Long Run Price or Variety Convergence? *

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Abstract

The literature on price convergence has emphasized the role of price arbitrage. We show a new mechanism for price convergence: variety arbitrage. We define variety arbitrage as the effect of the availability of similar products—varieties—to consumers within a store. We show how price setting is affected by differences in varieties within a product category at the store, after controlling for several effects. The availability of an additional variety at a product category decreases the price of a given good by about 4%. In our sample of goods, price convergence is mainly explained by changes in the varieties offered by stores across time. These results shed light on a new microeconomic mechanism for price convergence at the macroeconomic level.

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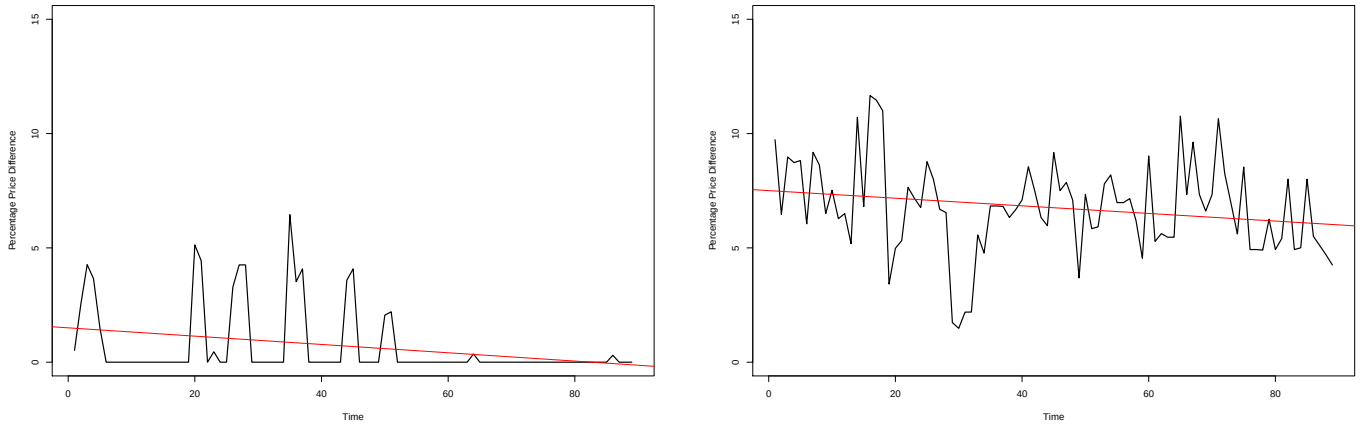
1 Introduction

Long run price convergence to the Law of One Price (LOP) has been extensively studied within and between countries. Within countries the literature finds price convergence on the long run while the disagreement is about the speed of convergence. Between countries the evidence is mixed. An important strand of the literature claim that prices converge between countries, while others find that—for some goods—prices diverge (see Dvir and Strasser (2018)). The main explanation for price convergence is—price—arbitrage (see Samuelson (1954)): if goods could be freely moved between different geographic locations, price differences could not be sustained across time. Thus, to find price convergence, trade restrictions or transport costs must have been reduced to allow goods to move between geographical regions. The European Union is an example of this reduction in trade restriction between countries that allow prices, at least for some goods and stores, to converge (see Cavallo, Neiman, and Rigobon (2015) for a recent example).

The effect could be illustrated by the next figures. We depict the median price difference for still water brand "Salus" and shampoo brand "Sedal" for stores up to 200 meters in Uruguay for a period of 89 months. Both figures show price converge, although the prices of water seems to converge much faster to the LOP than the price of shampoo.

Figure 1: Price convergence for two brands. On the left still water "Salus", on the right, shampoo "Sedal".

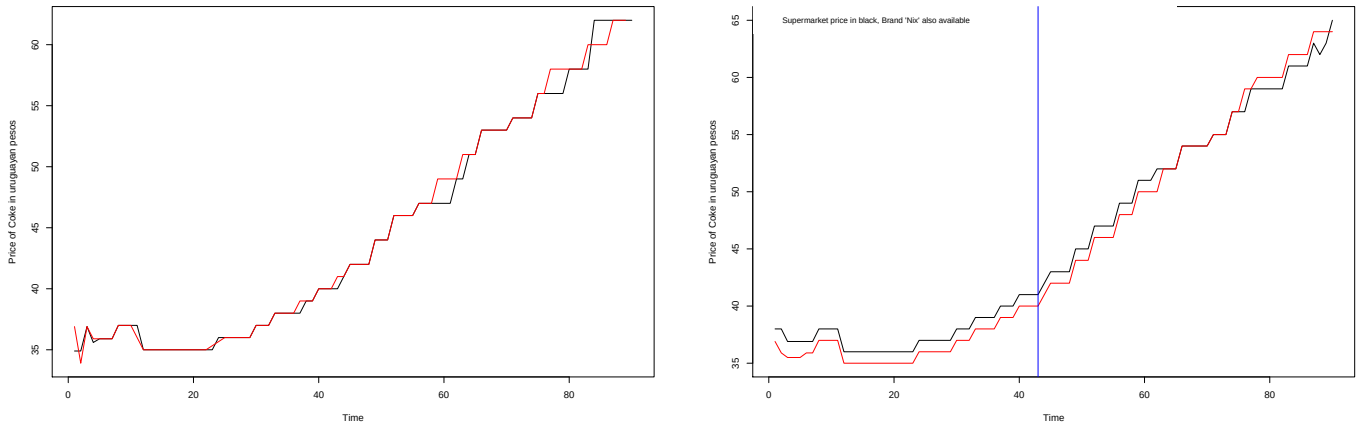


In this paper we show a new channel for price changes—and convergence—: changes in store's varieties of goods within a product category. While the literature has empathized price arbitrage—i.e., the pressure on store prices due to the availability of the same good at a proximate store—, there is a second arbitrage available for consumers: *variety arbitrage*. Variety arbitrage happens when consumers have the chance to buy a similar good within a store—where distance is zero, but goods are not the same—, instead of changing the store to buy for a given good—where goods is the same, but distance is positive. So instead of going to store B to buy Coke, I can buy Pepsi at store A to which I am now. To put in another way, if stores have the same variety of goods within a category their only difference is distance. When stores have different varieties of goods, then in addition to distance the mix of goods is also relevant.

The definition of variety is borrowed from the trade literature, in particular from models based on monopolistic competition (i.e., Dixit and Stiglitz (1977), Eaton and Kortum (2002), and Melitz (2003)). That is, within a given product category there are varieties of goods that offer similar characteristics to the consumer. Variety will be such collection of similar goods. In empirical papers of trade the narrow category to define a market for substitute goods is usually referred to as product category (see Gopinath, Gourinchas, Hsieh, and Li (2011), Hong and Li (2017), or Atkin and Donaldson (2015)).

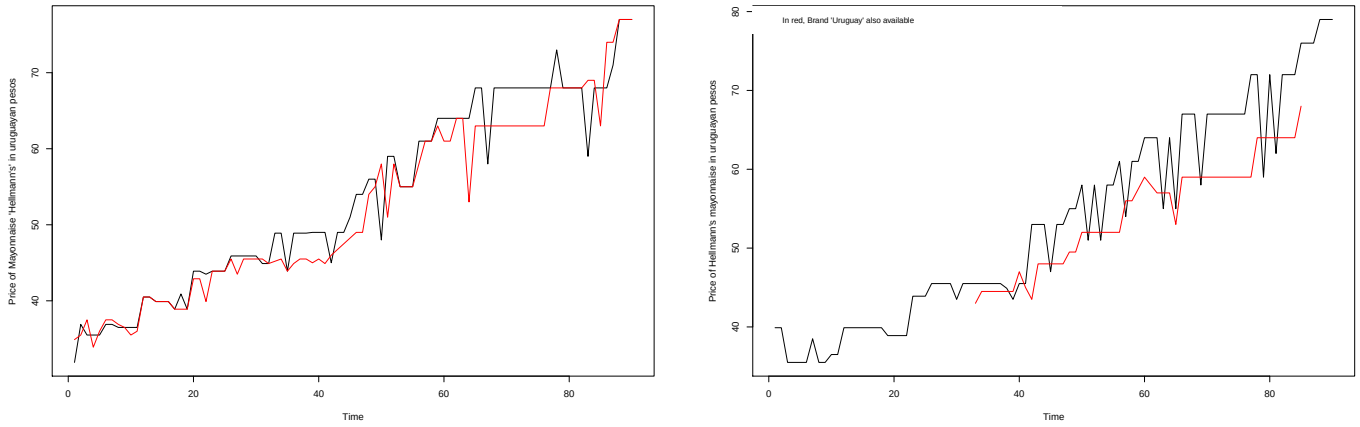
Consider the next two figures that illustrate the main point. Both show the price of a bottle of Coke of 1.5 liters in two stores at less than 200 meters from each other. Nevertheless, on the right one of the stores also sold the brand Nix (up to the time marked with the blue line). While prices on the right figure converge in all period, on the left they do not.

Figure 2: Price convergence for Coke. On the left, two stores that sold Coke; on the right, one of the stores also sold the brand "Nix" up to the time marked with the blue line.



The same effect could be found in the mayonnaise market. The next two figures depict the price of Hellmann's mayonnaise on two stores. Again, on the left both stores have the same brands, while on the right, one of the stores sold also another brand. Again, prices seems to converge on the left plot and not at all on the right one.

Figure 3: Price convergence for Hellmann's. On the left, two stores that sold Hellmann's; on the right, one of the stores also sold another brand.



In the paper we show that these differences persist after controlling for other factors, such as store or product effects. We regress the price of each good to the defined competition and multiproduct variables and a set of controls. We find that prices are 4.3% lower if the producer also has another product at the store, and 5.7% if it has two additional products. In turn, prices are 3.4% lower if there is an additional competitor at the store and 7.8% if there are two more competitors. Then, we show the relevance of variety arbitrage for long run price convergence using the methodology developed in Dvir and Strasser (2018). First, we estimate that price dispersion have decreased by 40% in the 89 months of our sample. Then, to isolate the variety effect we define product categories of goods (i.e., sugar, wine, water) or markets to create two variables. For each good in the sample we determine its producer and define two products to be *competitors or competitive* if producers are different, and *multiproduct* or *brands*—interchangeably—if producers are the same. Finally, for each product, store, and month we count the number of products that are competitors or multiproducts. Secondly, we regress the prices to the new competitor and diversify variable and keep the residuals. We calculate the dispersion of the residuals to find that the trend is no longer statistically significant. As a result, price convergence found in our sample seems to be driven mainly by variety arbitrage rather than price arbitrage. We confirm this by finding an increase in the dispersion of varieties in the sample period.

There is ample evidence of long run price convergence in the literature. Within countries it has been found by Parsley and Wei (1996), O'Connell and Wei (2002), and Yazgan and Yilmazkuday (2011) for the US; Ceglowski (2003) for Canada; Fan and Wei (2006) for China; and Elberg (2016) for Mexico; among others. Between countries Parsley and Wei (2001), Crucini and Shintani (2008), Cavallo, Neiman, and Rigobon, 2014, and Broda and Weinstein (2008) have found price convergence for different geographic regions. Others have found slow convergence in specific markets, such as the European car market (see Gil-Pareja, 2003, Goldberg and Verboven, 2005, and Dvir and Strasser, 2018). The reason for the long run convergence is mostly attached to the reduction in trade costs. For example, the European integration process has result in the reduction of barriers that facilitate the convergence of prices (see Goldberg and Verboven, 2005), as does also the introduction of a common currency (see Glushenkova and Zachariadis, 2016 and Cavallo, Neiman, and Rigobon, 2015). Interestingly, sellers can overcome the convergence process by discriminating against consumers by offering different product versions (see Dvir and Strasser, 2018).

Our approach try to explore a new avenue for understanding long run price convergence. In Borraz and Zipitría (2018) we present a model that shows that prices of the same good will not converge in equilibrium if stores offer different varieties of goods. We view compe-

tition as two dimensional: products compete with the same product in other geographical location, but also compete with similar goods at the same location. The empirical analysis shows that the variety arbitrage explain price convergence for our retail goods sample. This analysis is similar to Dvir and Strasser (2018) in terms of trying to explain the sources of convergence/non-convergence. Nevertheless, their paper focus on differences between similar cars in terms of amenities—which make cars different—while we focus on exactly the same good but differences on the breadth of categories at stores.

The paper is organized as follows. The next section describes the database used in the analysis and the procedure to calculate the variety effect. Section 3 shows how prices differ if store's varieties are not identical, after controlling for confounding factors. Then, it introduces the equation to estimate price convergence and the variety filtering procedure. Finally, Section 4 presents the conclusions of the analysis.

2 Data

We perform the analysis using a detailed good-level database of daily posted prices compiled by The General Directorate of Commerce (DGC, by its Spanish acronym), a branch of the Ministry of Economy and Finance in Uruguay, which comprises information about grocery stores all over the country.[1] Moreover, the DGC is the authority responsible for the enforcement of the Consumer Protection Law. The DGC requires retailers to report their daily prices once a month using an electronic survey.

The database has its origins in a tax law passed by the Uruguayan legislature in 2006, which changed the tax base and rates of the value added tax (VAT). The Ministry of Economy and Finance was concerned about incomplete pass-through from tax reductions to consumer prices and hence decided to collect and publish the prices in different grocery stores and stores across the country. The DGC issued Resolution Number 061/006, which mandates that grocery stores and stores report their 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) they either have more than four grocery stores under the same brand name or have more than three cashiers in a store. The information sent by each retailer is a sworn statement, and there are penalties for misreporting. The objective of the DGC is to ensure that prices posted on the DGC website reflect the real posted prices in the stores. In this regard, stores are free

[1] This is an updated database from Borraz and Zipitría (2012) and Borraz, Cavallo, Rigobon, and Zipitría (2016).

to set the prices they optimally choose, but they face a penalty if they try to misreport them to the DGC in an attempt to mislead costumers.

The data includes daily prices from April 1st of 2007 to August 31th of 2014 for 154 products, most of them defined by UPC code.[2] This detailed information allows us to track the exact same good in stores across the country, avoiding measurement problems resulting from different products being compared (see the discussion in Atkin and Donaldson, 2015). The markets for the goods included in the sample represent 15.6% of the CPI basket. Most items have been homogenized to make them comparable, and each store must always report the same item. For example, the carbonated soft drinks of the international brand Coca Cola is reported in its 1.5 liter variety by all stores. If this specific variety is not available at a store, then no price is reported. The data are then used on a public web site that allows consumers to check prices in different stores or cities and to compute the cost of different baskets of goods across locations.[3]

The three best-selling brands are reported for each market, disregarding the store's own brands.[4] Products were selected after a survey to some of the largest store chains in the year 2006. In November 2011, the list of products was updated, including some markets and reviewing the top selling brands for others. The price information for the goods that were discarded was deleted from the database, so we lose part of the information in some markets. The 154 products in the database represent more than 60 markets defined at the product category level (e.g., sunflower oil and corn oil and wheat flour 000 and wheat flour 0000 are different markets in our analysis). For some of them, the information does not allow the identification of the goods at the UPC level; in the meat and bread markets, products do not have brands. The detailed list of goods can be found in Appendix B.

For each store we have detailed information about the exact location given by its Universal Transverse Mercator (UTM) as well as about whether it belongs to a chain. The database has information for up to 386 stores—i.e., a non-balanced panel—across all nineteen political states, comprising 54 cities. Montevideo, the capital city of Uruguay, is also the country's largest city, with nearly forty percent of the Uruguayan population.[5] The following figure shows the cities in the database and the store distribution for Montevideo, which accounts for 54% of all stores in the sample.

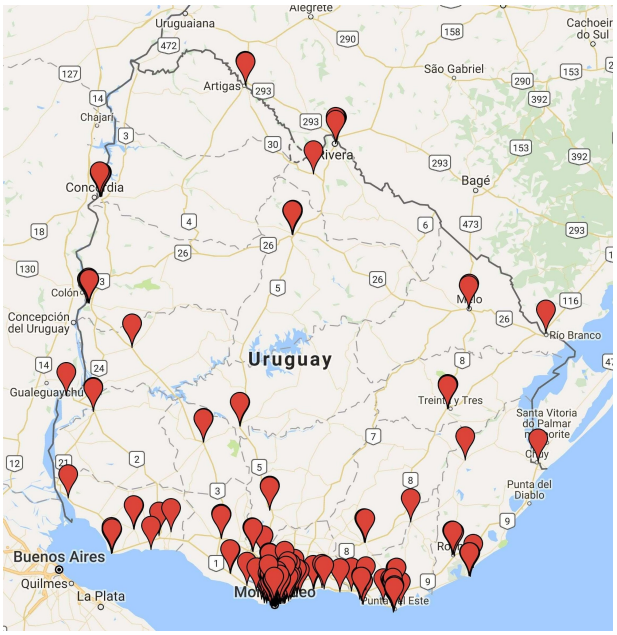
[2]We exclude March 2007 and September 2014 due to partial coverage of the data.

[3]See http://www.precios.uy/servicios/ciudadanos.html and Borraz and Zipitría (2012) for a detailed description of the database and an analysis of price stickiness.

[4]Exceptions are sugar, crackers, and cocoa, that has only two brands; and rice, that has up to six brands.

[5]More information is available at http://www.ine.gub.uy/uruguay-en-cifras.

Figure 4: Cities Covered in the Sample and Distribution of Stores.



Note: Each dot represents a store location across the 19 Uruguayan states.

We identify 125 products out of 154 that could be exactly matched. We delete products that are not sold packaged (e.g., ham, meat, and poultry). Our database has 125 products corresponding to 51 markets/categories. For the selected goods the database has 64 million daily observations. We delete outliers defined as those prices greater than 3 times or less than one third the median monthly price for each product (less than 0.01%). We then calculate the mode monthly price (see Eichenbaum, Jaimovich, and Rebelo, 2011) for each product. Our database is composed by 2,105,348 observations.

2.1 Products Offered by Competitors and Multiproduct Firms

For all identified products in the database we collect information on its past—to check changes in ownership—and actual producers. Annex B presents detailed information of the producer of each good in the database. By construction the database define the most selling brands for a series of product markets. We use this information to define categories of products (i.e., sugar, wine, water) and analyze the variety composition of each market. Two variables for each market were created. For each good in the sample we define two products to be *competitors* if their producers are different, and *multiproducts* or *brands*—interchangeably—if

the producers are the same. Finally, for each product, store, and month we count the number of products that are produced by competitors or multiproduct firms.

Lets exemplify the methodology using three markets in our database. First, take the case of the carbonated soft drinks market were all three firms are competitors. In this case, we just count the number of prices posted at each store and month—other than the price analyzed—to check the number of competitors each brand face. The same result holds for the beer market, but in this case all three brands are different products offered by the same producer. Lastly, in the case of sparkling water there is one firm that sell two brands and one firm that sell just one brand. In this case, we calculate—for each product—the number of multiproducts and competitors, or just competitors depending on whether there is a multiproduct or single product firm. The next table shows a cross tabulation of the share of brands and competition in the database. We use these differences in varieties at the store level and product categories to identify their effect on prices and dispersion across time.

Table 1: Sample Cross Tabulation of Multiproducts and Competition (in percentage).

		Number of Competitors			
		0	1	2	3
Multiproducts	0	10.5	26.2	20.3	0.1
	1	16.2	12.6	0.9	0.7
	2	11.0	0.2	1.0	0.2

Source: Author's calculation.

Although we do not have information on all brands and presentations in each market and we cannot rule out the effect that other brands could have on our defined variables, the fact that by construction of the database the selected brands are the most selling ones facilitate the analysis towards identifying the main effect of variety on price dispersion. With this caveat in mind, the next section presents evidence on the effect of variety on prices and then study the effect on long run price convergence.

3 Empirical Analysis

To motivate our empirical analysis we first show how differences in varieties within stores affect prices. We estimate a price equation against our variables of competition and brands and a series of store and market controls. The price equation is:

$$p^m_{its} = \alpha_i + \alpha_{st} + \alpha_{mt} + \beta_{1C} \sum_{C=0}^{3} Comp_{its} + \beta_{2V} \sum_{B=0}^{2} Brd_{its} + \epsilon_{its}, \quad (1)$$

where i is good, t is time, s is store, and m is market. We regress the log of prices—times 100—to a dummy of our competition and multiproduct variables that takes the value 1 for each value of competition—$Comp = \{0, 1, 2, 3\}$—and each value of brands—$Brd = \{0, 1, 2\}$—, and a set of store-time fixed effects and market-time fixed effects—i.e., time dummies for each stores and each market/category—. These dummies allow us to control for unobservable time variables that can affect prices. In particular, time specific shocks to stores—i.e., location, cost shocks, opening of new competitors, management, etc.—and markets—i.e., cost increases, regulatory changes, etc.—, as well as product characteristics. The estimation uses a within transformation to absorb the large number of fixed effects in the regression.[6] Standard errors are clustered at the store level.

Table 2: Estimation of the effect of Brands and Competition on Prices.

Brands1	-4.342***
	(0.239)
Brands2	-5.762***
	(0.521)
Competition1	-3.401***
	(0.178)
Competition2	-7.838***
	(0.311)
Competition3	-14.064***
	(1.010)
# Observations	2,077,443
Product Dummies	Yes
Market Time Dummies	Yes
Store Time Dummies	Yes
R square	0.92

Note: *** $p < 0.01$. Clustered standard errors (by store) in parentheses.

Table (2) show a sizable economic impact of competition and multiproduct firms on pricing decisions. To add one competitor decrease prices by 3.4%, while to add two decrease prices by 7.8%. Having a multiproduct firm in a market has a similar effect: prices are 4.3%

[6]See Wooldridge (2010) chapter 10.5. We use package lfe in R. Please see Gaure (2013) for details.

lower when another brand by the same producer is added and up to 5.7% when two brands are added. Prices are affected by how varieties within categories are set at the store level and this effect is economically significant. As a result, changes in the variety of goods offered by a store will affect prices independently of price arbitrage. We explore the dynamics of price convergence next.

3.1 Long Run Convergence

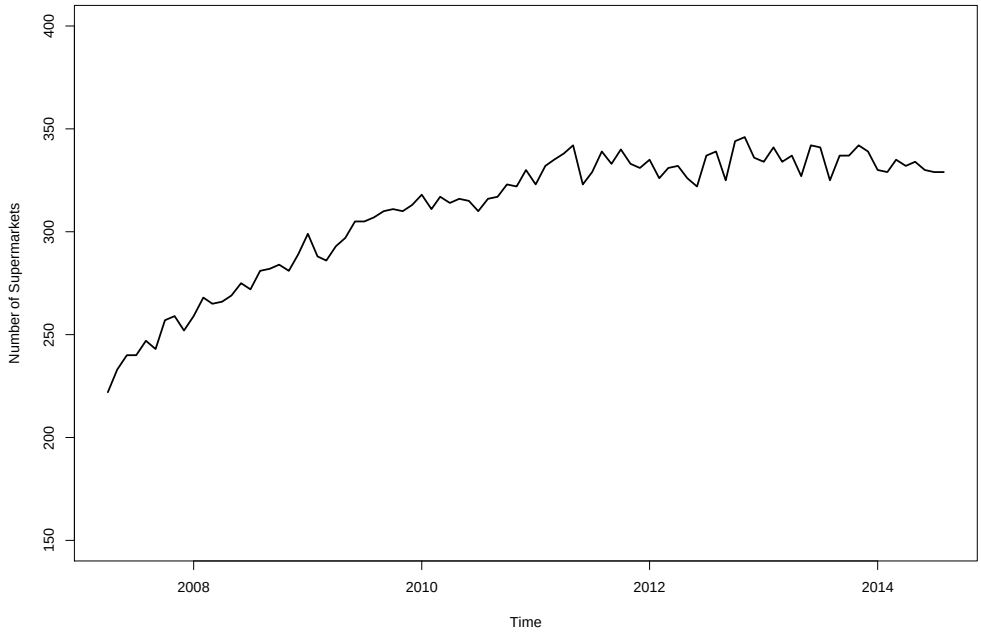
The estimation of the long run convergence follows Dvir and Strasser (2018). We calculate the standard deviation of the—log—price for each product and month in the database. Then the standard deviation of prices is regressed to a product dummy, a trend, a square trend, and the average price by product and month, as shown in the next equation.

$$SD\left(p_{its}\right) \times 100 = \alpha_i + \beta_1 T_t + \beta_2 T_t^2 + \gamma \overline{p}_{it} + \varepsilon_{it}, \tag{2}$$

where i is the product index, t the time index, s is the store index, α_i is a product dummy, T_t is a trend, T_t^2 is a square trend, and $\overline{p}_{it}$ is the average price for good i in time t. In Equation 2, β_1 and β_2 measure the speed of convergence through time; i.e., if prices became more equal or more differentiated as time passes. The estimation of price convergence is perform using a sample of stores. As the next figure shows, the database contain an unbalanced panel of stores and its number increases over time. This result is mainly due to small retailers not being aware of the regulation and started reporting prices later. Also, not all products in the database are collected from the beginning of the sample, as some of them are included in November of 2010. Therefore, the baseline analysis will cover the stores and products that started reporting prices in year 2007, and in addition we report the results for all stores and products in the database.[7]

[7]The results of including all stores could induce more volatility due to the different stores across the sample.

Figure 5: Number of Stores in the Period.



Source: Author's calculations.

Equation (2) does not allow us to control for market variety characteristics at the store level, because the data is aggregate at the time/product level. Therefore, we adopt a similar methodology to Parsley and Wei (2001) and regress—the log of—prices to our variables of competition and multiproduct and keep the residuals. With this method, we isolate the effect of variety arbitrage from other factors that could affect price setting through time. The estimated equation to obtain the residuals is:

$$p_{its}^{m} = \beta_{1C} \sum_{C=0}^{3} Comp_{its} + \beta_{2V} \sum_{B=0}^{2} Brd_{its} + \epsilon_{its}. \tag{3}$$

With the residuals of Equation 3, we calculate the standard deviation and average for the residuals of prices for each product and month. Next, we regress the standard deviation of the residuals of Equation 3 as in Equation 2:

$$SD\left(\epsilon_{its}\right) \times 100 = \alpha_i + \beta_1 T_t + \beta_2 T_t^2 + \gamma \overline{\epsilon}_{it} + u_{it}. \tag{4}$$

Table (3) shows the results for the estimation of Equations 2 and 4; i.e.; for the original price series and filtered prices series by competition and multiproduct. The equations are estimated for two different samples: first, only for stores and products at the beginning of the period—year 2007—; second, for all stores and products.

Table 3: Estimation of Price Dispersion.

	Stores & Products in year 2007		*Full Sample*	
Trend	-5.019***	-1.198	-2.721**	2.520
	(1.259)	(1.967)	(1.332)	(1.991)
Trend Square	0.044***	0.022	0.027***	-0.001
	(0.011)	(0.020)	(0.010)	(0.020)
Average Price	0.623	1.704	0.192	-0.171
	(0.049)	(1.430)	(0.947)	(1.774)
# Observations	6,140	6,140	8,693	8,683
Product dummies	Yes	Yes	Yes	Yes
Prices filtered prices by competition and variety	No	Yes	No	Yes
R square	0.54	0.68	0.58	0.77

Note: *** $p < 0.01$, ** $p < 0.05$. Clustered standard errors (by product) in parentheses.

The first column in Table (3) shows that the standard deviation has fallen by 98% over the 89 month period.[8] Nevertheless, when controlling for firm multiproduct and competition we found no trend of prices to converge. When controlling for variety effect, the prices does not change at all over the period. Although prices have converged over time, the main driver for such convergence is how stores manage varieties within a market/product category. Price arbitrage can not explain why prices convergence. The same result is true when the regressions are run for the full sample of products and stores. As expected, the pace of convergence is much slower—just 28%—as the introduction of products and stores increase variability. Again, this reduction in price variability is due only by changes in varieties within each category at the store level.

Section 2 showed that Montevideo, the capital city, has the larger concentration of stores, as well as the largest population of the country. Also, the geographical area is rather small:

[8]The period under analysis cover 89 month. The calculation is: $-98\% = -5.02 \times 89 + 0.044 \times 89^2$.

its urban surface is just 200 square kilometers. Then, competition should be much fierce in Montevideo than in the whole country. Table 4 shows the results of Equations 2 and 4 for those stores in Montevideo. The table shows the results for stores and products available in year 2007, and for the full sample of products and stores in Montevideo city.

Table 4: Estimation of Price Dispersion for Montevideo City.

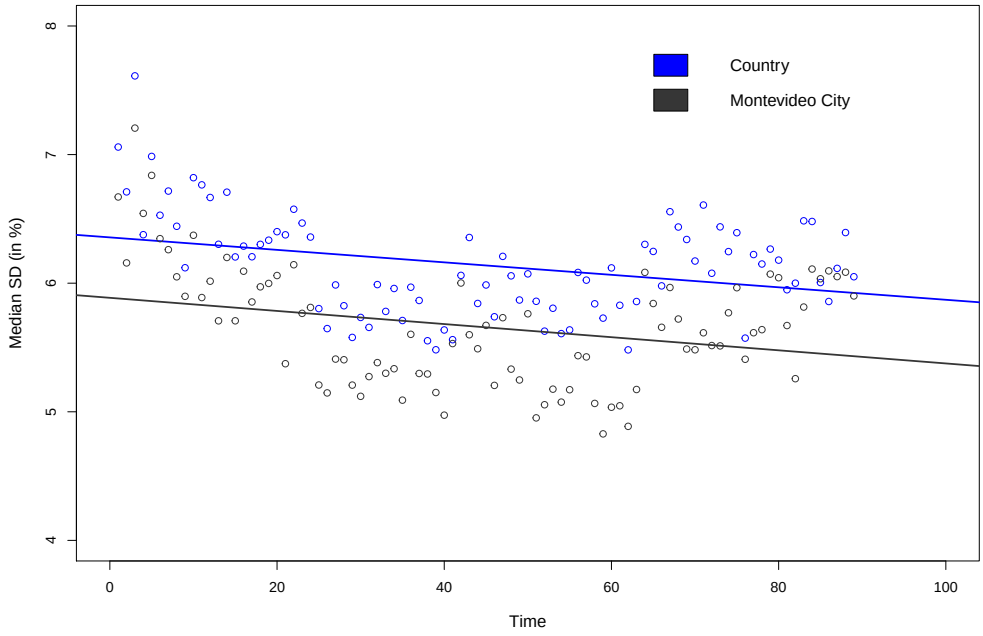
	Stores & Products in year 2007		*Full Sample*	
Trend	-5.395***	-1.096	-3.283**	3.108
	(1.391)	(2.231)	(1.502)	(2.293)
Trend Square	0.054***	0.027	0.038***	-0.001
	(0.011)	(0.021)	(0.012)	(0.022)
Average Price	-0.195	0.785	-0.073	-0.459
	(1.073)	(1.631)	(1.008)	(1.779)
# Observations	6,140	6,140	8,693	8,683
Product dummies	Yes	Yes	Yes	Yes
Prices filtered prices by competition and variety	No	Yes	No	Yes
R square	0.49	0.65	0.53	0.74

Note: *** $p < 0.01$, ** $p < 0.05$. Clustered standard errors (by product) in parentheses.

The results show a much slower price convergence for stores in Montevideo than at the country level. The estimated decrease in price dispersion for stores and products in year 2007 is 52%.[9] Next Figure confirm the results by comparing the median price dispersion across products for stores and products in year 2007.

[9]The period under analysis cover 89 month. The calculation is $-52 = -5.395 \times 89 + 0.054 \times 89^2$.

Figure 6: Median Dispersion Across Products for Uruguay and Montevideo City



Source: Author's calculations.

The difference of dispersion between Montevideo City and the whole country could be the result of stronger competitive pressures at Montevideo that result in lower price dispersion in comparison to the country level. The previous figure also shows the downward trend in the dispersion of prices both at the city and country level.

When the full sample is used, Equation 3 shows that price dispersion increase by 8%. Again, this result could be due to the increased volatility implied by adding stores or products in time. In any case, results are again explained by changes in the composition of varieties within markets at the store level.

4 Conclusion

Our results indicate that differences in variety composition at the category level between stores is an important factor to explaining long run price convergence. We find a consistent price convergence at our sample, although at different pace for Montevideo city and at the country level. Nevertheless, the main source of price convergence does not seems to be

competitive pressure between goods at different locations—price arbitrage—but changes in variety composition at the category level within stores—variety arbitrage—. We find that the prices of similar goods diverge when the varieties at a given product market available to consumers is different between stores. This result highlights the role of the microeconomic environment for price setting for understanding the price converge mechanism at the macroeconomic level. In this regard, the paper contribute to a new strand of the literature on the macroeconomic effects of microeconomic conditions, like Hong and Li (2017) on cost pass-through in retailing.

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A Additional Tables

Table 5: Chain description.

Chain	**# Stores**	**# Stores in Montevideo**	**# Cities**	**# States**	**# Cashiers (Total)**	**Average size**
Devoto	24	17	6	3	288	12
Disco	27	20	5	3	307	11
El Clon	12	8	5	4	59	4
El Dorado	38	0	20	6	158	4
Frigo	6	6	1	1	26	4
Géant	2	1	2	2	96	48
Iberpark	6	5	2	2	6	1
La Colonial	6	6	1	1	8	1
Los Jardines	4	2	3	2	17	4
Macromercado	7	4	3	3	127	18
Micro Macro	10	5	4	4	31	3
MultiAhorro	48	38	8	8	281	6
None	104	49	27	14	458	4
Red Market	12	9	3	2	38	3
Super XXI	4	0	2	1	12	3
Super Star	4	0	1	1	29	7
TATA	43	12	25	19	301	7
Tienda Inglesa	10	7	4	3	164	16
Ubesur	19	19	1	1	59	3
TOTAL	386	173	-	-	2,454	6

Table 6: Uruguayan States information.

	# Cities	**# Stores**	**Average Stores per City**
Artigas	1	2	2
Canelones	15	47	3
Cerro Largo	2	4	2
Colonia	6	12	2
Durazno	1	4	4
Flores	1	4	4
Florida	1	5	5
Lavalleja	1	4	4
Maldonado	8	36	4
Montevideo	1	209	209
Paysandú	1	7	7
Río Negro	2	3	1
Rivera	2	6	3
Rocha	5	14	3
Salto	1	9	9
San José	3	9	3
Soriano	1	2	2
Tacuarembó	1	5	5
Treinta y Tres	1	4	4
TOTAL	54	385	7

B Product Characteristics

Product / Market	Brand	Specification*	% Share in CPI	Owner (/merger)	Sample Start (merge)
Beer	Patricia	0.96 L	0.38	FNC	2007/04
Beer	Pilsen	0.96 L	0.38	FNC	2007/04
Beer	Zillertal	1 L	0.38	FNC	2010/11
Wine	Faisán	1 L	0.80	Grupo Traversa	2007/04
Wine	Santa Teresa Clasico	1 L	0.80	Santa Teresa SA	2007/04
Wine	Tango	1 L	0.80	Almena	2007/04
Carbonated Soft Drink	Coca Cola	1.5 L	1.12	Coca Cola	2007/04
Carbonated Soft Drink	Nix	1.5 L	1.12	Milotur (CCU)	2007/04
Carbonated Soft Drink	Pepsi	1.5 L	1.12	Pepsi	2010/11
Still water	Matutina	2 L	0.81	Salus	2007/04
Still water	Nativa	2 L	0.81	Milotur (CCU)	2007/04
Still water	Salus	2.25 L	0.81	Salus	2007/04
Bread Loaf	Los Sorchantes	0.33 Kg	0.06	Bimbo / Los Sorchantes	2010/11 (2011/04)
Bread Loaf	Bimbo	0.33 Kg	0.06	Bimbo	2010/11
Bread Loaf	Pan Catalán	0.33 Kg	0.06	Bimbo	2010/11
Brown eggs	Super Huevo	1/2 dozen	0.46	Super Huevo	2010/11
Brown eggs	El Jefe	1/2 dozen	0.46	El Jefe	2010/12
Brown eggs	Prodhin	1/2 dozen	0.46	Prodhin	2007/07
Butter	Calcar	0.2 Kg	0.23	Calcar	2007/04
Butter	Conaprole sin sal	0.2 Kg	0.23	Conaprole	2007/04
Butter	Kasdorf	0.2 Kg	0.23	Conaprole	2010/11
Cacao	Copacabana	0.5 Kg	0.08	Nestlé	2007/04
Cacao	Vascolet	0.5 Kg	0.08	Nestlé	2007/06
Coffee	Aguila	0.25 Kg	0.14	Nestlé	2007/04
Coffee	Chana	0.25 Kg	0.14	Nestlé	2007/04
Coffee	Saint	0.25 Kg	0.14	Saint Hnos	2010/11
Corn Oil	Delicia	1 L	n/i	Cousa	2010/11

* Kg = kilograms; L = liters; M = meters. n/i - No information.

Product / Market	Brand	Specification*	% Share in CPI	Owner (/merger)	Sample Start (merge)
Corn Oil	Río de la Plata	1 L	n/i	Soldo	2010/11
Corn Oil	Salad	1 L	n/i	Nidera	2010/11
Dulce de leche	Conaprole	1 Kg	0.14	Conaprole	2007/04
Dulce de leche	Los Nietitos	1 Kg	0.14	Los Nietitos	2007/04
Dulce de leche	Manjar	1 Kg	0.14	Manjar	2007/04
Flour (corn)	Gourmet	0.4 Kg	n/i	Deambrosi	2010/11
Flour (corn)	Presto Pronta Arcor	0.5 Kg	n/i	Arcor	2010/11
Flour (corn)	Puritas	0.45 Kg	n/i	Molino Puritas	2010/11
Flour 000 (wheat)	Cañuelas	1 Kg	0.21	Molino Cañuelas	2010/11
Flour 000 (wheat)	Cololó	1 Kg	0.21	Distribuidora San José	2010/11
Flour 0000 (wheat)	Cañuelas	1 Kg	0.21	Molino Cañuelas	2007/04
Flour 0000 (wheat)	Cololó	1 Kg	0.21	Distribuidora San José	2007/04
Flour 0000 (wheat)	Primor	1 Kg	0.21	Molino San José	2010/11
Grated cheese	Conaprole	0.08 Kg	0.16	Conaprole	2007/04
Grated cheese	Artesano	0.08 Kg	0.16	Artesano	2010/11
Grated cheese	Milky	0.08 Kg	0.16	Milky	2007/04
Deodorant	Axe Musk	0.105 Kg	0.34	Unilever	2010/11
Deodorant	Dove Original	0.113 Kg	0.34	Unilever	2010/11
Deodorant	Rexona Active Emotion	0.100 Kg	0.34	Unilever	2010/11
Hamburger	Burgy	0.2 Kg	n/i	Schneck	2010/11
Hamburger	Paty	0.2 Kg	n/i	Sadia Uruguay	2010/11
Hamburger	Schneck	0.2 Kg	n/i	Schneck	2010/11
Ice Cream	Conaprole	1 Kg	0.22	Conaprole	2010/11
Ice Cream	Crufi	1 Kg	0.22	Crufi	2010/11
Ice Cream	Gebetto	1 Kg	0.22	Conaprole	2010/11
Margarine	Flor	0.2 Kg	n/i	Cousa	2010/11
Margarine	Doriana nueva	0.25 Kg	n/i	Unilever	2007/04
Margarine	Primor	0.25 Kg	n/i	Cousa	2007/04
Mayonnaise	Fanacoa	0.5 Kg	0.21	Unilever	2007/04
Mayonnaise	Hellmans	0.5 Kg	0.21	Unilever	2007/04
Mayonnaise	Uruguay	0.5 Kg	0.21	Unilever	2007/04

* Kg = kilograms; L = liters; M = meters. n/i - No information.

Product / Market	Brand	Specification*	% Share in CPI	Owner (/merger)	Sample Start (merge)
Noodles	Cololo	0.5 Kg	0.43	Distribuidora San José	2007/07
Noodles	Adria	0.5 Kg	0.43	La Nueva Cerro	2007/07
Noodles	Las Acacias	0.5 Kg	0.43	Alimentos Las Acacias	2007/07
Peach jam	Dulciora	0.5 Kg	n/i	Arcor	2007/04
Peach jam	El Hogar	0.5 Kg	n/i	Lifibel SA	2010/11
Peach jam	Los Nietitos	0.5 Kg	n/i	Los Nietitos	2007/04
Peas	Campero	0.3 Kg	0.09	Regional Sur	2010/11
Peas	Cololó	0.3 Kg	0.09	Distribuidora San José	2010/11
Peas	Nidemar	0.3 Kg	0.09	Nidera	2010/11
Rice	Aruba tipo Patna	1 Kg	0.38	Saman	2007/04
Rice	Blue Patna	1 Kg	0.38	Coopar	2007/04
Rice	Green Chef	1 Kg	0.38	Coopar	2007/04
Rice	Pony	1 Kg	0.38	Saman	2010/11
Rice	Vidarroz	1 Kg	0.38	Coopar	2008/05
Rice	Saman Blanco	1 Kg	0.38	Saman	2010/11
Crackers	Famosa	0.14 Kg	0.28	Mondelez	2007/04
Crackers	Maestro Cubano	0.12 Kg	0.28	Bimbo	2007/04
Salt	Sek	0.5 Kg	0.09	Deambrosi	2007/04
Salt	Torrevieja	0.5 Kg	0.09	Torrevieja	2007/04
Salt	Urusal	0.5 Kg	0.09	UruSal	2007/04
Semolina pasta	Adria	0.5 Kg	0.43	La Nueva Cerro	2007/07
Semolina pasta	Las Acacias	0.5 Kg	0.43	Alimentos Las Acacias	2007/07
Semolina pasta	Puritas	0.5 Kg	0.43	Molino Puritas	2010/11
Soybean oil	Condesa	0.9 L	0.11	Cousa	2008/05
Soybean oil	Río de la Plata	0.9 L	0.11	Soldo	2010/11
Soybean oil	Salad	0.9 L	0.11	Nidera	2010/11
Sugar	Azucarlito	1 Kg	0.35	Azucarlito	2007/04
Sugar	Bella Union	1 Kg	0.35	Bella Unión	2007/04
Sunflower oil	Optimo	0.9 L	0.37	Cousa	2007/04
Sunflower oil	Uruguay	0.9 L	0.37	Cousa	2007/04
Sunflower oil	Río de la Plata	0.9 L	0.37	Soldo	2010/11

* Kg = kilograms; L = liters; M = meters. n/i - No information.

Product / Market	Brand	Specification*	% Share in CPI	Owner (/merger)	Sample Start (merge)
Tea	Hornimans	Box (10 units)	0.08	José Aldao	2007/04
Tea	La Virginia	Box (10 units)	0.08	La Virginia	2007/04
Tea	President	Box (10 units)	0.08	Carrau	2010/11
Tomato paste	Conaprole	1 L	0.16	Conaprole	2007/04
Tomato paste	De Ley	1 L	0.16	Deambrosi	2007/04
Tomato paste	Gourmet	1 L	0.16	Deambrosi	2010/11
Yerba	Canarias	1 Kg	0.64	Canarias	2007/04
Yerba	Del Cebador	1 Kg	0.64	Molino Puritas	2007/06
Yerba	Baldo	1 Kg	0.64	Canarias	2010/11
Yogurt	Conaprole	0.5 Kg	0.13	Conaprole	2010/11
Yogurt	Parmalat (Skim)	0.5 Kg	0.13	Parmalat	2010/11
Yogurt	Calcar (Skim)	0.5 Kg	0.13	Calcar	2010/11
Bleach	Agua Jane	1 L	0.16	Electroquímica	2007/04
Bleach	Sello Rojo	1 L	0.16	Electroquímica	2007/04
Bleach	Solucion Cristal	1 L	0.16	Vessena SA	2007/04
Dishwashing detergent	Deterjane	1.25 L	0.13	Clorox Company	2007/04
Dishwashing detergent	Hurra Nevex Limon	1.25 L	0.13	Unilever	2007/04
Dishwashing detergent	Protergente	1.25 L	0.13	Electroquímica	2010/11
Laundry soap	Drive	0.8 Kg	0.45	Unilever	2007/04
Laundry soap	Nevex	0.8 Kg	0.45	Unilever	2007/04
Laundry soap	Skip, Paquete azul	0.8 Kg	0.45	Unilever	2007/04
Laundry soap, in bar	Bull Dog	0.3 Kg (1 unit)	n/i	Unilever	2007/04
Laundry soap, in bar	Nevex	0.2 Kg (1 unit)	n/i	Unilever	2007/04
Laundry soap, in bar	Primor	0.2 Kg (1 unit)	n/i	Soldo	2010/11
Shampoo	Fructis	0.35 L	0.36	Garnier	2007/04
Shampoo	Sedal	0.35 L	0.36	Unilever	2007/04
Shampoo	Suave	0.93 L	0.36	Unilever	2007/04
Soap	Astral	0.125 Kg	0.16	Colgate	2010/11
Soap	Palmolive	0.125 Kg	0.16	Colgate	2007/04
Soap	Rexona	0.125 Kg	0.16	Unilever	2012/12
Toilet paper	Higienol Export	4 units (25 M each)	0.24	Ipusa	2007/04

* Kg = kilograms; L = liters; M = meters. n/i - No information.

Product / Market	Brand	Specification*	% Share in CPI	Owner (/merger)	Sample Start (merge)
Toilet paper	Elite	4 units (25 M each)	0.24	Ipusa	2010/11
Toilet paper	Sin Fin	4 units (25 M each)	0.24	Ipusa	2007/04
Toothpaste	Pico Jenner	0.09 Kg	0.19	Abarly / Colgate	2010/11
Toothpaste	Colgate Herbal	0.09 Kg	0.19	Colgate	2010/11
Toothpaste	Kolynos	0.09 Kg	0.19	Colgate	2010/11

* Kg = kilograms; L = liters; M = meters. n/i - No information.