

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

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Report generated on: September 21, 2020

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## Overview

### Identification

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#### ID NUMBER

COL\_2016-2018\_IPMC\_v01\_M

### Overview

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#### 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

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#### 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

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#### GEOGRAPHIC COVERAGE

Southwest Bogota

### Producers and Sponsors

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#### 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

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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

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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

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

## Data Collection

### Data Collection Dates

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<b>Start</b>	<b>End</b>	<b>Cycle</b>
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

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Computer Assisted Personal Interview [capi]

### Questionnaires

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

### Data Collectors

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<b>Name</b>	<b>Abbreviation</b>	<b>Affiliation</b>
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**

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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

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#### **Innovation Pilot for Microentrepreneurs - High Frequency Survey**

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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

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

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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

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

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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

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#### **Innovation Pilot for Microentrepreneurs in Colombia - Customers Survey**

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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

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## **Innovation Pilot for Microentrepreneurs - Encuesta de Alta Frecuencia**

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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

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

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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

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

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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

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## **Innovation Pilot for Microentrepreneurs in Colombia - Encuesta a Tiendas**

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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

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## **Innovation Pilot for Microentrepreneurs - Encuesta a Clientes**

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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

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## Reports

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

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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

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