capi]

Questionnaires

The Baseline and Follow-Up survey questionnaires are published in Spanish and English, and provided under the Documentation tab.

Data Collectors

Name	Abbreviation	Affiliation
Innovations for Poverty Action Colombia	IPA Colombia	IPA

Data Processing

No content available

Data Appraisal

No content available

Documentation

Questionnaires

Innovation Pilot for Microentrepreneurs in Colombia - Baseline Survey

Title Innovation Pilot for Microentrepreneurs in Colombia - Baseline Survey
 Author(s) Innovations for Poverty Action
 Date 2016-04-01
 Country Colombia
 Language English
 Filename 2016 04 15 - Baseline Survey_english.pdf

Innovation Pilot for Microentrepreneurs - High Frequency Survey

Title Innovation Pilot for Microentrepreneurs - High Frequency Survey
 Author(s) Innovations for Poverty Action
 Date 2016-05-01
 Country Colombia
 Language English
 Filename 2017 04 14 - HF Survey_english.pdf

Innovation Pilot for Microentrepreneurs in Colombia - Follow-up Survey (6 months)

Title Innovation Pilot for Microentrepreneurs in Colombia - Follow-up Survey (6 months)
 Author(s) Innovations for Poverty Action
 Date 2016-11-01
 Country Colombia
 Language English
 Filename 2016 11 08 - FU6 Survey_english.pdf

Innovation Pilot for Microentrepreneurs in Colombia - Follow-up Survey (12 months)

Title Innovation Pilot for Microentrepreneurs in Colombia - Follow-up Survey (12 months)
 Author(s) Innovations for Poverty Action
 Date 2017-04-01
 Country Colombia
 Language English
 Filename 2017 04 10 - FU12 Survey_english.pdf

Innovation Pilot for Microentrepreneurs in Colombia - Customers Survey

Title Innovation Pilot for Microentrepreneurs in Colombia - Customers Survey
 Author(s) Innovations for Poverty Action

Date 2017-11-01
Country Colombia
Language English
Filename 2017 11 13 - Customers Survey_english.pdf

Innovation Pilot for Microentrepreneurs - Encuesta de Alta Frecuencia

Title Innovation Pilot for Microentrepreneurs - Encuesta de Alta Frecuencia
Author(s) Innovations for Poverty Action
Date 2016-05-01
Country Colombia
Language Spanish
Filename 2017 04 14 - HF Survey_Spanish.pdf

Innovation Pilot for Microentrepreneurs - Encuesta de Seguimiento (6 meses)

Title Innovation Pilot for Microentrepreneurs - Encuesta de Seguimiento (6 meses)
Author(s) Innovations for Poverty Action
Date 2016-11-01
Country Colombia
Language Spanish
Filename 2016 11 08 - FU6 Survey_Spanish.pdf

Innovation Pilot for Microentrepreneurs - Encuesta de Seguimiento (12 meses)

Title Innovation Pilot for Microentrepreneurs - Encuesta de Seguimiento (12 meses)
Author(s) Innovations for Poverty Action
Date 2017-04-01
Country Colombia
Language Spanish
Filename 2017 04 10 - FU12 Survey_Spanish.pdf

Innovation Pilot for Microentrepreneurs in Colombia - Encuesta a Tiendas

Title Innovation Pilot for Microentrepreneurs in Colombia - Encuesta a Tiendas
Author(s) Innovations for Poverty Action
Date 2017-11-01
Country Colombia
Language Spanish
Filename 2017 11 13 - Shops Survey_Spanish.pdf

Innovation Pilot for Microentrepreneurs - Encuesta a Clientes

Title Innovation Pilot for Microentrepreneurs - Encuesta a Clientes
Author(s) Innovations for Poverty Action
Date 2017-11-01
Country Colombia
Language Spanish

Filename 2017 11 13 - Customers Survey_Spanish.pdf

Reports

Shortening Supply Chains: Experimental Evidence from Fruit and Vegetable Vendors in Bogota

Title Shortening Supply Chains: Experimental Evidence from Fruit and Vegetable Vendors in Bogota

Author(s) Leonardo Iacovone, World Bank David McKenzie, Development Research Group, World Bank

Date 2020-02-01

Country Colombia

Abstract Fruit and vegetable vendors in Bogota travel most days to a central market to purchase produce, incurring substantial costs. A social enterprise attempted to shorten the supply chain between farmers and vendors by aggregating orders from many small stores and delivering orders directly. We randomized the introduction of this service at the market-block level. Initial interest was high, and the service reduced travel time and costs, and increased work-life balance. Purchase costs fell 6 to 8 percent, there was incomplete pass-through into lower prices for consumers, and markups rose. However, stores reduced sales of products not offered by this new service, and their total sales and profits appear to have fallen in the short-run, with service usage falling over time. The results offer a window into the nature of competition among small retailers, and point to the challenges in achieving economies of scale when disrupting centralized markets for multi-product firms.

Filename agruppapaper_feb2020.pdf
