

**ONLINE APPENDIX  
(NOT FOR PUBLICATION)**

## Appendix A Expenditure differences within product categories

This appendix uses data from the 1994 and 1996 household expenditure surveys to document that within narrow product categories, richer households tend to purchase more expensive varieties. For this purpose, we define the unit value paid by household  $h$  in category  $g$  during year  $t$  as:

$$u_{g,t}^h \equiv \frac{\sum_{v \in g} P_{v,g,t} q_{v,g,t}^h}{\sum_{v \in g} q_{v,g,t}^h} = \sum_{v \in g} \omega_{v,g,t}^{q,h} P_{v,g,t}.$$

Households that purchase higher quantity shares  $\omega_{v,g,t}^{q,h} \equiv \frac{q_{v,g,t}^h}{\sum_{v \in g} q_{v,g,t}^h}$  of more expensive varieties will exhibit higher unit values  $u_{g,t}^h$  within product categories  $g$ . Alternatively, we can also measure the unit value at the level of the income decile  $j$  as:

$$u_{g,t}^j \equiv \frac{\sum_{h \in Dec_j} \sum_{v \in g} P_{v,g,t} q_{v,g,t}^h}{\sum_{h \in Dec_j} \sum_{v \in g} q_{v,g,t}^h} = \sum_{v \in g} \omega_{v,g,t}^{q,j} P_{v,g,t},$$

where the quantity shares are now defined as  $\omega_{v,g,t}^{q,j} \equiv \frac{\sum_{h \in Dec_j} q_{v,g,t}^h}{\sum_{h \in Dec_j} \sum_{v \in g} q_{v,g,t}^h}$ . The decile-level estimation collapses a great deal of cross-household variation, and thus may reduce the amount of measurement error in the data. Also, decile-level estimation yields results that are more comparable across years, as the household survey is not a panel and the households change from one year to another.

While the product categories in the household survey are more disaggregated than the 284 'generic' product categories for which the Bank of Mexico computes the CPI, unit value data are available for only 170 of the categories in the survey. These are food and related products for which quantities are measured in units that are easily comparable across households.<sup>22</sup> Using unit value and income data from the surveys, we sort households into income deciles and estimate:

$$\ln u_{g,t}^h = \alpha_t + \sum_{j=2}^{10} \beta_{j,t} \mathbb{I}_{[h \in Dec.j]} + \delta_{g,t} + \epsilon_{g,t}^h \quad (\text{A.1})$$

and

$$\ln u_{g,t}^j = \alpha_t + \sum_{j=2}^{10} \beta_{j,t} \mathbb{I}_{[j \in Dec.j]} + \delta_{g,t} + \epsilon_{g,t}^j. \quad (\text{A.2})$$

where  $\mathbb{I}_{[h \in Dec.j]}$  and  $\mathbb{I}_{[j \in Dec.j]}$  are indicators for whether household  $h$  or decile  $j$  are in income decile  $j = 2, \dots, 10$ . Product category fixed effects  $\delta_{g,t}$  control for unit value differences across categories.

<sup>22</sup>For example, the unit values measure expenditures per kilo of tomatoes or per liter of milk.

Table A1 reports the results of estimating equations (A.1) and (A.2) for the years  $t = 1994$  (columns 1 and 3) and  $t = 1996$  (columns 2 and 4). The table shows a strong positive correlation between unit values paid and household income: richer households pay higher unit values for varieties within narrow product categories. The first column shows that unit values increase monotonically with household income, as the decile dummies get progressively higher as income increases, with the biggest jump in the last decile. This finding is robust to using the 1994 or the 1996 survey, and to computing the unit values at the household or the decile level. In 1994, households in the richest decile paid unit values that are 0.33 log points higher than the unit values paid by poorer households.

Appendix Figure A2 plots a local polynomial fit of log deviations from mean log unit values within each product against log household income, together with 95% confidence intervals. The figure shows a strong positive relation between household income and unit value paid within product categories. A household with income that is two log points higher than average pays unit values that are 0.2 log points higher than average in the average product category.

## A.1 Estimating unit value differences by product category

To implement the exercise in Section 3.5.1, we estimate equation (A.1) separately for each product category  $g$  and recover the  $\hat{\beta}_{10,g}$  in each  $g$ . We then combine these estimates with the DOF data and, starting from the variety that has the median price in each category, find the two prices that are closest to being at a log-distance of  $\hat{\beta}_{10,g}$  from each other. In particular, in each category we define the high- and low-priced varieties as the varieties in the DOF that have a price that is closest to  $P_g^{median} \times \exp(\hat{\beta}_{10,g}/2)$  and  $P_g^{median} \times \exp(-\hat{\beta}_{10,g}/2)$  respectively, where  $P_g^{median}$  is the median price of a variety in product category  $g$ . For product categories for which these numbers are above (below) the maximum (minimum) prices in the category, we define the high (low) priced varieties as that with the maximum (minimum) price.

## Appendix B Additional robustness

This appendix presents a set of additional robustness checks. First, we show that the details of the assumptions used to calculate the baseline Within effect are not crucial for the results. Second, we evaluate whether the differences in the price indices reported above persist when restricting attention to consumers and prices in Mexico City. Third, we conduct ‘placebo’ experiments to show that the Within effect is not present in non-devaluation periods.

### B.1 Alternative assumptions for the Within price index

We now show that the baseline assumptions used to calculate the Within effects are not crucial for the main findings. In particular, we recalculate the price indices under three alternative approaches. First, we change the base period, and classify varieties as high- and low-priced according to their relative position in January 1994. The advantage of this alternative is that it pushes back the date at which goods are classified as either cheap or expensive as far back from the devaluation date as possible with our data. The disadvantage is that to the extent that prices are affected by temporary sales, observations in any individual month will be inherently more noisy than a 10-month average.

Another potential concern is that there may be substantial product heterogeneity even within product categories, so that comparing high- vs. low-priced products may not be a meaningful exercise. To alleviate this concern, we re-calculate the Within effect for those products in which prices are quoted in the most comparable units: kilos and liters. Finally, we recompute our results focusing on the entire set of varieties, instead of limiting our sample to the set of varieties that experienced a price change prior to the devaluation.

Appendix Table A8 reports these alternative results. We continue to find large differences between the price changes faced by high- vs. low-income households for all these alternative price indices. The difference in the price changes is slightly smaller when we use January 1994 as the base period or if we focus on goods for which prices are denominated in kilos or liters. The difference becomes slightly larger than the baseline if we do not condition on prices changes.

### B.2 Distributional consequences of the devaluation within Mexico City

The distribution of income across the different regions of Mexico is far from homogeneous. Appendix Table A5 shows that the income distribution in Mexico City is shifted to the right of the countrywide distribution of income. More generally, it is a well-documented fact that poor households are overrepresented in rural areas in developing countries.<sup>23</sup> We thus evaluate whether the differences in the price indices documented in the previous section stem exclusively from the fact that consumption baskets and price changes vary across geographical locations by carrying out the exercise on Mexico City

---

<sup>23</sup>See, e.g. Ravallion et al. (2007).

only.<sup>24</sup>

Appendix Table A9 reports the Across, Within, and Combined price indices for Mexico City. The table shows that both the Across and Within effects are present within the city.<sup>25</sup> The magnitudes are smaller than for the country as a whole, perhaps reflecting the fact that the distribution of income within the city is more compressed than the countrywide income distribution. Still, the effects are sizable within the city. In the two years following the devaluation, inflation for the poorest decile was 12 percentage points higher than inflation for the richest decile according to the Across price index, and inflation for the varieties priced above the median was 14 percentage point higher than for the varieties priced below the median according to the liberal Within price index. The combined effect implies that within Mexico city inflation was 1.39 times higher for the bottom than for the top income decile.

### B.3 The Within effect in non-devaluation periods

The Within effect presented in Section 3.3 arises from the fact that the price of cheap varieties increased relative to the price of expensive varieties following the 1994 devaluation. In this section, we provide evidence that this change in relative prices is related to the devaluation itself, and it is not driven primarily by mean reversion in prices. If there is mean reversion in prices, one would expect the price of relatively cheaper varieties to increase by more than the price of expensive varieties even if the exchange rate is constant. This concern should be at least partially mitigated by noting that the price indices from Section 3.3 show no differential trends in the months before the devaluation, as well as by our approach of only computing the Within effect using prices that already experienced a price change between January and October 1994. In addition, Appendix C.3 describes alternative evidence on the Within effect that does not rely on price level data.

With this in mind, we compute a liberal Within effect for six two-year periods of stable exchange rates in Mexico, starting each year between 2003 and 2008. For each of these periods, we follow the procedure described in Section 3.3 to compute the liberal Within effect.<sup>26</sup> Appendix Table A11 reports the resulting Within effect 1 year and 2 years after the initial month for each of the periods (i.e. the cell “2003 - 2 years” shows the difference in the price index for cheap vs. expensive varieties as of October 2005, where the cheap and expensive varieties are classified using the average price of the variety during the

---

<sup>24</sup>Another potential benefit of focusing on the major metropolitan area is that in this setting the informal economy may be less important. Available estimates suggest that the size of the informal economy in Mexico in this period is between 30 and 50% of GDP (Schneider and Enste, 2000). It is not clear which way informal transactions would bias our results. In addition, at least some informal sector transactions likely appear in our data. First, there are no tax implications of responding to the household survey. While tax avoidance motives may nonetheless affect reported income, there is no clear incentive for households to misreport their expenditure shares on various goods in the household survey. Second, the price data come from collecting posted price quotes, rather than purchases. So the relationship of this data collection effort to sales/VAT tax avoidance, while undoubtedly there, is not mechanical.

<sup>25</sup>In addition, Appendix Table A10 shows that the results from Table A1 hold when restricting attention to Mexico city households: within product categories, richer households tend to pay higher prices.

<sup>26</sup>In particular, we classify varieties as cheap or expensive according their average price in the 10 months prior to the beginning of the placebo period.

10 months preceding October 2003). While these indices show that there is indeed some mean reversion in prices during non-devaluation periods, the magnitudes of this effect are far smaller than in our baseline price results. The Within effect during non-devaluation periods is between five and ten times smaller than during the actual devaluation period.

## **Appendix C Additional evidence on the Within effect from EIU Data**

This appendix provides independent evidence on (i) the role of distribution margins in explaining price differences across varieties of the same good and (ii) the Within effect, based on an entirely different data source and empirical strategy. Namely, we use the Economist Intelligence Unit CityData on store prices. While less detailed, the dataset offers two advantages relative to the Mexican data in the baseline analysis. First, we do not have to rely on pre-crisis prices to classify outlets into high-end and low-end. Second, we can examine devaluation episodes in countries other than Mexico.

### **C.1 Data description**

The CityData base is compiled by the Economist Intelligence Unit (EIU). The purpose of the database is to compute differences in the cost of living across the world's major cities. The database contains price quotes on 160 goods in 140 cities, and covers the period 1990–present in the best of cases. The price quotes are collected semi-annually in March-April and September-October. Most countries are represented by only one city, namely the largest (usually also the capital). In our sample of devaluations, only Brazil has two cities: Sao Paulo and Rio de Janeiro. Because the database's intended clients are multinationals considering sending headquarter-based workers to live in those locations, both the implicit consumption baskets and the types of stores sampled are most likely skewed towards wealthy expatriate families (there are price quotes for many categories of private international schools, for example). Nonetheless, sampled prices do include a wide variety of basic foodstuffs and clothing.

Importantly, most goods covered by CityData have 3 price quotes from different types of stores. For foodstuffs and similar items, the lowest category is labeled “supermarket,” the middle category “mid-priced store,” and the top category “high-priced store.” For clothing, the lowest category is referred to as “chain store,” and the middle category “mid-priced/branded store.” Thus, we can establish whether prices of varieties of goods sold in higher-priced stores changed by less than varieties of the same good sold in lower-priced stores. Some items, such as cars, do not differentiate between outlets explicitly, and instead report two prices, a high and a low one. We do not use these prices in the mainline analysis but the results are robust to including them.

### **C.2 Differences in distribution margins between high- and low-end outlets**

We first use the EIU CityData to show that higher prices paid by higher-income households reflect at least partly a greater share of domestic value added. Most product categorizations are not detailed enough to convincingly establish that a higher posted price is a reflection of higher local value added rather than differences in physical product attributes. Even for a product category item as simple as “butter,” a higher price could

reflect the fact that it is made from higher quality milk using better preparation methods. However, for a small subset of categories in CityData, we can be confident that the underlying physical product is the same. When this is the case, we can be sure that higher prices reflect greater domestic distribution margins rather than physical product attributes. There are 5 such products: “Coca Cola (1 l),” “Vermouth, Martini & Rossi (1 l),” “Liqueur, Cointreau (700 ml),” “Cigarettes, Marlboro (pack of 20),” and “Kodak color film (36 exposures).” To this list we add 3 additional products that are identified precisely enough that we can be somewhat confident the item is more or less identical: “Scotch whisky, six years old (700 ml),” “Gin, Gilbey’s or equivalent (700 ml),” and “Cognac, French VSOP (700 ml).”

Table A2 presents the average log differences in prices of these products across in the medium- and high-end stores relative to the supermarket outlet (the low category). Namely, we report the coefficients from a regression of log prices on product fixed effects and dummies for medium- and high-end stores (with the low-end store the omitted category). We focus on Mexico City in 1994, but the results are quite similar if we take other years and/or other countries. The top row reports the results for the 8 products listed above that are exactly the same physical items. For these items, the medium-level store has on average a 13.5% higher price, and the high-level store a 23% higher price.

The difference in prices across stores for identical products is indeed lower than for the rest of the sample. The second row of Table A2 reports the results for the prices of tradeable categories (primarily food and clothing) for which it cannot be established that the same good is being sold. The sample includes about 100 categories. Some examples are “Butter, 500 g,” “Cornflakes (375 g),” “Soap (100 g),” or “Men’s business shirt, white.” For these items, the difference across stores is about twice as large, 23.7% for the medium-level store and 48.9% for the high-level store.<sup>27</sup>

We can use these results for a back of the envelope calculation of the differences in domestic value added across stores. As reported in Section 4.2, the mean distribution margin in the Mexican Retail Census data is 0.45. Assuming that 0.45 is the unweighted average across the 3 retail prices in different stores, the estimates in Table A2 imply that the distribution margin is 0.39 in the low-end store and 0.50 in the high-end store. Expressed in multiples of the producer prices, the low-end store price is 1.63 times the dock price, and the high-end store price is 2.00 times the dock price.<sup>28</sup>

This is likely a lower-bound estimate of the difference in the share of domestic value added between the items bought by high- and low-income households. First, these 8 items are ones in which retail expertise plays little or no role, compared to other items such as cars or clothing. For items in which quality differentiation does exist, retail value added is likely more important. Second, this set of items is dominated by alcohol and tobacco, whose prices include more taxes and are in some cases regulated. This will further com-

---

<sup>27</sup>Price differences are smaller for Food (18% and 41% respectively), and larger for Clothing (45% and 78%).

<sup>28</sup>Berger et al. (2012) report an average distribution margin of 0.6 based on matching a subset of detailed product categories from the Import Price Index and the Consumption Price Index. If 0.6 is the unweighted average across the 3 different stores, the same calculation implies that the distribution margin is 0.55 in the low-end store and 0.64 in the high-end store; the low-end store price is 2.25 times the dock price, and the high-end store price is 2.75 times the dock price.



press the (proportional) price differences between retail outlets for these particular items.

We conclude that, within narrowly defined product categories, higher prices paid by higher-income households reflect at least partly a greater share of domestic value added.

### C.3 Differences in price changes between high-end and low-end outlets

This Appendix provides evidence on the Within effect using the EIU CityData. These data do not contain any expenditure weights, and thus we cannot compute actual Within price indices. On the plus side, this dataset reports prices for three different types of outlets, and thus we can establish directly whether the prices increased systematically less in higher-end stores following large depreciations. In particular, we estimate the following specification:

$$\hat{P}_{v_g,t} = \beta_1 MED_{v_g} + \beta_2 HIGH_{v_g} + \delta_g + \epsilon_{v_g,t}, \quad (C.1)$$

where  $\hat{P}_{v_g,t}$  is the log change in the price of variety  $v_g$  of good  $g$ ,  $MED_{v_g}$  is the dummy for whether  $v_g$  is sold in a medium-level store, and  $HIGH_{v_g}$  is the dummy for whether  $v_g$  is sold in a high-end store. The low-end store is the omitted category. The specification includes good fixed effects. That is, the coefficients  $\beta_1$  and  $\beta_2$  come from the variation in price changes across stores within a product. There are only 3 price quotes per product, one for each store. The maintained hypothesis is that  $\beta_1$  and  $\beta_2$  are negative and significant: prices went up by less in higher-end stores. Since this approach does not use information on the actual initial price, it is immune to the “mean reversion” concern.

We restrict the sample of goods to tradeables for which 3 price quotes are available. The broad product categories are Food, Alcohol, Tobacco, Clothing, Household supplies, and Personal care. For some subsets of goods, the prices quoted in the different-level stores are actually identical. The extent of this problem varies a great deal across countries, from only a few categories exhibiting this feature in Mexico, to most categories in Argentina. The exact same prices across stores could be due to regulation (for instance, on the price of cigarettes or alcohol), as well as idiosyncrasies in the particular types of stores in which the data are collected in different countries. The identical prices across stores are a problem for us because the goal of the exercise is to capture the differences in prices of goods actually bought by the high- and low-income households. If there is no price difference across stores, then the type of store is not informative of who is buying the good. For this reason, we drop the products in which the prices are the same in the low and the medium store, or the same in the medium and the high store.

Table A3 reports the results for 6 devaluation episodes. These are the 5 episodes analyzed in depth by [Burstein et al. \(2005\)](#) (Mexico 1994, Brazil 1998, Argentina 2001, Korea and Thailand 1997), plus a more recent depreciation episode, Iceland 2007-2008. The Iceland episode is interesting because unlike the others, it was a much more protracted depreciation, with the Icelandic real exchange rate falling by 45% between the fall of 2007 and the fall of 2008. We take the September/October 2007 prices as the pre-depreciation values for Iceland. Of these countries, only Brazil has information on more than 1 city: Sao Paulo and Rio de Janeiro. The Brazilian specifications include product×city fixed effects instead of product effects.

The EIU data are collected semi-annually in March-April and September-October. Thus, the prices are not measured in the exact months of the devaluation and exact 1- and 2-year horizons post-devaluation. The pre-devaluation prices are the closest observation strictly before the episode. Thus, the Mexican devaluation happened in November 1994, and we take the September-October 1994 prices as the pre-period. The column labeled "<1 year" reports the results for the price changes from September-October 1994 to September-October 1995, namely less than 1 year from the devaluation. The second column treats the price changes to September-October 1996 (less than 2 years from devaluation), the third to September-October 1997 (less than 3 years). The same convention is adopted for other countries.

In all episodes except Thailand, the prices for medium- and high-level stores rose by significantly less than the prices for the lower-end stores. In all cases except Argentina and Korea, the prices in the high-level store rose the least, followed by the medium-level store prices. For Mexico, the results are quite strong at all horizons, including less than 1 year. In all other cases, the effect becomes detectable at the <2 year horizon. The magnitudes are relatively similar across countries, with the medium-level store prices rising by 5-10% less than the low-level store, and the high-level store prices rising 10-15% less.

## Appendix D General pricing framework

This Appendix generalizes the pricing framework in Section 4 to decompose differences in relative prices at the retail level, following [Burstein and Gopinath \(2015\)](#). While tractable, the framework shows how differences in local distribution costs, retail markups, producer markups, and producers' marginal costs affect the response of retail prices to the devaluation. As in our baseline model, we assume that to sell goods to consumers, a retailer combines physical goods with local distribution services using a CRS technology and then adds a markup. Up to a first order, the log-change in the consumer price,  $\widehat{P}_{v_g,t}$ , is given by:

$$\widehat{P}_{v_g,t} = \widehat{\mu}_{v_g,t}^R + \eta_{v_g,t-1} \widehat{P}_{v_g,t}^T + [1 - \eta_{v_g,t-1}] \widehat{P}_t^D, \quad (\text{D.1})$$

where  $\widehat{\mu}_{v_g,t}^R$  is the log-change in the gross retail markup, and as in the main text  $\widehat{P}_{v_g,t}^T$  is the log-change in the price of the physical good,  $\widehat{P}_t^D$  is the log-change in the price of distribution services, and  $1 - \eta_{v_g,t-1}$  is the share of distribution costs in the pre-markup price,  $\eta_{v_g,t-1} \equiv \frac{\mu_{v_g,t-1}^R P_{v_g,t-1}^T}{P_{v_g,t-1}}$ . The log-change in the traded good's relative price is given by:

$$\widehat{P}_{v_g,t}^T - \widehat{P}_t^N = \widehat{\mu}_{v_g,t}^T + \widehat{mc}_{v_g,t}^T,$$

where  $\widehat{\mu}_{v_g,t}^T$  is the change in markup, and  $\widehat{mc}_{v_g,t}^T$  is the change in marginal costs for the producer relative to the price of non-tradeables. As in the main text, we assume that the price of distribution services is the same as the price of non-tradeables:  $\widehat{P}_t^D = \widehat{P}_t^N$ . Combining everything, the change in retail prices can then be written as:

$$\widehat{P}_{v_g,t} = \widehat{P}_t^N + \widehat{\mu}_{v_g,t}^R + \eta_{v_g,t-1} \widehat{\mu}_{v_g,t}^T + \eta_{v_g,t-1} \widehat{mc}_{v_g,t}^T. \quad (\text{D.2})$$

Aggregating across varieties, we can write the change in the price index in a product category,  $\widehat{P}_{g,t} \equiv \frac{1}{V_g} \sum_{v_g \in g} \widehat{P}_{v_g,t}$ , as:

$$\widehat{P}_{g,t} = \widehat{P}_t^N + \widehat{\mu}_{g,t}^R + \eta_{v_g,t-1} \widehat{\mu}_{v_g,t}^T + \eta_{g,t-1} \widehat{mc}_{g,t}^T - cov_v [\eta_{v_g,t-1}, \widehat{P}_{v_g,t}^T], \quad (\text{D.3})$$

where variables subscripted by  $g$  denote averages across varieties within a product category, that is  $\widehat{X}_{g,t} \equiv \frac{1}{V_g} \sum_{v_g \in g} \widehat{X}_{v_g,t}$ .

Equations (D.2) and (D.3) show that the change in the retail prices following a devaluation could potentially differ across varieties and product categories due to differences in: i) changes in the retail markup,  $\widehat{\mu}^R$ , ii) distribution margins,  $\eta$ , iii) the change in producer's markups  $\widehat{\mu}^T$  or (iv) changes in producers marginal costs expressed in pesos,  $\widehat{mc}_{g,t}^T$ . We describe how these differences can be related to the Within and Across price indices below.

**Differences in retail markups:** Equations (D.2) and (D.3) indicate that inflation may be relatively higher for poor households following a devaluation if poor households purchase in stores that increase their relative markups following a devaluation. Although we cannot measure retail markups directly in our dataset, the empirical literature has argued that variable markups at the retail level are not an important source of incomplete passthrough. In summarizing the literature, [Burstein and Gopinath \(2015\)](#) argue that there is little correlation between changes in exchange rates and retail markups. Given this conclusion, we follow [Burstein and Gopinath \(2015\)](#) in our analysis and set  $\hat{\mu}_{v_g,t}^R = 0$  for the remainder of this section.

**Differences in distribution margins:** Another source of heterogeneity across varieties and product categories seems from differences in distribution margins,  $\eta_{v_g}$ . If the price of tradeables increases relative to the price of non-tradeables following a devaluation,  $\hat{P}_{v_g,t}^T - \hat{P}_t^N > 0$ , as is indeed the case in the data, then inflation will be higher in product varieties and categories, where the distribution margin is low (that is,  $\eta$  is high). Sections 4.2.1 and 4.3.1 show that inflation following the devaluation was indeed higher for product categories and varieties with lower distribution margins. We also provide evidence that poor households have larger expenditure shares in product categories where distribution margins are low.

**Differences in the prevalence of local goods:** Section 4.2.1 evaluates the hypothesis that the differences in the prevalence of local goods in the consumption baskets of the high- vs. low-income households can help account for the Across effect, and find only modest evidence supporting that hypothesis. The difference in parameters capturing the pass-through for local and internationally-traded goods,  $\alpha_{int}$  and  $\alpha_{loc}$ , can potentially arise from differences in changes in both markups and marginal costs across producers of local and traded goods. Our approach is agnostic on this distinction, and is valid irrespective of where this difference comes from. One obvious source of difference between  $\alpha_{int}$  and  $\alpha_{loc}$  is that the marginal costs expressed in pesos can change differentially across imported vs. locally-produced goods.

**Differences in producer markups:** Finally, pass-through can differ across product varieties and product categories according to how producer prices respond to a devaluation. Unfortunately, we lack sufficient data on either detailed product attributes, marginal costs, or quantities purchased to undertake an evaluation of the quantitative importance of this mechanism for our ultimate results. Section 4.3.2 reviews available evidence on this mechanism.

## D.1 Understanding the Within effect

We now generalize our approach in Section 4.3.1 for measuring how distribution margins shape the Within effect to allow for changes in retail markups. Using equation (D.1), we

can write the difference between the price change of a product variety and the average product variety in the category as:

$$\widehat{P}_{v_g,t} - \widehat{P}_{g,t} = \widehat{\mu}_{v_g,t}^R - \widehat{\mu}_{g,t}^R + \eta_{v_g,t-1} \widehat{P}_{v_g,t}^T - \eta_{g,t-1} \widehat{P}_{g,t}^T + \left[ \eta_{g,t-1} - \eta_{v_g,t-1} \right] \widehat{P}_t^N.$$

If we focus on identical products sold in different stores, then we know that  $\widehat{P}_{v_g,t}^T = \widehat{P}_{g,t}^T$  for all varieties in that set. In that case, we can write:

$$\widehat{P}_{v_g,t} - \widehat{P}_{g,t} = \widehat{\mu}_{v_g,t}^R - \widehat{\mu}_{g,t}^R + \left[ \eta_{v_g,t-1} - \bar{\eta}_{g,t-1} \right] \left[ \widehat{P}_{g,t}^T - \widehat{P}_t^N \right].$$

Since

$$\widehat{P}_{g,t} = \widehat{P}_t^N + \widehat{\mu}_{g,t}^R + \bar{\eta}_{g,t-1} \left[ \widehat{P}_{g,t}^T - \widehat{P}_t^N \right],$$

we can write:

$$\widehat{P}_{v_g,t} - \widehat{P}_{g,t} = \widehat{\mu}_{v_g,t}^R - \frac{\eta_{v_g,t-1} \widehat{\mu}_{g,t}^R}{\bar{\eta}_{g,t-1}} + \frac{\eta_{v_g,t-1} - \bar{\eta}_{g,t-1}}{\bar{\eta}_{g,t-1}} \left[ \widehat{P}_{g,t}^T - \widehat{P}_t^N \right]. \quad (\text{D.4})$$

As noted above, according to available evidence, retail markups do not move in response to devaluations. When  $\widehat{\mu}_{v_g,t}^R = 0$ , (D.4) becomes (23).

The difference in distribution margins can be approximated using prices:

$$\frac{\bar{P}_{g,t-1}}{P_{v_g,t-1}} = \frac{\eta_{v_g,t-1} \bar{\mu}_{g,t-1}^R}{\bar{\eta}_{g,t-1} \mu_{v_g,t-1}^R}.$$

which differs from (25) by the term  $\frac{\bar{\mu}_{g,t-1}^R}{\mu_{v_g,t-1}^R}$ . As a first-order approximation around the “average store” point ( $\frac{\bar{\mu}_{g,t-1}^R}{\mu_{v_g,t-1}^R} = 1$  and  $\frac{\eta_{v_g,t-1}}{\bar{\eta}_{g,t-1}} = 1$ ), this ratio is approximately:

$$\frac{\bar{P}_{g,t-1} - P_{v_g,t-1}}{P_{v_g,t-1}} \approx \frac{\eta_{v_g,t-1} - \bar{\eta}_{g,t-1}}{\bar{\eta}_{g,t-1}} + \frac{\bar{\mu}_{g,t-1}^R - \mu_{v_g,t-1}^R}{\mu_{v_g,t-1}^R}.$$

A sufficient condition for our approach in the main text to be valid is that there are no proportional markup differences across varieties of the same identical good sold in different stores,  $\mu_{v_g,t-1}^R = \bar{\mu}_{g,t-1}^R$ . More generally, the proportional deviation in prices from the average that we use in the main text to infer differences in distribution costs,  $\frac{\bar{P}_{g,t-1} - P_{v_g,t-1}}{P_{v_g,t-1}}$ , is a proxy for the difference in distribution margins insofar as the differences in retail markups are not too negatively correlated with differences in distribution margins across stores (so that the most expensive stores are not the ones that have lower distribution

margins). While stringent, the assumption is perhaps more palatable in this setting, in which the physical products are identical. While the literature has emphasized that the markups can differ across goods of different quality, these are identical products with different distribution margins.

Table A1: Unit values by income

	(1)	(2)	(3)	(4)
	Household level		Decile level	
	1994	1996	1994	1996
Decile 2	0.0115 (0.00806)	0.0331*** (0.00610)	0.0282 (0.0347)	0.00958 (0.0294)
Decile 3	0.0165** (0.00809)	0.0448*** (0.00604)	0.0598* (0.0350)	0.0265 (0.0269)
Decile 4	0.0403*** (0.00749)	0.0343*** (0.00610)	0.0949*** (0.0335)	0.0547** (0.0266)
Decile 5	0.0465*** (0.00756)	0.0531*** (0.00605)	0.125*** (0.0335)	0.0797*** (0.0260)
Decile 6	0.0425*** (0.00734)	0.0662*** (0.00605)	0.118*** (0.0333)	0.109*** (0.0267)
Decile 7	0.0686*** (0.00745)	0.0731*** (0.00605)	0.157*** (0.0346)	0.108*** (0.0266)
Decile 8	0.0837*** (0.00747)	0.0897*** (0.00595)	0.205*** (0.0327)	0.139*** (0.0257)
Decile 9	0.115*** (0.00730)	0.110*** (0.00608)	0.250*** (0.0340)	0.200*** (0.0259)
Decile 10	0.200*** (0.00775)	0.186*** (0.00618)	0.330*** (0.0355)	0.301*** (0.0280)
Number of categories	170	170	170	170
Observations	205,533	232,690	1,700	1,700
$R^2$	0.808	0.826	0.933	0.952

Notes: Robust standard errors in parentheses. \*\*\*: significant at 1%; \*\*: significant at 5%; \*: significant at 10%. All specifications include product fixed effects. This table reports the results of estimating equations (A.1) (Columns 1 and 2) and (A.2) (Columns 3 and 4). The sample is the subset of ENIGH expenditure categories for which unit value data are available.

Table A2: Price differences for identical items across stores

	Log-difference in price		N. prices	N. categories
	Medium to Low	High to Low		
Exact same good	0.135***	0.230***	23	8
Not exact same good	0.237***	0.489***	309	105

Notes: \*\*\* significant at the 1% level. This table reports the differences in prices of goods sold in medium-level stores compared to the lowest level store, and in high-level stores compared to low level. The row "Exact same good" compares prices of identical items. There are 8 such items. The row "Not exact same good" compares the prices of goods for which it cannot be established that the physical item sold in different stores is the same item. The prices are for Mexico City in 1994.

Table A3: Price changes in different stores, EIU CityData

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Mexico November 1994			Brazil November 1998			Argentina December 2001		
Horizon	<1 year	<2 years	<3 years	<1 year	<2 years	<3 years	<1 year	<2 years	<3 years
Dep. Var.: $\hat{P}_{v_g}$									
$MED_{v_g}$	-0.068** (0.028)	-0.068*** (0.025)	-0.098*** (0.026)	0.000 (0.012)	-0.037** (0.018)	-0.059*** (0.019)	-0.052 (0.039)	-0.087*** (0.033)	-0.061** (0.030)
$HIGH_{v_g}$	-0.118*** (0.030)	-0.120*** (0.027)	-0.128*** (0.031)	-0.016 (0.013)	-0.073*** (0.020)	-0.129*** (0.022)	-0.075* (0.045)	-0.087** (0.040)	-0.061 (0.038)
Obs.	236	236	239	567	557	553	157	160	159
$R^2$	0.803	0.874	0.862	0.624	0.652	0.716	0.865	0.837	0.843
	Korea September 1997			Thailand June 1997			Iceland 2007-2008		
Horizon	<1 year	<2 years	<3 years	<1 year	<2 years	<3 years	<1 year	<2 years	<3 years
Dep. Var.: $\hat{P}_{v_g}$									
$MED_{v_g}$	-0.011 (0.049)	-0.110** (0.043)	-0.074* (0.039)	0.035 (0.031)	0.019 (0.032)	0.014 (0.030)	-0.016 (0.027)	-0.043 (0.029)	-0.109*** (0.028)
$HIGH_{v_g}$	-0.011 (0.051)	-0.107** (0.053)	-0.110** (0.046)	0.003 (0.036)	-0.097** (0.039)	-0.037 (0.037)	-0.040 (0.030)	-0.077** (0.033)	-0.166*** (0.032)
Obs.	191	187	197	197	197	197	280	272	274
$R^2$	0.706	0.775	0.763	0.781	0.827	0.871	0.528	0.686	0.748

Notes: Robust standard errors in parentheses. \*\*\*: significant at 1%; \*\*: significant at 5%; \*: significant at 10%. All specifications include product effects, except Brazil, which includes product×city fixed effects. This table reports the results of estimating equation (C.1) for 6 devaluation episodes. In each country panel, the first column reports the results on the price change less than 1 year since depreciation, the second column the price change less than 2 years since depreciation, and the third column less than 3 years.



Table A4: Generic product categories in the 1994 Mexican CPI

Tradeables				Non-tradeables
Maíz	Queso fresco	Ajo	Pañuelos desechables	Salas
Harina de maíz	Otros quesos	Mostaza	Pantalón hombre base algodón	Antecomedores
Fécula de maíz	Yoghurt	Mayonesa	Pantalón hombre otros materiales	Muebles para cocina
Harinas de trigo	Helados	Sal	Camisas	Colchas
Otras galletas	Huevo	Concentrado de pollo	Camisetas	Cobijas
Galletas populares	Aceite vegetal	Cajetas	Calzoncillos	Cortinas
Pan de caja	Manteca vegetal	Dulces y caramelos	Calcetines	Toallas
Pan blanco	Manteca de cerdo	Mermeladas	Chamarras	Sabanas
Pan dulce	Margarina	Gelatina en polvo	Trajés	Hilos y estambres
Pastelillos y pasteles	Naranja	Concentrados para refrescos	Otras prendas para hombre	Calentadores para agua
Pasta para sopa	Limón	Papas fritas y similares	Pantalón niño base algodón	Nutricionales
Arroz	Toronja	Frutas y legumbres preparadas para bebés	Pantalón niño otros materiales	Antibióticos
Cereales en hojuela	Plátano tabasco	Pollos rostizados	Blusa para niño	Antigripales
Bistec de res	Otros plátanos	Carnitas	Ropa interior para niño	Analgésicos
Cortes especiales de res	Manzana	Barbacoa o birria	Suéter para niño	Expectorantes y descongestivos
Retazo	Papaya	Refrescos envasados	Uniforme para niño	Gastrointestinales
Carne molida de res	Pera	Jugos o néctares envasados	Vestido para mujer	Anticonceptivos y hormonales
Hígado de res	Melón	Cerveza	Conjunto para mujer	Lentes y otros aparatos
Otras vísceras de res	Aguacate	Ron	Pantalón mujer base algodón	Otros artículos de tocador
Pulpa de cerdo	Mango	Brandy	Pantalón mujer otros materiales	Cardiovasculares
Chuleta	Durazno	Vino de mesa	Blusas para mujer	Otros medicamentos
Pierna	Uva	Otros licores	Abrigos	Libros de texto
Lomo	Sandía	Tequila	Otras prendas para mujer	Cuadernos y carpetas
Pollo entero	Guayaba	Cigarrillos	Ropa interior para mujer	Plumas, lápices y otros
Pollo en piezas	Piña	Chayote	Medias y pantimedias	Televisores y videocasetas
Jamón	Otras conservas de frutas	Queso Oaxaca o asadero	Vestido para niña	Equipos mudulares
Chorizo	Papa	Otros chiles frescos	Falda para mujer	Radios y grabadoras
Salchichas	Jitomate	Ejotes	Suéter para niña	Discos y casetes
Carnes ahumadas o enchiladas	Tomate verde	Nopales	Uniforme para niña	Material y aparatos fotográficos
Carnes secas	Chile serrano	Otras legumbres	Ropa interior para niña	Juguetes
Tocino	Chile poblano	Otros condimentos	Traje para bebé	Artículos deportivos
Pastel de carne	Cebolla	Otros alimentos cocinados	Camiseta para bebé	Instrumentos musicales y otros
Otros embutidos	Frijol	Hoteles	Huaraches y sandalias	Otros libros
Otros pescados	Otras legumbres secas	Detergentes y productos similares	Zapatos para hombre	Periódicos
Huachinango	Chile seco	Jabón para lavar	Zapatos para mujer	Revistas
Mojarra	Zanahoria	Blanqueadores y limpiadores	Zapatos para niños	Ventiladores
Robalo y mero	Lechuga	Desodorantes ambientales	Zapatos tenis	Otros aparatos eléctricos
Camarón	Elote	Escobas	Bolsas, maletas y cinturones	Pilas
Otros mariscos	Col	Papel higiénico	Relojos	Otros utensilios de cocina
Sardina en lata	Pepino	Servilletas de papel	Joyas y bisutería	Otros blancos para el hogar
Atún en lata	Calabacita	Cerillos	Sombreros	Plaguicidas
Otros pescados y mariscos en conserva	Chícharo	Utensilios de plástico para el hogar	Calcetines y calcetas	Material de curación
Leche pasteurizada envasada	Puré de tomate	Focos	Loza y cristalería	Automóviles
Leche sin envasar	Chiles procesados	Jabón de tocador	Baterías de cocina	Bicicletas
Leche en polvo	Verduras envasadas	Navajas y maquinillas de afeitar	Estufas	Gasolina
Leche maternizada	Sopas enlatadas	Cremas para la piel	Lavadoras de ropa	Aceites lubricantes
Leche evaporada	Azúcar	Pasta dental	Refrigeradores	Otras refacciones
Leche condensada	Miel de abeja	Productos para el cabello	Maquinas de coser	Neumáticos
Mantequilla	Café tostado	Desodorantes personales	Licuadoras	Acumuladores
Crema de leche	Café soluble	Artículos de maquillaje	Planchas eléctricas	
Queso amarillo	Chocolate en tableta	Lociones y perfumes	Recamaras	
Queso chihuahua o manchego	Chocolate en polvo	Toallas sanitarias	Colchones	
Velas y veladoras	Pimienta	Pañales	Comedores	
				Masa de maíz
				Tortilla de maíz
				Cantinas
				Loncherías
				Cafeterías
				Restaurantes, bares y similares
				Servicio doméstico
				Servicio de tintorería y lavandería
				Corte de cabello
				Sala de belleza
				Servicio de baño
				Reparación de calzado
				Consulta médica
				Cuidado dental
				Hospitalización
				Operación quirúrgica y partos
				Análisis
				Jardín de niños y guardería
				Primaria
				Secundaria
				Preparatoria
				Universidad
				Carrera corta e idiomas
				Cine
				Centro nocturno
				Espectáculos deportivos
				Club deportivo
				Taxi
				Transporte aéreo
				Autobús urbano
				Metro o transporte eléctrico
				Autobús foráneo
				Ferrocarril
				Estacionamiento
				Mantenimiento de automóvil
				Vivienda propia
				Renta de vivienda
				Mantenimiento de vivienda
				Electricidad
				Gas doméstico
				Otros combustibles
				Colectivo
				Cuotas de autopista
				Otras diversiones
				Seguro de automóvil
				Cuotas licencias y otros documentos
				Tenencia de automóvil
				Servicios funerarios
				Línea telefónica
				Servicio telefónico local
				Larga distancia nacional
				Larga distancia internacional

Table A5: Income levels and expenditure shares across broad consumption categories by income decile

	Income Decile										
	1	2	3	4	5	6	7	8	9	10	Aggregate
	Panel A: Income Levels										
All cities	1,343	2,327	3,094	3,902	4,774	5,928	7,336	9,515	13,503	32,069	
Mexico City	2,511	3,882	4,861	5,937	7,090	8,674	10,917	15,379	24,054	51,051	
	Panel B: Expenditure Shares										
Food, Bev and Tobacco	0.42	0.38	0.35	0.34	0.31	0.28	0.26	0.24	0.19	0.11	0.22
Clothing, Shoes and Accessories	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06
Housing	0.26	0.25	0.25	0.27	0.25	0.27	0.29	0.30	0.31	0.35	0.31
Furniture and domestic appliances	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.05
Health	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.08
Transportation	0.05	0.06	0.07	0.07	0.08	0.08	0.10	0.09	0.11	0.12	0.10
Education	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.09	0.15	0.09
Other	0.06	0.08	0.09	0.07	0.10	0.11	0.11	0.10	0.10	0.10	0.10
Self-occupied housing	0.14	0.13	0.13	0.15	0.14	0.16	0.17	0.18	0.19	0.21	0.18
Housing rental + Self-occupied housing	0.15	0.15	0.17	0.17	0.17	0.18	0.19	0.20	0.20	0.23	0.20

Notes: Panel A reports the average quarterly household income across the deciles of the income distribution in Mexico and in Mexico City, in pesos. Panel B reports expenditure shares across broad consumption categories. Both are based on the 1994 Mexican Household Survey (ENIGH 1994).

Table A6: Robustness: Within price index matching unit value data and using Nielsen HomeScan expenditure shares

	Conservative		Liberal	
	Low-income	High-Income	Low-income	High-Income
<b>Expenditures based on unit values in ENIGH</b>				
Oct. 94	1.00	1.00	1.00	1.00
Oct. 95	1.47	1.44	1.52	1.41
Oct. 96	1.84	1.79	1.93	1.72
<b>Expenditure Shares Based on Nielsen HomeScan</b>				
Oct. 94	1.00	1.00	1.00	1.00
Oct. 95	1.46	1.42	1.47	1.39
Oct. 96	1.83	1.76	1.83	1.71

Note: These tables report the Within price indices defined in equation (8) under two alternative assumptions. The top panel reports the price indices for consumers that buy the varieties priced  $\hat{\beta}_{10,g}/2$  lower and  $\hat{\beta}_{10,g}/2$  log points higher, respectively, than the median variety in  $g$ . The bottom panel reports the price indices based on decile-level expenditure shares from the Nielsen HomeScan database.

Table A7: The Across price index by income decile, 1996 weights

(a) 1-Digit											
	Income Decile										
	1	2	3	4	5	6	7	8	9	10	Aggregate
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.50	1.49	1.49	1.49	1.48	1.48	1.48	1.47	1.47	1.46	1.47
Oct. 96	1.91	1.90	1.89	1.88	1.88	1.87	1.86	1.85	1.84	1.82	1.85

(b) 9-Digit											
	Income Decile										
	1	2	3	4	5	6	7	8	9	10	Aggregate
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.51	1.51	1.51	1.50	1.50	1.49	1.48	1.47	1.46	1.45	1.47
Oct. 96	1.98	1.95	1.93	1.91	1.90	1.88	1.87	1.85	1.83	1.80	1.85

Note: These tables report the Across price indices defined in equation (7) for different income deciles. Table A7a computes the price index using 8 1-Digit product categories for  $G$ , while Table A7b computes the price index using 284 9-Digit product categories for  $G$ . The expenditure weights come from the 1996 household survey.

Table A8: Robustness: the Within price index under alternative assumptions

	Conservative				Liberal			
	Below Median	Above Median	Quart. 1	Quart. 4	Below Median	Above Median	Quart. 1	Quart. 4
<b>Base period: January 94</b>								
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.50	1.41	1.51	1.39	1.52	1.38	1.55	1.35
Oct. 96	1.87	1.74	1.90	1.71	1.91	1.70	1.96	1.65
<b>Including only prices quoted per Kg or per Liter</b>								
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.47	1.44	1.48	1.42	1.53	1.38	1.57	1.32
Oct. 96	1.84	1.79	1.85	1.77	1.91	1.70	1.96	1.62
<b>Including products with no price changes 10 months prior to the devaluation</b>								
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.50	1.41	1.51	1.39	1.52	1.39	1.55	1.35
Oct. 96	1.87	1.74	1.90	1.71	1.90	1.69	1.95	1.64

Note: These tables report the Within price indices defined in equation (8) under alternative assumptions. The left panel reports the price indices under the Conservative assumptions (equation 9), while the right panel reports the Liberal price indices (equation 10). Columns labeled Below/Above Median report the price indices for consumers that buy the varieties priced above/below the median price in each product category. Columns labeled Quart. 1/4 report the price indices for consumers that buy varieties with prices in the 1/4th quartiles of the price distribution within each product category.

Table A9: Price indices, Mexico City

	Income Decile										Aggregate
	1	2	3	4	5	6	7	8	9	10	
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.46	1.47	1.45	1.44	1.43	1.44	1.43	1.41	1.40	1.39	1.41
Oct. 96	1.83	1.84	1.80	1.78	1.77	1.79	1.78	1.74	1.72	1.71	1.75

(a) Across price indices, Mexico city

Note: This table reports the Across price indices defined in equation (7) for different income deciles in Mexico City computed using 284 9-Digit product categories for G. The expenditure weights come from the 1994 household survey.

	Conservative				Liberal			
	Below Median	Above Median	Quart. 1	Quart. 4	Below Median	Above Median	Quart. 1	Quart. 4
<b>Within</b>								
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.44	1.39	1.45	1.39	1.46	1.37	1.48	1.37
Oct. 96	1.78	1.71	1.80	1.72	1.82	1.68	1.87	1.68
<b>Combined</b>								
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.49	1.37	1.51	1.38	1.52	1.36	1.55	1.36
Oct. 96	1.88	1.69	1.90	1.69	1.93	1.67	1.97	1.67

(b) Within and Combined price indices, Mexico City

Note: This table reports the Within and Combined price indices defined in equations (8) and (5) for Mexico City. The first four columns report the conservative price indices (equations 9 and 11), while the last four columns reports the Liberal price indices (equations 10 and 12). Columns labeled Below/Above Median report the price indices for consumers that buy the varieties priced above/below the median price in each product category. Columns labeled Quart. 1/4 report the price indices for consumers that buy varieties with prices in the 1/4th quartiles of the price distribution within each product category.

Table A10: Unit values by income, Mexico city

	(1)	(2)	(3)	(4)
	Household level		Decile level	
	1994	1996	1994	1996
Decile 2	-0.00473 (0.0138)	0.0138 (0.0101)	0.0136 (0.0386)	0.0208 (0.0390)
Decile 3	-0.00455 (0.0134)	0.0124 (0.0104)	-0.0165 (0.0410)	0.00102 (0.0391)
Decile 4	0.00545 (0.0135)	0.0360*** (0.00991)	0.00821 (0.0446)	0.0509 (0.0363)
Decile 5	0.00603 (0.0133)	0.0478*** (0.0101)	0.0629 (0.0394)	0.0597 (0.0429)
Decile 6	0.0511*** (0.0129)	0.0524*** (0.00963)	0.104*** (0.0380)	0.0456 (0.0389)
Decile 7	0.0528*** (0.0131)	0.0574*** (0.00995)	0.103*** (0.0364)	0.0968** (0.0387)
Decile 8	0.0921*** (0.0127)	0.0918*** (0.00993)	0.119*** (0.0408)	0.142*** (0.0380)
Decile 9	0.177*** (0.0134)	0.120*** (0.00989)	0.222*** (0.0373)	0.153*** (0.0359)
Decile 10	0.243*** (0.0149)	0.216*** (0.0105)	0.266*** (0.0429)	0.262*** (0.0388)
Number of categories	110	110	110	110
Observations	34,966	36,976	1,100	1,100
R <sup>2</sup>	0.845	0.860	0.929	0.945

Notes: Robust standard errors in parentheses. \*\*\*: significant at 1%; \*\*: significant at 5%; \*: significant at 10%. All specifications include product fixed effects. This table reports the results of estimating equations (A.1) (Columns 1 and 2) and (A.2) (Columns 3 and 4) for households living in Mexico City.

Table A11: Placebo: Within effect in alternative years

	2003	2004	2005	2006	2007	2008
1 year	0.02	0.03	0.01	0.02	0.02	0.01
2 years	0.05	0.04	0.03	0.02	0.03	0.02

Note: This table reports the difference in the liberal Within price indices for high and low prices defined in equation (10). We compute the Within price index following the procedure used in Table 2 starting in October of each of the years displayed in the alternative columns. The rows “1 year” and “2 years” report the liberal Within effect one and two years after the baseline month.

Table A12: Mapping between products and store types and distribution margins

Product	Store type	Margin	Product	Store type	Margin
Tortilla de maiz	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Pantalones para hombre	Ropa Y Accesorios De Vestir	0.666
Tostadas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Trajes	Ropa Y Accesorios De Vestir	0.666
Masa y harinas de maiz	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Otras prendas para hombre	Ropa Y Accesorios De Vestir	0.666
Maiz	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Blusas y playeras para mujer	Ropa Y Accesorios De Vestir	0.666
Pan dulce	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Ropa interior para mujer	Ropa Y Accesorios De Vestir	0.666
Pan blanco	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Medias y pantimedias	Ropa Y Accesorios De Vestir	0.666
Pan de caja	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Pantalones para mujer	Ropa Y Accesorios De Vestir	0.666
Pasteles, pastelillos y pan dulce empaquetado	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Vestidos y faldas para mujer	Ropa Y Accesorios De Vestir	0.666
Pastelillos y pasteles a granel	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Otras prendas para mujer	Ropa Y Accesorios De Vestir	0.666
Galletas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Vestidos, faldas y pantalones para	Ropa Y Accesorios De Vestir	0.666
Pasta para sopa	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Pantalones para nino	Ropa Y Accesorios De Vestir	0.666
Tortillas de harina de trigo	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Camisas y playeras para ninos	Ropa Y Accesorios De Vestir	0.666
Harinas de trigo	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Ropa interior para infantes	Ropa Y Accesorios De Vestir	0.666
Cereales en hojuelas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Calcetines y calcetas	Ropa Y Accesorios De Vestir	0.666
Arroz	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Ropa para bebes	Ropa Y Accesorios De Vestir	0.666
Pollo	Carnes	0.362	Camisetas para bebes	Ropa Y Accesorios De Vestir	0.666
Carne de Cerdo	Carnes	0.362	Ropa de abrigo	Ropa Y Accesorios De Vestir	0.666
Carne de Res	Carnes	0.362	Uniformes escolares	Ropa Y Accesorios De Vestir	0.666
Visceras de res	Carnes	0.362	Zapatos tenis	Calzado	0.571
Chorizo	Carnes	0.362	Zapatos para ninos y ninas	Calzado	0.571
Jamon	Carnes	0.362	Zapatos para mujer	Calzado	0.571
Salchichas	Carnes	0.362	Zapatos para hombre	Calzado	0.571
Carnes secas y otros embutidos	Carnes	0.362	Zapatos de material sintntico	Calzado	0.571
Tocino	Carnes	0.362	Otros gastos del calzado	Calzado	0.571
Pescado	Carnes	0.362	Bolsas, maletas y cinturones	Ropa Y Accesorios De Vestir	0.666
Camarin	Carnes	0.362	Relojes, joyas y bisuteria	Articulos De Perfumeria Y Joyeria	0.633
Otros mariscos	Carnes	0.362	Muebles para cocina	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Atun y sardina en lata	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Estufas	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Otros pescados y mariscos en conserva	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Calentadores para agua	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Leche pasteurizada y fresca	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Colchones	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Leche en polvo	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Muebles diversos para el hogar	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Leche evaporada, condensada y maternizada	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Refrigeradores	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Yogurt	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Lavadoras de ropa	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Queso fresco	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Aparatos de aire acondicionado	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Otros quesos	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Ventiladores	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Queso Oaxaca o asadero	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Otros aparatos electricos	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Crema de leche	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Aparatos de telefoneta fija	Computadoras, Telefonos Y Otros Aparatos De Comunicacion	0.358
Queso manchego o Chihuahua	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Licuadoras	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Helados	Dulces Y Materias Primas Para Reposteria	0.435	Horno de microondas	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Mantequilla	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Planchas electricas	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Queso amarillo	Leche Procesada, Otros Productos Lacteos Y Embutidos	0.217	Computadoras	Computadoras, Telefonos Y Otros Aparatos De Comunicacion	0.358
Huevo	Huevo	0.250	Televisores	Computadoras, Telefonos Y Otros Aparatos De Comunicacion	0.358
Aceites y grasas vegetales comestibles	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Equipos y reproductores de audio	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Manzana	Frutas Y Verduras Frescas	0.427	Reproductores de video	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Platanos	Frutas Y Verduras Frescas	0.427	Focos	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Aguacate	Frutas Y Verduras Frescas	0.427	Velas y Veladoras	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Otras frutas	Frutas Y Verduras Frescas	0.427	Pilas	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Papaya	Frutas Y Verduras Frescas	0.427	Cerillos	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Naranja	Frutas Y Verduras Frescas	0.427	Escobas, fibras y estropajos	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Limon	Frutas Y Verduras Frescas	0.427	Otros utensilios de cocina	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Melon	Frutas Y Verduras Frescas	0.427	Loza, cristaleria y cubiertos	Muebles Para El Hogar Y Otros Enseres Domesticos	0.476
Uva	Frutas Y Verduras Frescas	0.427	Baterias de cocina	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Pera	Frutas Y Verduras Frescas	0.427	Utensilios de plastico para el hogar	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Guayaba	Frutas Y Verduras Frescas	0.427	Colchas y cobijas	Productos Textiles, Excepto Ropa	0.441
Durazno	Frutas Y Verduras Frescas	0.427	Otros textiles para el hogar	Productos Textiles, Excepto Ropa	0.441
Sandia	Frutas Y Verduras Frescas	0.427	Sabanas	Productos Textiles, Excepto Ropa	0.441
Pina	Frutas Y Verduras Frescas	0.427	Toallas	Productos Textiles, Excepto Ropa	0.441
Jitomate	Frutas Y Verduras Frescas	0.427	Cortinas	Productos Textiles, Excepto Ropa	0.441
Papa y otros tuberculos	Frutas Y Verduras Frescas	0.427	Detergentes	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Cebolla	Frutas Y Verduras Frescas	0.427	Suavizantes y limpiadores	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Otras legumbres	Semillas Y Granos Alimenticios, Especies Y Chiles Secos	0.431	Blanqueadores	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Otros chiles frescos	Semillas Y Granos Alimenticios, Especies Y Chiles Secos	0.431	Jabon para lavar	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Tomate verde	Frutas Y Verduras Frescas	0.427	Plaguicidas	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Lechuga y col	Frutas Y Verduras Frescas	0.427	Desodorantes ambientales	Articulos De Ferreteria, Tlapaleria Y Vidrios	0.436
Calabacita	Frutas Y Verduras Frescas	0.427	Otros medicamentos	Productos Farmaceuticos Y Naturistas	0.388
Zanahoria	Frutas Y Verduras Frescas	0.427	Antibioticos	Productos Farmaceuticos Y Naturistas	0.388
Chile serrano	Semillas Y Granos Alimenticios, Especies Y Chiles Secos	0.431	Cardiovasculares	Productos Farmaceuticos Y Naturistas	0.388
Nopales	Frutas Y Verduras Frescas	0.427	Analgesicos	Productos Farmaceuticos Y Naturistas	0.388



Product	Store type	Margin	Product	Store type	Margin
Chayote	Frutas Y Verduras Frescas	0.427	Nutricionales	Productos Farmaceuticos Y Naturistas	0.388
Chile poblano	Semillas Y Granos Alimenticios, Especies Y Chiles Secos	0.431	Medicamentos para diabetes	Productos Farmaceuticos Y Naturistas	0.388
Pepino	Frutas Y Verduras Frescas	0.427	Gastrointestinales	Productos Farmaceuticos Y Naturistas	0.388
Ejotes	Frutas Y Verduras Frescas	0.427	Material de curacion	Productos Farmaceuticos Y Naturistas	0.388
Chicharo	Frutas Y Verduras Frescas	0.427	Antigripales	Productos Farmaceuticos Y Naturistas	0.388
Frijol	Semillas Y Granos Alimenticios, Especies Y Chiles Secos	0.431	Antiinflamatorios	Productos Farmaceuticos Y Naturistas	0.388
Otras legumbres secas	Semillas Y Granos Alimenticios, Especies Y Chiles Secos	0.431	Medicinas homeopaticas y naturistas	Productos Farmaceuticos Y Naturistas	0.388
Chile seco	Semillas Y Granos Alimenticios, Especies Y Chiles Secos	0.431	Medicamentos para alergias	Productos Farmaceuticos Y Naturistas	0.388
Jugos o nectares envasados	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Expectorantes y descongestivos	Productos Farmaceuticos Y Naturistas	0.388
Chiles envasados, moles y salsas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Dermatologicos	Productos Farmaceuticos Y Naturistas	0.388
Verduras envasadas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Lentes, aparatos para sordera y ortopedicos	Lentes Y Aparatos Ortopedicos	0.823
Frijol procesado	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Productos para el cabello	Productos Farmaceuticos Y Naturistas	0.388
Otras conservas de frutas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Lociones y perfumes	Productos Farmaceuticos Y Naturistas	0.388
Frutas y legumbres preparadas para bebas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Pasta dental	Productos Farmaceuticos Y Naturistas	0.388
Sopas instantaneas y pura de tomate	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Desodorantes personales	Productos Farmaceuticos Y Naturistas	0.388
Azucar	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Jabon de tocador	Productos Farmaceuticos Y Naturistas	0.388
Cafe soluble	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Cremas para la piel	Productos Farmaceuticos Y Naturistas	0.388
Cafe tostado	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Navajas y mequinas de afeitar	Productos Farmaceuticos Y Naturistas	0.388
Refrescos envasados	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Articulos de maquillaje	Productos Farmaceuticos Y Naturistas	0.388
Agua embotellada	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Otros articulos de tocador	Productos Farmaceuticos Y Naturistas	0.388
Mayonesa y mostaza	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Papel higienico y paeuelos desechables	Productos Farmaceuticos Y Naturistas	0.388
Concentrados de pollo y sal	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Paaales	Productos Farmaceuticos Y Naturistas	0.388
Otros condimentos	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Toallas sanitarias	Productos Farmaceuticos Y Naturistas	0.388
Papas fritas y similares	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Servilletas de papel	Productos Farmaceuticos Y Naturistas	0.388
Concentrados para refrescos	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Automoviles	Automoviles Y Camionetas	0.204
Chocolate	Dulces Y Materias Primas Para Reposteria	0.435	Bicicletas y motocicletas	Motocicletas Y Otros Vehiculos De Motor	0.379
Dulces, cajetas y miel	Dulces Y Materias Primas Para Reposteria	0.435	Gasolina de bajo octanaje	Combustibles	0.150
Gelatina en polvo	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Gasolina de alto octanaje	Combustibles	0.150
Otros alimentos cocinados	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Aceites lubricantes	Aceites Y Grasas Lubricantes, Aditivos Y Similares	0.351
Pollos rostizados	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Neumaticos	Partes Y Refacciones Para Automoviles, Camionetas Y Camiones	0.399
Barbacoa o birria	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Otras refacciones	Partes Y Refacciones Para Automoviles, Camionetas Y Camiones	0.399
Pizzas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Acumuladores	Partes Y Refacciones Para Automoviles, Camionetas Y Camiones	0.399
Carnitas	Tiendas De Abarrotes, Ultramarinos Y Miscelaneas	0.494	Otros libros	Articulos De Papeleria, Libros Y Periudicos	0.541
Cerveza	Bebidas	0.464	Libros de texto	Articulos De Papeleria, Libros Y Periudicos	0.541
Tequila	Bebidas	0.464	Material escolar	Articulos De Papeleria, Libros Y Periudicos	0.541
Brandy	Bebidas	0.464	Periodicos	Articulos De Papeleria, Libros Y Periudicos	0.541
Vino de mesa	Bebidas	0.464	Revistas	Articulos De Papeleria, Libros Y Periudicos	0.541
Otros licores	Bebidas	0.464	Alimento para mascotas	Mascotas, Regalos, Articulos Religiosos,	0.692
Ron	Bebidas	0.464	Peliculas, misca y videojuegos	Articulos Para El Esparcimiento	0.489
Cigarrillos	Cigarros, Puros Y Tabaco	0.639	Material y aparatos fotograficos	Articulos Para El Esparcimiento	0.489
Camisas	Ropa Y Accesorios De Vestir	0.666	Juguetes	Articulos Para El Esparcimiento	0.489
Ropa interior para hombre	Ropa Y Accesorios De Vestir	0.666	Articulos deportivos	Articulos Para El Esparcimiento	0.489
Calcetines	Ropa Y Accesorios De Vestir	0.666	Instrumentos musicales y otros	Articulos Para El Esparcimiento	0.489

Notes: This table reports cross-walk between the product categories in the DOF and the store types in the 2004 Mexican Retail Census, and the distribution margins.

Table A13: Products with highest and lowest distribution margins

---

5 lowest distribution margins		
1	Fuel	0.15
2	Cars and Trucks	0.20
3	Processed Milk	0.22
4	Eggs	0.25
5	Oils and Lubricants	0.35

---

5 highest distribution margins		
1	Glasses	0.82
2	Pet Supplies	0.69
3	Clothing	0.67
4	Tobacco Products	0.64
5	Fragrances and Jewelry	0.63

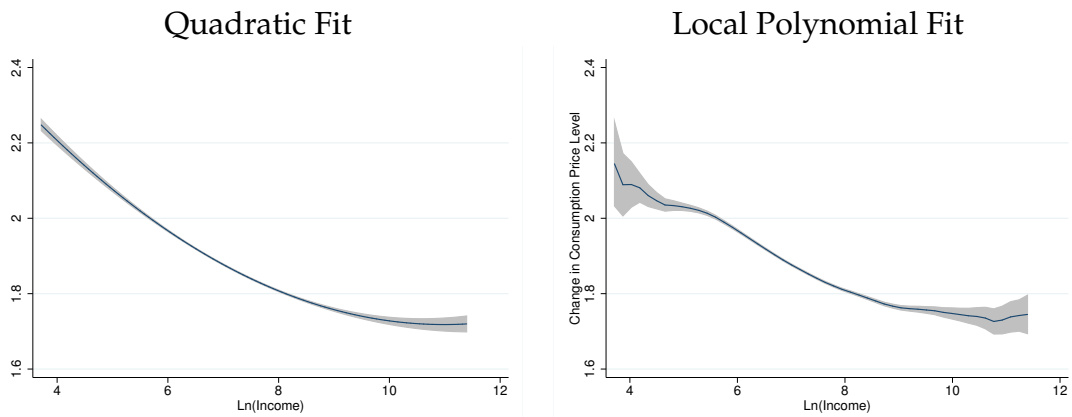
Notes: This table reports the 5 categories with the highest and lowest distribution margins, based on the 2004 Mexican Retail Census.

Table A14: Mapping between FAOSTAT and DOF and computed share of local goods

DOF Category	FAO Category	$\tilde{\omega}_g^1 - \tilde{\omega}_g^{10}$	Imp./Abs Ratio	Openness	DOF Category	FAO Category	$\tilde{\omega}_g^1 - \tilde{\omega}_g^{10}$	Imp./Abs Ratio	Openness
Carne de Res	Meat, cattle	-0.139	0.081	0.082	Pepino	Cucumbers and gherkins	-0.002	0.017	0.901
Leche pasteurizada y fresca	Milk, skimmed cow	-0.076	0.009	0.009	Chile poblano	Chillies and peppers, green	-0.002	0.004	0.256
Jamon	Meat, pig	-0.043	0.052	0.052	Vino de mesa	Wine	-0.002	0.097	0.102
Sopas instantaneas y pure de tomate	Tomatoes, paste	-0.017	0.075	0.378	Guayaba	Mangoes, mangosteens, guavas	-0.002	0.000	0.113
Manzana	Apples	-0.016	0.243	0.243	Cafe soluble	Coffee, green	-0.001	0.016	0.583
Salchichas	Meat, pig	-0.016	0.052	0.052	Sandia	Watermelons	-0.001	0.024	0.325
Otras frutas	Apricots	-0.011	0.133	0.176	Pina	Pineapples	-0.001	0.000	0.029
Jugos o nectares envasados	Juice, apple, single strength	-0.011	0.245	0.611	Chicharo	Peas, green	-0.001	0.002	0.124
Queso Oaxaca o asadero	Cheese, whole cow milk	-0.010	0.253	0.253	Otras legumbres secas	Broad beans, horse beans, dry	0.000	0.456	0.557
Queso manchego o Chihuahua	Cheese, whole cow milk	-0.010	0.253	0.253	Carne de Cerdo	Meat, pig	0.000	0.052	0.052
Papaya	Papayas	-0.008	0.000	0.034	Otros chiles frescos	Chillies and peppers, green	0.000	0.004	0.256
Otras legumbres	Artichokes	-0.008	0.112	0.505	Dulces, cajetas y miel	Honey, natural	0.000	0.002	0.537
Uva	Grapes	-0.007	0.084	0.153	Tomate verde	Tomatoes	0.001	0.023	0.281
Naranja	Oranges	-0.007	0.001	0.002	Ejotes	Beans, green	0.001	0.000	0.255
Leche evaporada, condensada y maternizada	Milk, whole condensed	-0.006	0.021	0.028	Papa y otros tuberculos	Potatoes	0.001	0.255	0.255
Platanos	Bananas	-0.006	0.000	0.091	Chayote	Pumpkins, squash and gourds	0.002	0.006	0.474
Visceras de res	Meat, cattle	-0.005	0.081	0.082	Leche en polvo	Milk, skimmed dried	0.004	0.556	0.568
Durazno	Peaches and nectarines	-0.005	0.143	0.144	Harinas de trigo	Wheat	0.004	0.258	0.270
Zanahoria	Carrots and turnips	-0.005	0.049	0.108	Chile seco	Chillies and peppers, dry	0.006	0.127	0.153
Melon	Melons, other (inc.cantaloupes)	-0.005	0.013	0.247	Cebolla	Onions, dry	0.007	0.086	0.346
Pera	Pears	-0.004	0.679	0.679	Chile serrano	Chillies and peppers, green	0.016	0.004	0.256
Queso fresco	Cheese, whole cow milk	-0.004	0.253	0.253	Arroz	Rice	0.016	0.442	0.442
Calabacita	Pumpkins, squash and gourds	-0.004	0.006	0.474	Cafe tostado	Coffee, green	0.017	0.016	0.583
Queso amarillo	Cheese, whole cow milk	-0.004	0.253	0.253	Aceites y grasas vegetales comestibles	Oil, maize	0.023	0.535	0.666
Pollo	Meat, chicken	-0.004	0.099	0.101	Jitomate	Tomatoes	0.024	0.023	0.281
Lechuga y col	Lettuce and chicory	-0.003	0.118	0.168	Huevo	Eggs, hen, in shell	0.029	0.006	0.006
Tocino	Meat, pig	-0.003	0.052	0.052	Masa y harinas de maiz	Maize	0.033	0.131	0.133
Limon	Lemons and limes	-0.003	0.001	0.165	Azucar	Sugar Raw Centrifugal	0.042	0.014	0.014
Mantequilla	Butter, cow milk	-0.003	0.544	0.544	Frijol	Beans, dry	0.104	0.044	0.111
Aguacate	Avocados	-0.003	0.000	0.042	Maiz	Maize	0.128	0.131	0.133

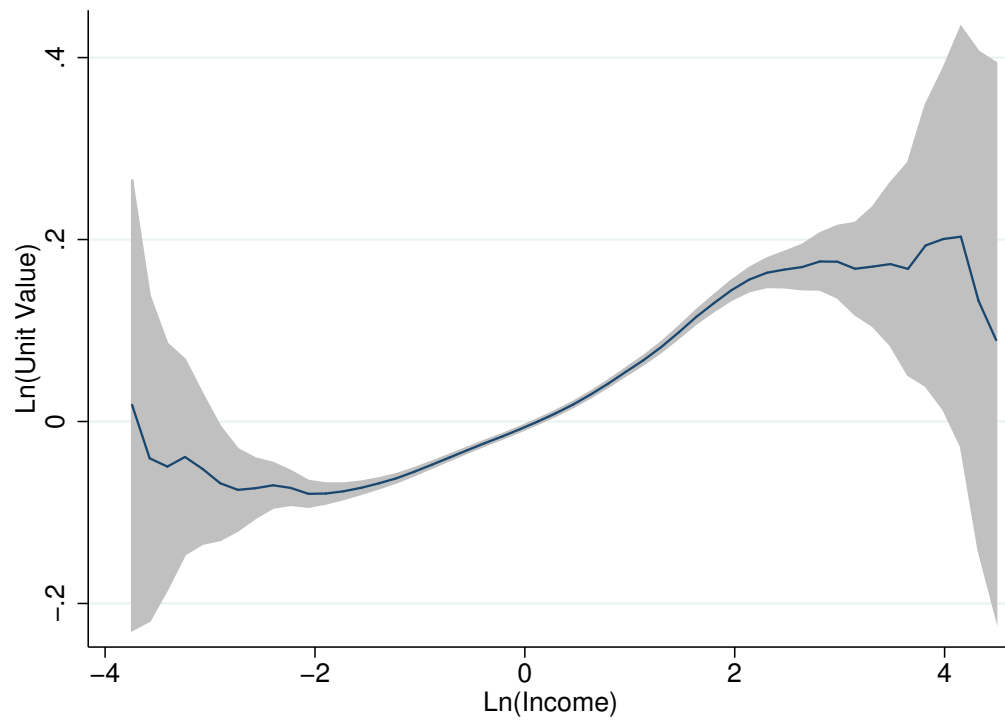
Notes: This table reports the match between DOF categories and the FAO categories. It also reports the differences in consumption shares among FAO categories between the top and the bottom income deciles,  $\tilde{\omega}_g^1 - \tilde{\omega}_g^{10}$ , with  $\tilde{\omega}_g^h \equiv \frac{\omega_g^h}{\sum_{g \in F} \omega_g^h}$ ,  $h = 1, 10$ , and the two measures of prevalence of pure tradeable goods  $\theta_g$ . Product categories are ordered in increasing relative prevalence in the consumption basket of the bottom income decile compared to the top income decile  $\tilde{\omega}_g^1 - \tilde{\omega}_g^{10}$ .

Figure A1: The Across price index by household income



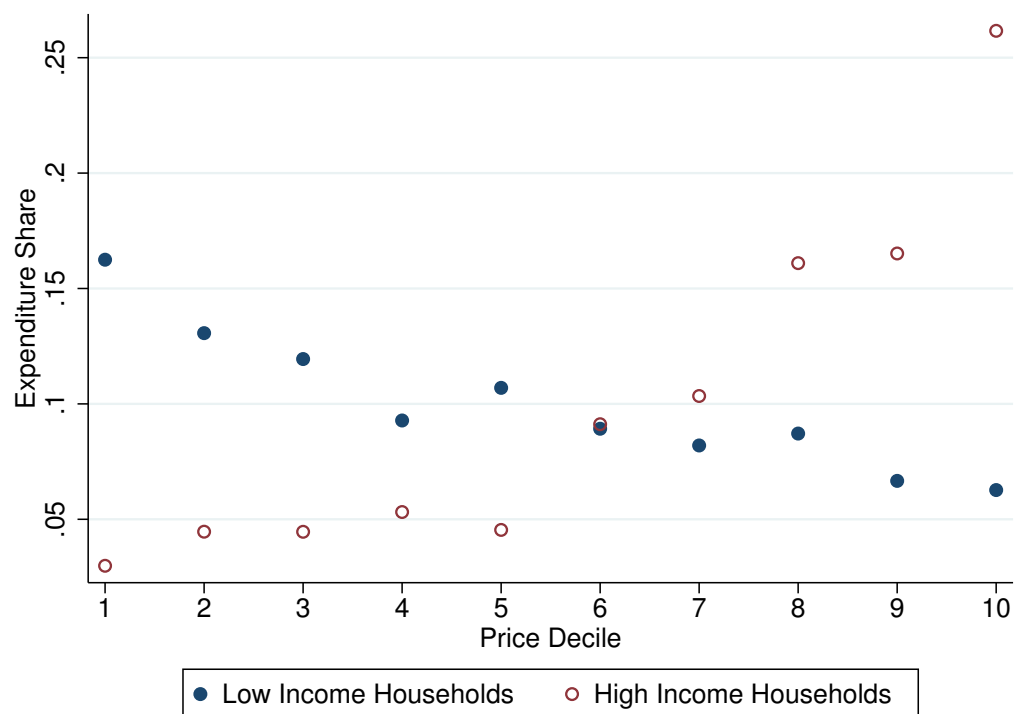
Note: This figure reports the quadratic and local polynomial fits of the household-specific price level changes against log income, together with 95% confidence intervals. The household-specific price indices are calculated based on the 284 9-digit consumption categories and 1994 expenditure weights. Income is taken from the 1994 household survey.

Figure A2: Unit values by household income



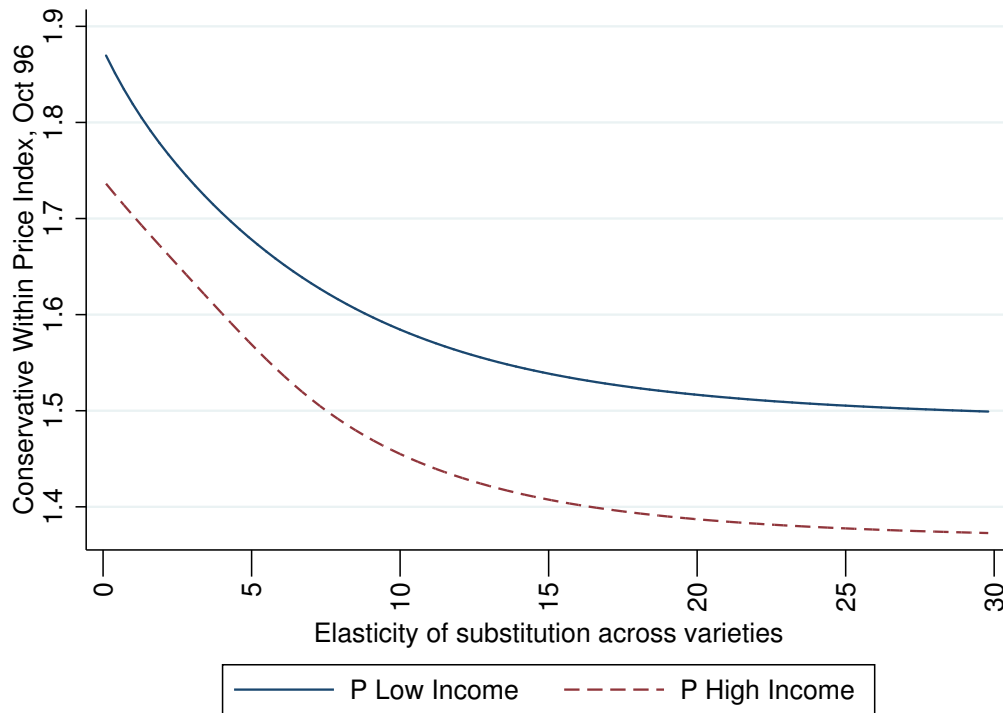
Notes: This figure reports the local polynomial fit of log deviations from mean log unit values within each product against log household income, together with 95% confidence intervals.

Figure A3: Expenditure shares in each price decile, Nielsen HomeScan, US, 2006



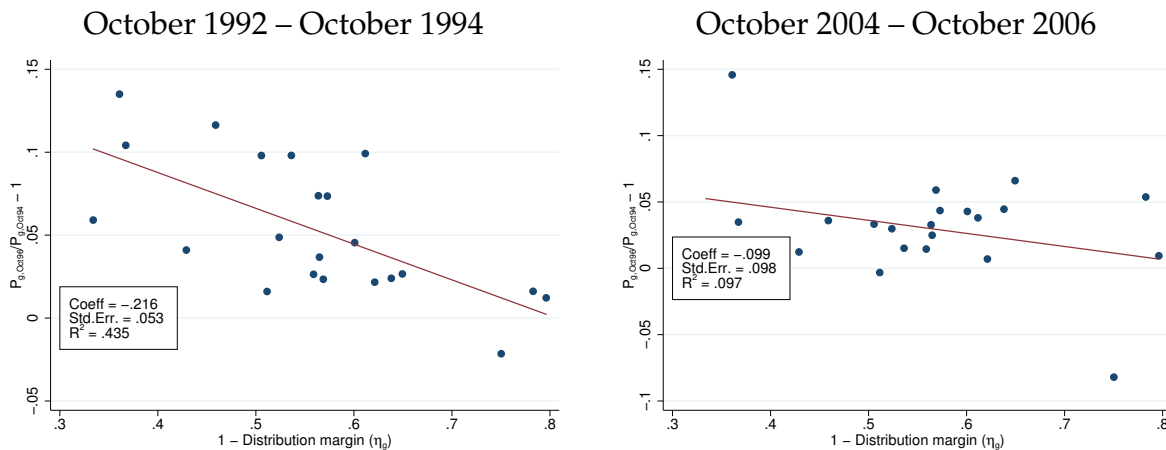
Note: This figure the shares of expenditures by low-income (\$20,000 or lower household income) and high-income (\$200,000 or higher household income) households on bar code-store combinations that belong in each decile of prices in their product module.

Figure A4: The Within effect as function of substitution elasticity between varieties



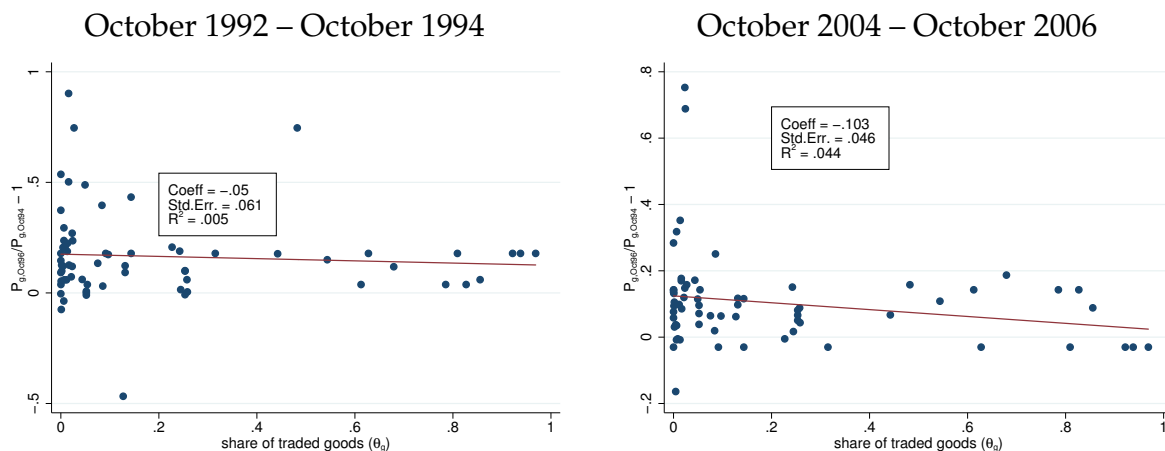
Note: This figure presents the Paasche index of  $\hat{P}_{Within,t}^h$  in which the end-of-period shares are assumed to be given by (16), as a function of  $\sigma_g$ .

Figure A5: Placebo: price changes and distribution margins



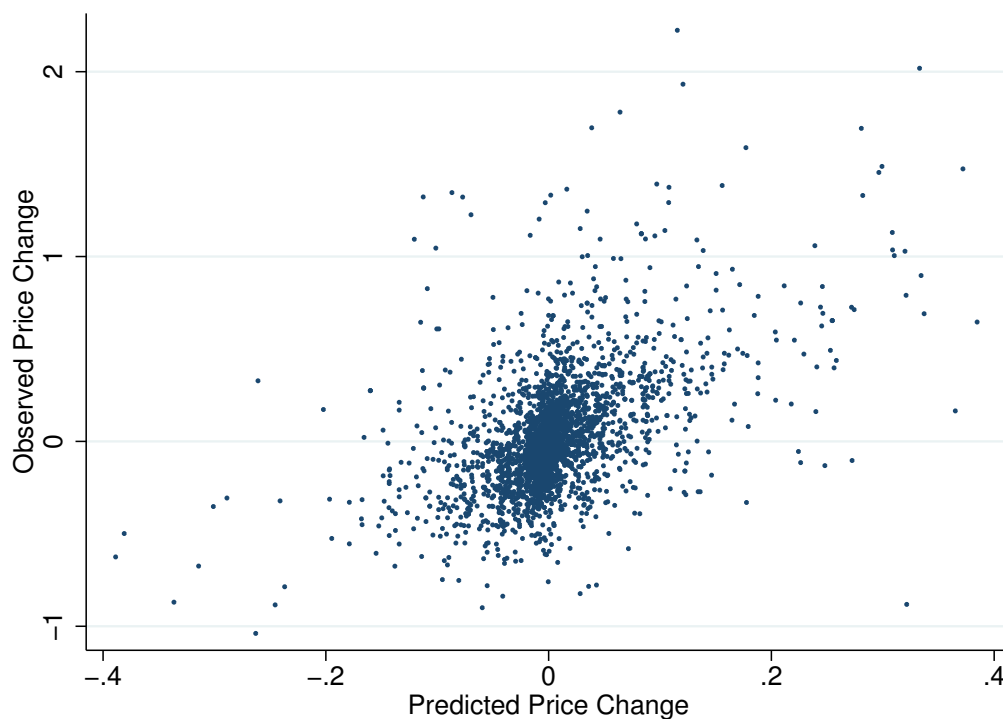
Note: This figure presents the scatterplot of the price change in each good against one minus the distribution margin ( $\eta_g$ ) together with an OLS fit for two placebo periods. The box reports the coefficient, robust standard error, and the  $R^2$  in that bivariate regression.

Figure A6: Placebo: price changes and local goods



Note: This figure presents the scatterplots of the price change in each good against one minus the share of local goods in each product category ( $\theta_g$ ) together with an OLS fit for two placebo periods. The box in the top left corner reports the coefficient, robust standard error, and the  $R^2$  in that bivariate regression. The share of traded goods  $\theta_g$  is proxied by the 'Imports to absorption ratio' defined in the main text.

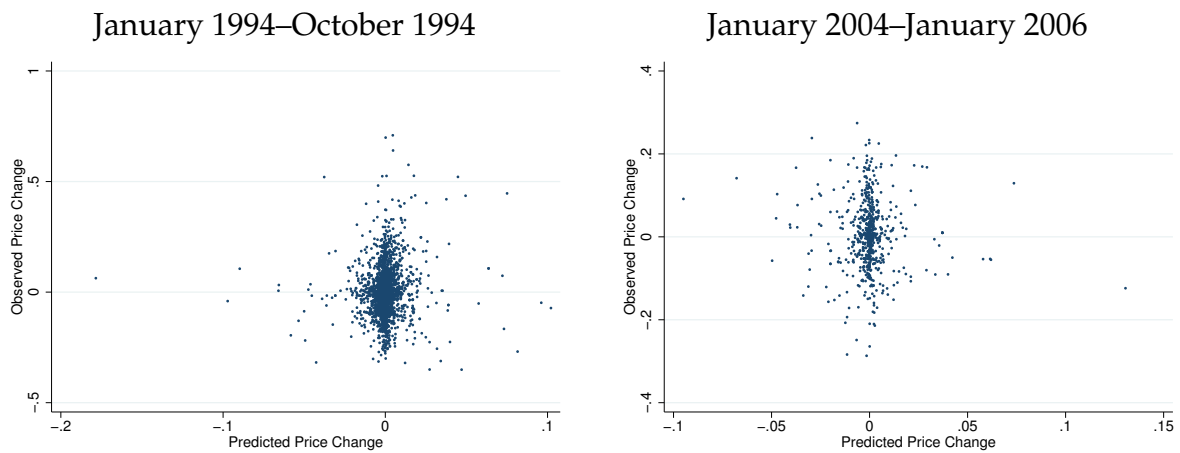
Figure A7: Predicted vs. observed price changes: October 1994–October 1996



Note: This figure presents the scatterplot of the price change of each variety against the value predicted by the equation (23).



Figure A8: Placebo: predicted vs. observed price changes



Note: This figure presents the scatterplot of the price change of each variety against the value predicted by the equation (23) for two placebo periods.