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Prices and Competition: Evidence from a Social Program

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Prices and Competition: Evidence from a Social Program*

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Abstract

We use a micro-price dataset to analyze the impact on prices of a social program in Uruguay that allow the beneficiaries to purchase food, beverages and cleaning items exclusively in certain small retailers. We find that the beneficiaries pay significantly higher prices in relation to prices in other retailers. We find this result for the whole country with the exception of areas with the highest retailer density in the capital city, Montevideo.

Keywords: market structure, market power, prices, social program.
JEL Codes: D4, I3, L1

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Resumen

Utilizamos una base de datos de precios a nivel de comercio y producto para analizar el impacto en los precios pagados por los beneficiarios de un programa social en Uruguay que provee acceso a alimentos, bebidas y artículos de limpieza a sus beneficiarios en un conjunto de comercios autorizados. Encontramos que los beneficiarios pagan precios significativamente mayores a lo que obtendrían en tiendas que no participan del programa. Este resultado se encuentra para todas las regiones del país con la excepción de la región de mayor densidad de comercios de Montevideo.

Palabras claves: estructura de mercado, poder de mercado, precios, programa social.

Códigos JEL: D4, I3, L1

I. Introduction

The study of market structure and margins, and its effects on retailers is an important subject for the analysis of price formation, inflation expectations and therefore to the design of monetary policy. The objective of this research is to contribute to the empirical analysis of market structure with the analysis of a social program in Uruguay that can generate incentives to change small retailer price setting.

We use a micro-price dataset to analyze the effect of a social program in Uruguay that transfers money in a debit card to beneficiaries to purchase exclusively food, non alcoholic-beverages and cleaning items exclusively in authorized small stores.

The social program *Tarjeta Uruguay Social* (TUS) is carried out by the Ministry of Social Development of Uruguay (MIDES) to ensure the basic consumption needs of extremely vulnerable households. The program consists in a money transfer to households to spend in food, non-alcoholic beverages and cleaning items exclusively in authorizes small stores. Until October of 2013 the program explicitly excluded big retailers from participating in the program. Despite the fact that the big retailers were authorized to participate of the program in October 2013, they did not enter the program. The nonattendance of big retailers limits the number of stores where the beneficiaries can shop and therefore it can lead to higher prices. In this case, we have one instrument and two objectives. The instrument is the food program and the first objective is to ensure food to the population in critical situation. The second one is to improve the profitability of small businesses by granting them exclusive rights to participate in the program and thus limiting competition. An unintended consequence would be that beneficiaries end up paying higher prices respect to the situation where they could buy in any store.

The main objective of this paper is to analyze whether there are significant and systematic differences between the prices paid by users of TUS Program at participating stores (called solidarity retailers) and prices of other stores, primarily big supermarkets currently not participating in the program. In particular, we want to assess the effect of the inclusion of big supermarkets in the program.

A second objective is to determine whether participant shops price discriminate against program beneficiaries; that is we want to analyze if participant shops charge higher prices to TUS customer than to non-TUS customers. The practice of price discrimination against TUS customer is prohibited by the program and the beneficiaries can report this to MIDES.

Related to this study is the open and interesting question whether low-income people pay more for the same goods than other people. There are a number of reasons to conclude that they pay different prices. Low-income people can shop in small businesses without access to discounts for buying in large volumes and thus have higher prices. These small stores also may face increased costs due to security problems, higher financing costs or inability to access to credit, etc. Moreover, in the lower income areas other maintenance costs may be lower and people might have lower opportunity costs to search the best prices. Therefore, theoretically it is uncertain whether prices will be higher, the same or lower for low-income consumers. We not only analyze if beneficiaries pay higher prices than non-beneficiaries but also if they face a different rate of inflation

We use a unique micro-set data for participant and not participant stores for 69 products defined ah the UPC level from November 2012 to May 2014. We find that participant stores do not price discriminate against TUS customers. We also find that the beneficiaries pay significantly higher prices in relation to prices in other retailers. We find this result for the whole country with the exception of areas with the highest retailer density in the capital city, Montevideo. In the departments capitals, excluding Montevideo, the price gap paid by the beneficiaries is higher the higher the proportion of beneficiaries households. Finally, we do not find significant differences in the growth rate of prices between participant and non participant stores.

Section II reviews the literature. In section III we describe the TUS program. The methodology is discussed in section IV. Section V presents the dataset used in the estimation. In section VI we present the results. Finally, section VII concludes.

II. Background and Literature Review

The issue if poor households pay more for the same goods has been studied previously. Godman (1968) conducted a survey to consumer in Philadelphia to analyze consumer patterns and to study if the poor pay higher prices. He finds that the poor do not pay more because they shop far away of their homes using vehicles or public transportation for the main purchase.

Kaufman et al. (1997) find also for the United States that despite higher prices, low income households spend more time searching for sales and they select stores with products with lower prices and quantities (similar results to MacDonald and Nelson (1991)). They also state that access to large supermarkets helps low-income families because not only provides access to a greater number of products but at lower prices. In a recent paper, Gibson and Kim (2013) find that prices in low-income areas in Vietnam are lower than in other areas.

In a unique experimental study with random entry of stores, Busso and Galiani (2014) find that increases in competition reduce prices for the beneficiaries of the conditional cash transfer in Dominican Republic. However, they do not observe changes in quality.

A qualitative assessment of the social program TUS is performed by MIDES (2014) with interviews to participant households and stores. The fear to lose customers in their area is the main motivation of stores to participate in the program. They learned the existence of the social program trough the small retailers centre, the press and the internet.

In MIDES (2014) there is a consensus among beneficiaries that the amount of the transfer is adequate. Despite this, there is a criticism to the system of allocation of the transfer. In order to avoid a decrease in the quality of the customer service of the participant stores, the beneficiary households do not receive the transfer the same day. The distribution of the payment is uniform from the 10^{th} to the 30^{th}. The households that receive the transfer at the end of the month say as a disadvantage not having the enough variety of goods than at the beginning of the month. Thus, they have to consume more expensive products because the

cheapest items are out of stock. The beneficiaries declare that this constraint impacts negatively their limited budgets.

In MIDES (2014) the beneficiaries of the capital city of Montevideo say that the distance they have to travel to shop at participant stores (up to two kilometers) is a limitation of the program. They also complain of the high prices for some product categories such as butchers, fruits and vegetables in the participant stores. They claim for the incorporation of shops specifically dedicated to these items. Most of the beneficiaries also say that they concentrate the shopping in one or two purchases.

Some beneficiaries indicate discriminatory practices of the participant stores such as longer waits, higher prices when they receive the transfer, etc. In September 2012 there was a reduction in the tax sales for the program purchases. The beneficiaries claim that there was not a perfect pass through from taxes to prices and they point out that the participant stores increase their profits.

III. The TUS Program

The goal of the TUS program is to ensure the basic consumption needs of extremely poor households. The program consists in a money transfer to households to spend in food, non-alcoholic beverages and cleaning items exclusively in authorized small stores.

Eligibility is based on a vulnerability score[1], according to which households below a certain threshold are selected as beneficiaries of the program. Currently, nearly 65,000 households receive the transfer, although in its early stages it covered more than 85,000 households, as shown in Figure 1. The sharp drop experienced in the first quarter of 2013 owes to an update in household data that led to exclude beneficiaries that were above the eligibility threshold.

[1] The score orders is calculated by the Economics Department of the University of the Republic based on data gathered by the Ministry.

The transfer is granted through a debit card which must be used at an authorized store. Beneficiaries cannot withdraw cash from the bank account that supports the debit card. The amount of the transfer varies between USD 30 and USD 160, depending on the number of children in the household and its level of vulnerability. On average, the program represents 8.5% of total household income.

Purchases can only be made in authorized stores which are generally small stores. At the beginning of the program, big supermarkets where banned from participating[2] although they were enabled in October 2013. Nonetheless, supermarkets have not been incorporated to the TUS program. Currently, there are more than 800 participating stores.

IV. Methodology

We follow three distinct strategies to determine if program beneficiaries pay higher prices:

First, considering all stores, participating (P) and not participating (N) in TUS program, we test whether those participating in the program charge, on average, higher prices than those that are not participating; and, if that difference varies with the size of the program in each city or the degree of competition facing each store:

$$p_{islt} = \alpha + \alpha_i + \gamma_l + \lambda_t + \beta_0 D_s + \beta_1 BPH_{lt} D_s + \beta_2 S_{st}^P D_s + \gamma X_{slt} + \varepsilon_{islt} \qquad (1)$$

where, *i* is product, *s* is store, *l* is city and *t* is month-year. p_{islt} is the (log) price; D_s is an indicator variable taking the value of 1 if the store *s* is participating in the program; BPH_{lt} is the number of beneficiaries in city *l* as a proportion of the number of households in the same city; S_{st}^P, is the number of stores participating in the program in a radius of one kilometer around store *s*; and, X_{slt} includes BPH_{lt} and S_{st}^P separately; an indicator variable taking the value of 1 if the store belongs to a chain; and S_{st}^N. The parameters of interest are β_0, β_1 and β_2, that measure the over price paid by beneficiary households.

[2] Eligible stores could not have more than 99 employees or annual revenue greater than nine million dollars, according to decree 504/007 of the Executive Branch.

Secondly, for each participating store (P), we find the nearest non-participating store (N) and estimate equation (2):

$$p^{P}_{i,s,l,t} = \alpha + \eta_s + \beta p^{N}_{i,s,l,t} + \rho Dist_{s,t} + \gamma BPH_{lt} + \varphi A_{lt} + \delta S^{P}_{st} + \tau C_s + \varepsilon_{i,s,l,t} \qquad (2)$$

Where, $p^{P}_{i,s,l,t}$ is the (log) price of product i in a participating store s; $p^{N}_{i,s,l,t}$, is the (log) price of product i in the nearest non-participating store; $Dist_{s,t}$ is the logarithm of the distance between both stores; A_{lt} is the average amount transferred to the beneficiaries of city l; and C_s is the number of cashiers in the non-participating store, which is used as a proxy of size. The model also includes fixed effects by product category.

The relevant hypothesis in this specification is $\alpha = 0, \beta = 0, \gamma = 0, \varphi = 0$ which implies that TUS beneficiaries do not pay higher prices. However, if $\alpha > 0$ and $\beta = 1$, participating stores would charge higher prices; $\gamma = 0$ or $\varphi = 0$, would imply higher prices due to the importance of the program. Whenever $\beta = 1$, we will estimate this equation:

$$p^{P}_{i,s,l,t} - p^{N}_{i,s,l,t} = \alpha + \eta_s + \rho Dist_{s,t} + \gamma BPH_{lt} + \varphi A_{lt} + \delta S^{P}_{st} + \tau C_s + \varepsilon_{i,s,l,t} \qquad (2')$$

This model includes a dummy variable in March 2013 and an interaction with BPH_{lt} to take in consideration the 16% drop in beneficiaries that month. In the case of Montevideo, there is no detailed data on beneficiaries, so we include a full set of times dummies.

Finally, we estimate equation 3 for those stores for which we have information on prices charged to TUS beneficiaries and other customers, and test if the participating stores discriminate prices between customers. $p^{ALL}_{i,s,l,t}$ is the price paid by any customer at a participating store, regardless of whether he is a program beneficiary or not. If α is positive, there could be price discrimination between beneficiaries of the program and other clients.

$$p^{P}_{i,s,l,t} = \alpha + \alpha_i + \eta_s + \beta p^{ALL}_{i,s,l,t} + \varepsilon_{i,s,l,t} \qquad (3)$$

The price variables are in logarithms. Each of the specification are estimated by regions: two zones in Montevideo, capitals of the rest of the country and other cities. All models are estimated with clustered standard errors at the product category level to consider for correlation between products that belong to the same category.

V. Data

We use a product-level dataset from two distinct sources. On the one hand, the daily prices compiled by The General Directorate of Commerce (DGC) at the Ministry of Economy and Finance, which includes 333 supermarkets. The DGC mandates grocery stores and supermarkets to report its daily prices for a list of products if they meet the following two conditions: i) they sell more than 70% of the products listed, and ii) either have more than four grocery stores under the same name, or have more than three cashiers in a store. The information sent by each retailer is a sworn statement, and they are subject to penalties in case of misreporting.

Figure 2 shows a map with the cities covered by this dataset. These cities represent more than 80% of the total population. Montevideo, the capital of Uruguay, having 45% of the population, has 57% of the stores covered by the data[3].

On the other hand, we have monthly transactions of the TUS debit card in 658 participating stores, in 151 cities. In this dataset, prices are monthly averages of the prices paid by beneficiaries. Figures 2 and 3, show the distribution of participating stores at the country level and for the city of Montevideo, respectively. In the latter, we divide the city in two areas[4]: a central area, where competition is high according to the important atomization of stores and the low proportion of households receiving the TUS transfer; and, a peripheral area, where competition seems low and the TUS program is more intensive.

All participating and non-participating stores are georeferenced. Products are defined at the Universal Code Product (UPC), so we can be sure they are identical products across both

[3] See Borraz and Zipitría (2012) for a complete description of a dataset.
[4] Montevideo is divided in 18 Centros Comunales Zonales (CCZ). Our division is related to these: the central area includes the first eight CCZ; and the peripheral area, the CCZ between 9 and 19.

datasets. Combining both data sources, we have 69 UPC grouped in 24 product categories, for the period November 2012 - May 2014. Table A1 in the Appendix shows a detailed list of the products used in our estimations, and Tables 1 and 2 present descriptive statistics of our data.

One concern is the possibility of error in the dataset. We eliminate those observations with a price greater or less than two times the median of prices by individual product. The loss of observations was 0.03% in the DGC dataset and 0.08% in the MIDES dataset.

Another concern relates to the frequency of the data. In the first case, the data is daily while in the second, monthly. To make them comparable we take monthly averages of the DGC data.

VI. Results

Estimation results are presented in Tables 3, 4, 5, 6 and 7. Regarding our first specification, two important results emerge. Firstly, price differences between both types of stores is not important from the interpretation of the variable that indicates whether a store is participating in the program. However, price differences seem to be related to the size of the program and to the degree of competition.

Figures 4 and 5 plot the marginal effects of participating stores in prices for increasing values of the size of the program. Clearly, there is a significant wedge between prices charged in stores that accept the program debit card in capitals, except Montevideo, and other cities; and, it is increasing in the size of the program, with a higher slope in the capital cities.

Competition seems to lower the price differences between the stores, being decreasing with respect to the number of participating stores in the capital cities, as seen in Figure 6.

With respect to our second specification, we reject for all regions that the parameter β is equal to 1. Prices at participating and non-participating stores seems to grow at a similar rate.

Price differences emerge also in this specification. In this case, the peripheral zone of Montevideo seems to have participating stores that are 4.5% more expensive than non-participating stores that are closest to the former. The difference is 12% and 18.6% in capital cities, except Montevideo, and other cities, respectively.

In the latter case, other cities, we disaggregate the data considering if the non-participating store is in the same city, in another city of the same department, or in a different department. From this analysis emerges that those cities that do not have a non-participating store have a 50% wedge in prices.

Lastly, from our third specification, we conclude that price discrimination between program beneficiaries and other clients is not significant, across all regions considered.

VII. Conclusions

The aim of this study is to determine whether beneficiaries of a Uruguayan social program pay higher prices than other households because they are restricted to shop only at authorized stores. We find that on average they pay higher prices than they would pay in nearby non-participating stores. Outside of the capital city of Montevideo, the price gap is related to the size of the program. Therefore, the higher the number of beneficiaries the higher is the over price.

We have to remark that in some small locations there is not a big supermarket; therefore, some beneficiaries could not fully beneficiate if the program increases the number of stores to shop. On the other hand, we do not find evidence of price discrimination of stores against program beneficiaries. The participating stores charge the same price to beneficiaries and to other clients.

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Figures

Figure 1. Number of program beneficiaries

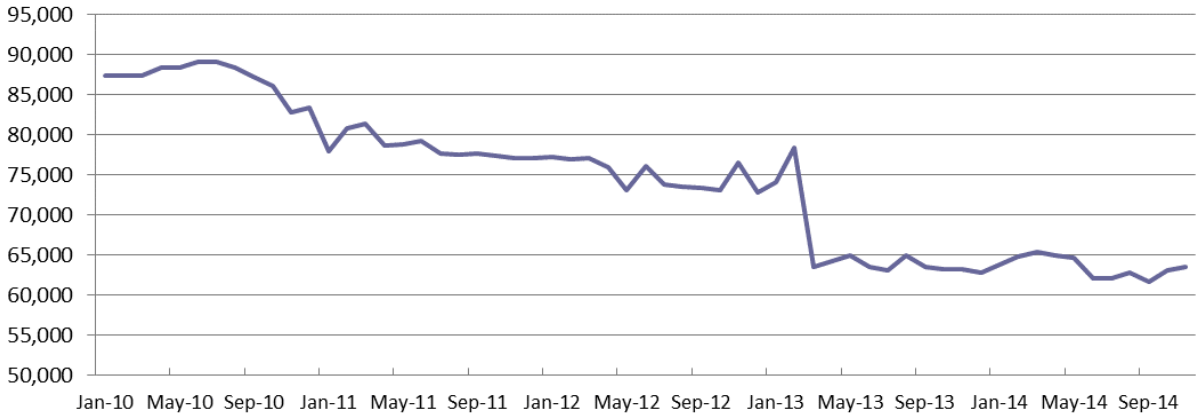


Figure 2. Participating and non-participating stores (red dot and blue square, respectively)

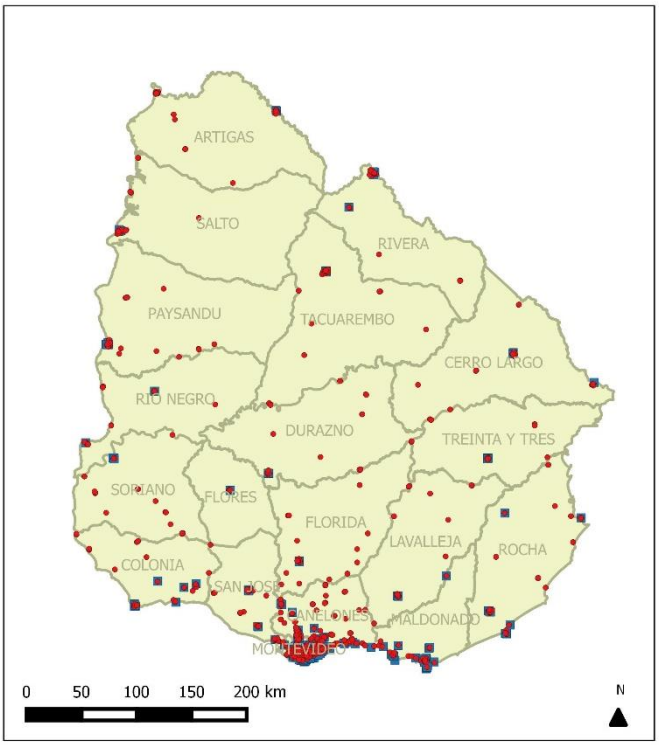


Figure 3. Participating and non-participating stores in Montevideo (red dot and blue square, respectively)

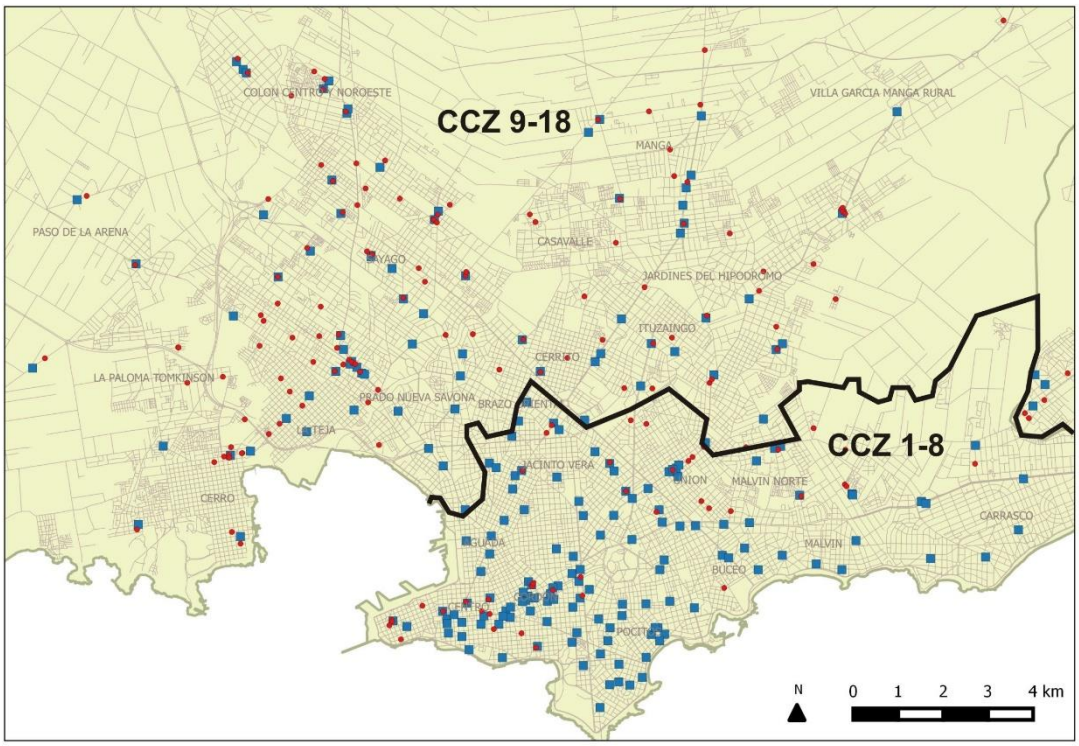
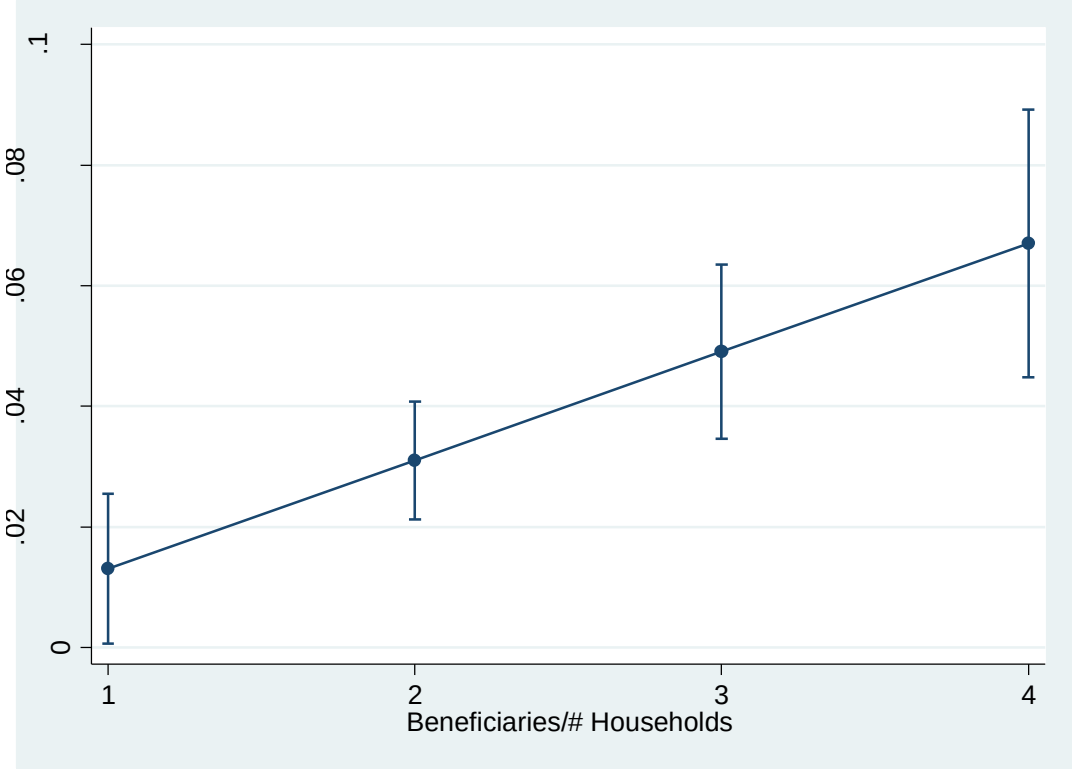
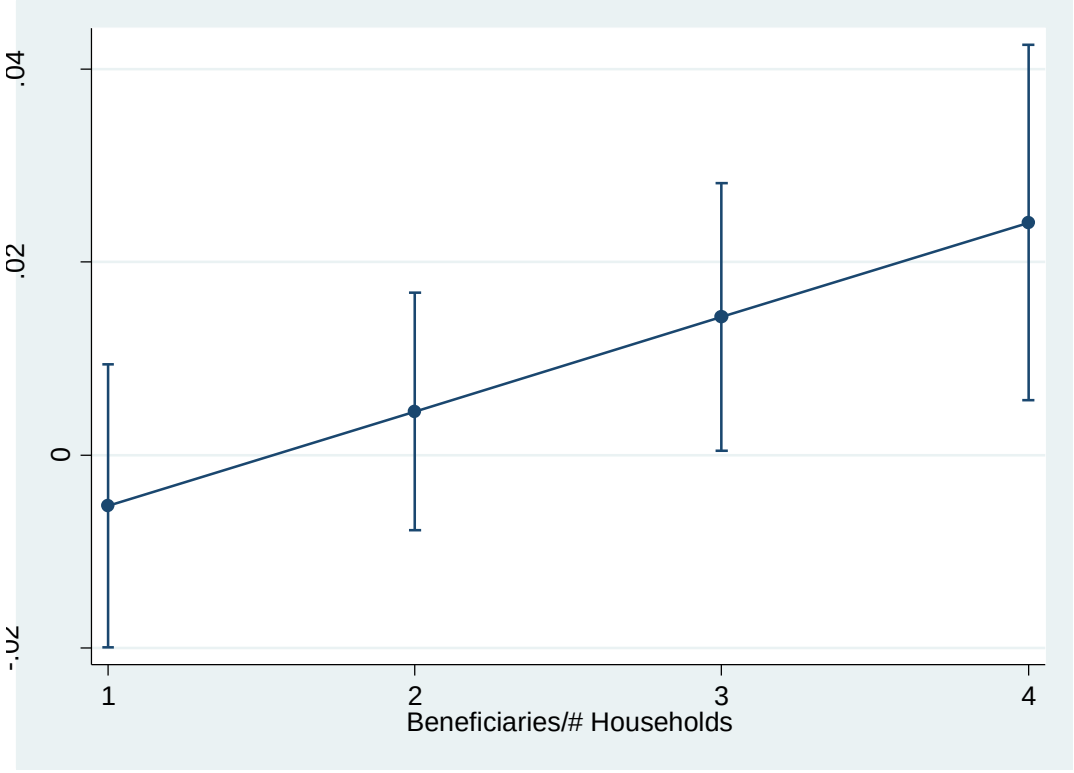


Figure 4. Marginal effects of Participating Store on prices, at increasing size of the program (Capitals, except Montevideo)



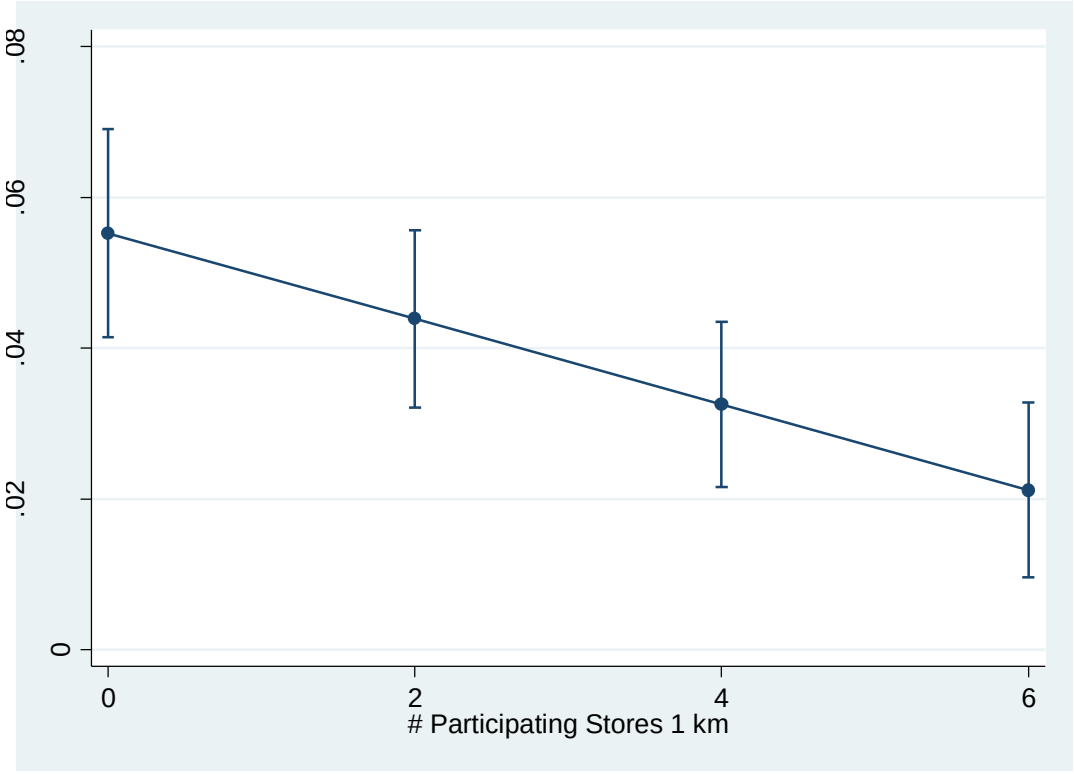
Confidence interval for a 5% significance level

Figure 5. Marginal effects of Participating Store on prices, at increasing size of the program (Other Cities)



Confidence interval for a 5% significance level

Figure 6. Marginal effects of Participating Store on prices, at increasing degree of competition (Capitals, except Montevideo)



Confidence interval for a 5% significance level

Tables

Table 1. Descriptive statistics

Variables	Mean	Median	Standard Deviation	Minimum	Maximum
(log) $p^{P}_{i,s,l,t}$	3.773	3.664	0.542	2.357	5.288
(log) $p^{N}_{i,s,l,t}$	3.762	3.664	0.532	2.477	5.060
(log) $p^{P}_{i,s,l,t}$ − (log) $p^{N}_{i,s,l,t}$	0.011	0.002	0.120	-0.802	0.963
Distance (Km)	13.140	0.876	25.474	0.004	114.236
Stores in 1000 meters	1.919	2.000	1.659	0.000	9.000
Beneficiaries/Households	2.605	2.135	1.702	0.000	15.965
Average amount (thousands of pesos)	1.553	1.562	0.282	0.000	2.960
No. of Cashiers	5.667	5.000	2.978	2.000	26.000

All stores, except those common to both datasets. Period: November 2012 – May 2014. N = 122,466.

Table 2. Descriptive statistics, by area

Variables	Montevideo CCZ<=8	Montevideo CCZ>=9	Capital s/Montevideo	Other cities
Beneficiaries/Households	-	-	2.67	2.86
Average amount (thousands of pesos)	1.34	1.34	1.59	1.58
Stores in 1000 meters	2.49	2.01	2.37	1.56
Distance (Km)	0.33	0.75	0.96	28.93
No. of Cashiers	5.80	6.59	6.05	5.45
No. Participating Stores	28	98	186	346
No. Products	61	69	68	69
No. Cities	1	1	18	132

All stores, except those common to both datasets. Period: November 2012 – May 2014. N = 122,466.

Table 3. Dependent variable: price (log)

Variables	Montevideo CCZ<=8	Montevideo CCZ>=9	Capital Cities	Other Cities
Participating Store	0.016	0.003	0.011	-0.016*
	(0.022)	(0.008)	(0.009)	(0.009)
(Participating Store)*(Participating Stores in 1 km)	-0.002	-0.001	-0.006***	0.000
	(0.004)	(0.002)	(0.001)	(0.001)
(Participating Store)*(Beneficiaries/Households)	-	-	0.018***	0.010**
			(0.004)	(0.003)
Beneficiaries/Households	-	-	-0.008**	-0.012***
			(0.003)	(0.002)
Participating Stores in 1 km	-0.001	-0.002**	-0.001*	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Non-Participating Stores in 1 km	-0.000	0.000	0.001	-0.000
	(0.000)	(0.001)	(0.001)	(0.001)
Chain	0.014	0.004	0.036***	0.020**
	(0.008)	(0.007)	(0.008)	(0.007)
Constant	3.939***	3.958***	3.946***	4.044***
	(0.015)	(0.017)	(0.019)	(0.021)
Observations	123,123	99,402	127,347	131,831
R-squared	0.972	0.967	0.966	0.966
Product Fixed Effects	Yes	Yes	Yes	Yes
City Fixed Effects	Yes	Yes	Yes	Yes
Time Dummies	Yes	Yes	Yes	Yes

Period: November 2012 – May 2014. Cluster standard errors at the product category level. *** p<0.01, ** p<0.05, * p<0.1

Table 4. Price comparison with respect to nearest non-participant stores in Montevideo

	Montevideo CCZ<=8		Montevideo CCZ>=9	
Variables	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$
(log) $p^N_{i,s,l,t}$	0.970***		0.958***	
	(0.018)		(0.028)	
(log) Distance Km	-0.032*	-0.031*	-0.015**	-0.016**
	(0.016)	(0.016)	(0.006)	(0.006)
Participating Stores in 1 km	-0.008	-0.008	0.001	0.001
	(0.006)	(0.006)	(0.002)	(0.002)
No. of Cashiers	-0.001	-0.002	-0.001	-0.001
	(0.006)	(0.006)	(0.002)	(0.002)
Constant	0.189**	0.074	0.208*	0.045**
	(0.078)	(0.058)	(0.110)	(0.020)
Observations	4,332	4,332	21,379	21,379
R-squared	0.968	0.411	0.969	0.341
Store Fixed Effects	Yes	Yes	Yes	Yes
Product Category Fixed Effects	Yes	Yes	Yes	Yes
Time Dummies	Yes	Yes	Yes	Yes
No. of Stores	28	28	98	98
p MEF = 1 (p-value)	0.120		0.147	

Period: November 2012 – May 2014. Cluster standard errors at the product category level. *** p<0.01, ** p<0.05, * p<0.1

Table 5. Price comparison with respect to nearest non-participant store in the rest of the country

	Capitals w/o Montevideo		Other Cities	
Variables	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$
(log) $p^P_{i,s,l,t}$	0.990***		0.975***	
	(0.023)		(0.028)	
(log) Distance Km	-0.019	-0.019	-0.010***	-0.010***
	(0.014)	(0.013)	(0.003)	(0.002)
Participating Stores in 1 km	-0.000	-0.000	0.004*	0.004*
	(0.001)	(0.001)	(0.002)	(0.002)
No. of Cashiers	0.003**	0.003**	-0.004**	-0.004**
	(0.001)	(0.001)	(0.001)	(0.001)
Beneficiaries/HH	-0.002	-0.002	-0.002	-0.001
	(0.005)	(0.005)	(0.002)	(0.002)
Average amount (thousands of pesos)	0.028*	0.025*	0.009*	0.004
	(0.015)	(0.013)	(0.005)	(0.008)
Indicator variable (Drop in Beneficiaries/HH)	-0.006	-0.005	-0.002	-0.001
	(0.005)	(0.005)	(0.004)	(0.003)
Indicator variable (Drop in Beneficiaries/HH)* Beneficiaries/HH	-0.001	-0.001	-0.000	-0.000
	(0.002)	(0.002)	(0.001)	(0.001)
Constant	0.160*	0.122**	0.287**	0.186***
	(0.078)	(0.052)	(0.102)	(0.027)
Observations	30,176	30,176	60,524	60,524
R-squared	0.966	0.331	0.966	0.288
Store Fixed Effects	Yes	Yes	Yes	Yes
Product Category Fixed Effects	Yes	Yes	Yes	Yes
No. of Stores	181	181	343	343
p MEF = 1 (p-value)	0.682		0.389	

Period: December 2012 – May 2014. Cluster standard errors at the product category level. *** p<0.01, ** p<0.05, * p<0.1

Table 6. Other cities: Price comparison with respect to nearest non-participant store in same city, same department and different department

	Same city		Same department		Different department	
Variables	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l}$	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$
(log) $p^N_{i,s,l,t}$	0.980***		0.971***		0.985***	
	(0.026)		(0.030)		(0.028)	
(log) Distance Km	-0.030***	-0.030***	-0.094***	-0.095***	0.021	0.020
	(0.007)	(0.007)	(0.019)	(0.020)	(0.059)	(0.060)
No. of Cashiers	-0.001	-0.001	-0.006*	-0.006**	-0.017***	-0.017***
	(0.002)	(0.002)	(0.003)	(0.003)	(0.005)	(0.004)
Participating Stores in 1 km	0.005**	0.005*	0.002	0.002	0.015***	0.015***
	(0.002)	(0.002)	(0.003)	(0.003)	(0.004)	(0.004)
Beneficiaries/HH	0.006	0.007	-0.003	-0.003	0.004*	0.005**
	(0.005)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)
Average amount (thousands of pesos)	-0.000	-0.004	0.034***	0.026	-0.004	-0.007
	(0.007)	(0.008)	(0.010)	(0.015)	(0.011)	(0.014)
Dummy (Drop in Beneficiaries/HH)	0.004	0.005	0.001	0.002	0.004	0.004
	(0.011)	(0.011)	(0.005)	(0.005)	(0.005)	(0.006)
Dummy (Drop in Beneficiaries/HH)*Beneficiaries/HH	-0.003	-0.003	-0.002*	-0.002*	0.000	0.000
	(0.003)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.058	-0.022**	0.631***	0.524***	0.245	0.188
	(0.106)	(0.008)	(0.109)	(0.067)	(0.244)	(0.199)
Observations	21,525	21,525	28,175	28,175	10,824	10,824
R squared	0.970	0.293	0.964	0.310	0.966	0.269
Store Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Product Category Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Stores	113	113	192	192	64	64
Number of Cities	28	28	75	75	29	29
p MEF = 1 (p-value)	0.444		0.338		0.603	

Period: December 2012 – May 2014. Cluster standard errors at the product category level. *** p<0.01, ** p<0.05, * p<0.1

Table 7. Price discrimination against beneficiaries

	Montevideo CCZ<=8		Montevideo CCZ>=9		Capitales s/Montevideo		Otras localidades	
Variables	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$	(log) $p^P_{i,s,l,t}$ − (log) $p^N_{i,s,l,t}$
(log) $p^N_{i,s,l,t}$	0.989***		0.995***		0.997***		0.992***	
	(0.006)		(0.002)		(0.003)		(0.004)	
Constant	0.037	-0.009***	0.021**	-0.004**	0.009	-0.002	0.023	-0.009***
	(0.024)	(0.003)	(0.009)	(0.002)	(0.012)	(0.001)	(0.015)	(0.002)
Observations	6,735	6,735	14,009	14,009	9,021	9,021	6,032	6,032
R-squared	0.992	0.044	0.994	0.125	0.990	0.050	0.995	0.113
Store Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Product Category Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
p MEF = 1 (p-value)	0.102		0.0378		0.409		0.0337	

Period: November 2012 – May 2014. Cluster standard errors at the product category level. *** p<0.01, ** p<0.05, * p<0.1

Annex

Table A1. Detailed Product List and Share in CPI

Category	Brand	Specification[a]	Share in CPI (%)
Sunflower oil	Uruguay	0.9 L	0.25
Sunflower oil	Rio de la Plata	0.9 L	0.25
Sunflower oil	Optimo	0.9 L	0.25
Sparkling Water	Matutina	2 L	0.82
Sparkling Water	Salus	2.25 L	0.82
Sparkling Water	Nativa	2 L	0.82
Rice	Vidarroz	1 Kg	0.38
Rice	Pony	1 Kg	0.38
Rice	Blue Patna	1 Kg	0.38
Rice	Green Chef	1 Kg	0.38
Rice	Aruba tipo Patna	1 Kg	0.38
Rice	Saman Blanco	1 Kg	0.38
Deodorant	Rexona Active Emotion	0.105 Kg	0.34
Deodorant	AxeMusk	0.113 Kg	0.34
Deodorant	Dove Original	0.1 Kg	0.34
Soap	Astral plata	0.125 Kg	0.16
Toilet Paper	Elite	4 units x 30 M	0.24
Toilet Paper	Sin Fin	4 rollos x 50 M	0.24
Toilet Paper	HigienolExport	4 units x 30 M	0.24
Tooth paste	Colgate Herbal Blanqueador	0.09 Kg	0.19
Tooth paste	Pico Jenner Plus	0.09 Kg	0.19
Tooth paste	Kolynos Triple accion	0.09 Kg	0.19
Dishwashing detergent	Protergentelimon	1 L	0.13
Dishwashing detergent	Hurra NevexLimon	1.25 L	0.13
Dishwashing detergent	Deterjane	1.25 L	0.13
Sugar	Bella Union	1 Kg	0.35
Sugar	Azucarlito	1 Kg	0.35
Coffe	Aguila	0.25 Kg	0.10
Coffe	Saint	0.25 Kg	0.10
Coffe	Chana	0.25 Kg	0.10
Frankfurters	Schneck	0.33 Kg	0.23
Frankfurters	Centenario	0.33 Kg	0.23
Frankfurters	Ottonello	0.33 Kg	0.23

Hamburguer	Burgy	1 Unit	0.17
Hamburguer	Schneck	2 Units	0.17
Hamburguer	Paty	2 Units	0.17
Dulce de leche	Conaprole	1 Kg	0.14
Dulce de leche	Manjar	1 Kg	0.14
Dulce de leche	Los Nietitos	1 Kg	0.14
Noodles	Cololo	0.5 Kg	0.43
Noodles	Las Acacias	0.5 Kg	0.43
Crackers	Maestro Cubano	0.12 Kg	0.28
Crackers	Famosa	0.14 Kg	0.28
Wheat floor	Canuelas	1 Kg	0.21
Wheat floor	Cololo	1 Kg	0.21
Wheat floor	Cololo	1 Kg	0.21
Wheat floor	Canuelas	1 Kg	0.21
Brown eggs	El Jefe	1/2 Dozen	0.46
Brown eggs	Super huevo	1/2 Dozen	0.46
Brown eggs	Prodhin	1/2 Dozen	0.46
Ice cream	Conaprole	1 L	0.22
Ice cream	Crufi	1 L	0.22
Butter	Conaprole sin sal	0.2 Kg	0.23
Butter	Calcar	0.2 Kg	0.23
Butter	Kasdorf	0.2 Kg	0.23
Grated cheese	Conaprole	0.08 Kg	0.16
Grated cheese	Milky	0.08 Kg	0.16
Grated cheese	Artesano	0.08 Kg	0.16
Yogurt	Conaprole BIO TOP	1.2 L	0.13
Yogurt	Calcar	1.2 L	0.14
Yogurt	Parmalat BIO YOGUR	1.2 L	0.14
Mayonnaise	Hellmans	0.5 Kg	0.21
Mayonnaise	Uruguay	0.5 Kg	0.21
Tomato paste	Gourmet	1 L	0.16
Tomato paste	Conaprole	1 L	0.16
Tomato paste	De Ley	1 L	0.16
Yerba	Canarias	1 Kg	0.64
Yerba	Del Cebador	1 Kg	0.64
Yerba	Baldo	1 Kg	0.64

a. Kg = kilograms; L = liters; M = meters