Sticker fever, discrimination, and informal street vendors*

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Abstract

Previous research has focused on discrimination that occurs in formal markets. However, discrimination in informal markets remains understudied. We conducted a field experiment to examine whether street vendors in Bogotá, Colombia exert price discrimination based on buyers' characteristics (gender and nationality), or product's characteristics (number of quoted items from a collection). We exploited the seasonal demand for a homogeneous good: album stickers of football players participating in the FIFA World Cup Russia 2018. We used a within-subjects design involving six experimenters acting as potential buyers. Each of them approached 59 street vendors located in five different geographic zones in Bogotá and asked for the prices of a list of the stickers needed to complete the collection. We find that prices quoted to Argentinians are higher than prices quoted to Colombians, even controlling for vendors' characteristics and geographic zones. By contrast, we do not find evidence supporting direct gender-based discrimination, neither that vendors charge a higher price per sticker when the list of missing stickers is shorter. We complement the study with a qualitative analysis based on interviews that reveal vendors' pricing strategies for rare stickers. (JEL Codes: C93, D90, J16)

Keywords: street vendors; discrimination; informality

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1 Introduction

There has been ample discussion in the literature about price discrimination in formal markets, and multiple studies have been carried out in the laboratory, especially in developed countries. For example, in health (Balsa and McGuire, 2001; Grytten et al., 2011), housing (Baranzini et al., 2008; Baldini and Federici, 2011; Auspurg et al., 2017; Flage, 2018), the taxi market (Castillo et al., 2013), and the labor market (Haagsma, R.; Bertrand and Mullainathan, 2004; Baert and De Pauw, 2014; Yip and Wong, 2014). One of the most remarkable studies analyzing real-world interactions between buyers and sellers is List (2004), who examined natural behavior in the sports-card market.

However, we know surprisingly little about the extent to which discrimination occurs in informal markets in developing countries. As List (2004) highlights: "Empirical studies have provided evidence that discrimination exists... but to what extent does market structure influence discrimination?". Notably, the social norms that govern informal economic transactions can be very different from those of developed countries. To the best of our knowledge, this study provides the first experimental evaluation of price discrimination in an actual informal market in a developing country; a customer market heretofore unexplored in the literature. In this study, we examine whether gender, nationality, and number of quoted items from a collection, drive price discrimination among street vendors in Bogotá, Colombia. The main findings illustrate systematic variations in quoted prices that correlate with the experimenters' nationality. However, gender discrimination is not found, neither differences in prices based on the number of quoted stickers needed to complete the collection.

Street vending is a striking element of the urban informal economy in Bogotá. It emerged as a significant source of employment and income in the city, and its rapid increase has been attributed to the accelerated pace of urbanization, the continuous influx of people displaced by internal violent political conflict (IPES, 2016), and more recently, to the deteriorating situation in Venezuela that has forced many people to scrape a living in Colombia (Concejo de Bogotá, 2018). According to the last census of the Institute for the Social Economy (IPES),¹ around 50,000 street vendors are working in the public space in Bogotá (IPES, 2016).²

This set of factors has exacerbated the existence of labor market segmentation in Colombia, with severe implications and costs in socio-economic terms.³ These include wage gaps,

¹Street vendors' last official census was undertaken in 2016 by the Instituto Para la Economía Social (IPES). The purpose of this entity is to contribute to the economic development of the city through the offer of income-generating alternatives to the population of the informal economy that exercises its activities in the public space. It focuses on training, entrepreneurship, business strengthening, and commercial platforms' management. In addition, it administers and carries out actions to strengthen the District System of Market Places.

²See Appendix A for further details about the definition of informal street vendors in Bogotá established by the Constitutional Court of Colombia in 2003.

³Labor market segmentation is the division of the labor market into separate submarkets or segments—in this case, formal and informal—, distinguished by different characteristics and behavioral rules (Peña, 2013).

differences in access to training, job quality, working conditions, social security, and stability (Peña, 2013). Furthermore, there is limited mobility between dual labor markets, because workers in each sector have different characteristics (e.g., educational attainment, gender, and age) (LaboUR, 2018; IPES, 2016). Taking this into account, the IPES has offered programs to encourage formalization of street vendors.⁴ However, according to the Deputy Director of Training and Employability of this institution, street vendors exhibit an outsized preference for staying in the informal sector. For example, they insist that taxes are very high and they do not pay social security because they think the provision of services has deficient quality. Street vendors also argue that they receive money on a daily basis and work flexible hours, but becoming a formal worker forces them to receive their income on a monthly basis and have a strict schedule (Caracol Radio, 2016).

Considering the particular situation of street vendors in Bogotá, and taking into account that the commerce of seasonal products characterizes most of them, we take advantage of the seasonal demand for album stickers from the FIFA World Cup Russia 2018 to carry out our experiment. It is important to highlight that the World Cup sticker-book has evolved into a cultural and commercial phenomenon that creates enthusiasm and represents a stimulus for local merchants. As explained by Zonneveld and Biggemann (2014), culture plays an active role in influencing collecting decisions and can determine what objects hold more meaning than others.

In order to understand what facts encouraged many street vendors to leave their usual wares and start selling stickers, we need to explain what aspects shaped the demand for these items. In Bogotá, instead of buying each pack individually, that costs 75 cents, many collectors start by buying a box for 73 USD to obtain directly 104 packs (520 stickers). It is important to mention that buying this box is not enough, because 670 stickers are required to complete the collection. Once collectors have checked the duplicates and the missing stickers, they trade stickers at certain spots in the city. However, collectors realized that some stickers were really scarce and difficult to obtain, and trading them was not going to be enough to complete the collection. Then, demand for individual stickers emerged. As a result, stickers that are traditionally sold in packs of five, are sold individually by street vendors in Bogotá. According to the manager of the official supplier of stickers in Colombia: "There are easy, and there are difficult stickers, no doubt. It is not a myth, it is real, but the supplier quarantees that all the stickers circulate and that you can complete the album. Some may be more difficult than others depending on the stage in which the batches of stickers are circulating, because we are receiving imported batches. Then, as time goes by during the campaign time, which is between three and four months, all the stickers are available" (Pulzo, 2018).

In the interviews, vendors mention that rare stickers were not mainly the stickers showing the teams or the stadiums as in previous world cups. This year, the scarce stickers were mostly the emblems.⁵ In addition, collectors could not buy them directly from the supplier,

⁴The IPES has offered programs such as relocation in kiosks, social entrepreneurship routes, institutional fairs, relocation in shopping centers and employment.

⁵Fifty stickers in total: 8 shiny stickers from the front page, 32 logos of the teams, and 10 legends (a new section of the album featuring all the eight World Cup champions until now, with one sticker for each, and two legends for specific players: Pelé and Klose).

since the company said that the high demand exceeded their availability (El Tiempo, 2018). Therefore, the company's inability to meet the demand this year also serves as a cause to explain the high demand for individual stickers in the streets of Bogotá.

Considering all the previous elements, we present a natural field experiment designed to examine price discrimination in the informal market in Bogotá. We study whether street vendors discriminate based on nationality, gender or amount of quoted items. To meet this goal, six experimenters pose as potential buyers. Four of them, two Argentinians and two Colombians, quote a set of nine stickers that we would name the *Long List*. The remaining two Colombian experimenters quote a *Short List* including only four stickers. In addition, to study variation between locations, we select five different zones in Bogotá that are typically bursting with street activity: Downtown, Street 72, Street 85, Street 93 and Street 147. We complement the study with a qualitative analysis based on eleven interviews with street vendors that reveal their pricing strategies for rare stickers.

While the pattern of discrimination observed in this marketplace is interesting, and the qualitative analysis sheds some light on the motivations of street vendors' behavior, we cannot draw firm conclusions about the nature of discrimination. Economists usually focus on two main theories to explain discrimination. On the one hand, Becker (1957) proposes a "taste-based" model, in which racial or gender animus, or preference bias, against members of a targeted group is assumed. On the other hand, in "statistical" discrimination theories (Phelps, 1972; Arrow, 1973), the decision makers are maximizing their utility in a very standard way. However, group inequality is explained by the fact that decision-makers use observable characteristics of individuals as a proxy for unobservable, but outcome-relevant characteristics (Fang and Moro, 2011). In view of these two theories, and taking into account the information collected from interviews with street vendors, the one that seems more plausible to explain the differences in the empirical distribution of prices is the statistical discrimination. In this case, vendors may be using nationality as a proxy for the distribution of reservation values, assuming that Argentinians have a larger disposable income and therefore their reservation value for stickers is higher.

Under both theories, the "taste-based" and the "statistical", individuals consciously discriminate. In 2005, Bertrand et al., considering neuroscientific studies that had demonstrated that conscious and unconscious processes are different and activate distinct regions in the brain, put forward a third interpretation, which highlights that discrimination may be unintentional and outside of the discriminators' awareness. There are two essential criteria for implicit discrimination to arise. First, the individual must perform a task under significant time pressure and second, the task must involve considerable ambiguity.

Our field experiment may fit the implicit discrimination model, and it could potentially explain the results, since street vendors usually make a quick offer to the experimenter and their attention is split between the current potential buyer and other prospective buyers and vendors, nearby. Ambiguity in this context exists in how to interpret subtle cues about willingness to pay. Most interestingly, when we asked vendors about important features

⁶Phelps suggested that the source of inequality is an unexplained exogenous difference between groups, while Arrow indicated that average group differences are endogenously derived in equilibrium.

they considered when setting the prices, most of them denied charging higher prices to women with respect to men, or foreigners with respect to locals. Therefore, they are either embarrassed to acknowledge it, or they are engaging in this practice without realizing it.

The rest of the paper is organized as follows. In Section 2 we begin by describing the experimental design. Next, some descriptive statistics are presented in Section 3. In Section 4, we discuss the results. Section 5 complements the quantitative analysis with qualitative information obtained from interviews with the street vendors. Section 6 concludes.

2 Experimental Design

We exploit the seasonal demand for album stickers of the FIFA World Cup 2018. Six experimenters, acting as potential buyers, approached 59 street vendors located in five different zones in Bogota (Downtown, Street 72, Street 85, Street 93, Street 147) and asked for the prices of a list of the remaining stickers to complete the collection. Since we wanted to represent natural interactions that would occur in the market, we used equivalent stickers in the list quoted by each potential buyer. By doing this, we made it less noticeable and suspicious to the vendors (it should be noted that throughout the experiment the vendors were not aware that an experiment was occurring). We collected the data during the first week of June 2018, just before the start of the World Cup.

In order to disentangle price discrimination, we designed an experiment in which two types of lists were quoted (i.e., a Long List and a Short List) by buyers with different gender and nationality attributes. There were six potential buyers in total, four who quoted the Long List and two who quoted the Short List. Two potential buyers who quoted the Long List were Colombian (COL), and the other two were Argentinian (ARG). For each nationality, there was a woman (F) and a man (M). Additionally, a Colombian man and a Colombian woman quoted the Short List. Table 1 summarizes the components of the experiment:

Table 1: Experimental design

| Potential buyer | Gender | Nationality | List |
|-----------------|--------|-------------|-------|
| 1 | Female | Argentinian | Long |
| 2 | Female | Colombian | Long |
| 3 | Male | Argentinian | Long |
| 4 | Male | Colombian | Long |
| 5 | Female | Colombian | Short |
| 6 | Male | Colombian | Short |

On the one hand, the *Short List* had four stickers. Both versions of this list included the FIFA World Cup Trophy, the logo of Colombia, and the logo of another team. The fourth sticker was a shiny sticker from the front page, and it was either the FIFA Fair Play emblem or the Panini Knight Logo. The mean quoted prices of these two stickers are not statistically

⁷Figures A1 and A2 display the five zones where the experiment was conducted. The stars in Figure A2 show the street vendors that were approached in each zone by at least one of the six potential buyers between Tuesday, June 5th and Friday, June 8th, 2018. Figure A3 shows some examples of vendors selling stickers in the streets.

different (p-value=0.6828). On the other hand, the *Long List* included nine stickers: the FIFA World Cup Trophy, the logo of Colombia, the logo of Argentina, another team logo, one legend (Argentina), the Official ball (Telstar), one stadium, one team photo and one player. Therefore, the *Long List* had the same (or equivalent stickers of the *Short List*) plus another five stickers corresponding to player, team, stadium, legend and one more logo, as it is shown in Table 2.

Table 2: Lists

| Short List | Long List |
|-------------------------------------|--------------------------------|
| FIFA World Cup Trophy | FIFA World Cup Trophy |
| Colombia (logo) | Colombia (logo) |
| FIFA Fair Play / Panini Knight Logo | Official ball - Telstar |
| Germany / Brazil (logo) | Peru / Uruguay / Mexico (logo) |
| | Legend (Argentina) |
| | Argentina (logo) |
| | Stadium |
| | Team |
| | Player |

Any experimental design that aims to shed light on the nature of discriminatory behavior must take several sources into account, either by controlling them directly in the experimental design or by isolating them and examining the appropriate comparative static changes (List, 2004). Bearing this in mind, all potential buyers mentioned that they were married and had to consult with their husband or wife, respectively, before buying the stickers, because they were simultaneously quoting the list for their kid.⁸ Also, the six potential buyers were appropriate clothes to pretend a similar age.

The script served to make it clear to the vendor that the potential buyer was not committed to buying, and was only quoting. Additionally, by mentioning the partner we avoided that the vendor would think men bought stickers for them, but women bought stickers for someone else. Otherwise, we could have confounded a gender-effect with second-degree moral hazard, which is the tendency of the vendors to react to anticipated moral hazard on the demand side by increasing the extent or price of the service. For example, when sellers know the person will be reimbursed for their expenses, they tend to charge more (Balafoutas et al., 2015). In our experiment, none of the potential buyers are personally incurring the costs, because they are all quoting for somebody else.

The experimenters worked in pairs, started to quote their lists around 10:00 a.m. and finished around 7:00 p.m. This was the schedule in which most of the vendors were present. The experimenter acting as a potential buyer was accompanied by another experimenter who guaranteed that the vendor was well identified.⁹ This "companion experimenter" previously

⁸The first day we realized that mentioning the partner did not seem to have an effect. What mattered was the fact that the person was only quoting and did not have the intention to buy. However, we kept using exactly the same script. There are more details about it in Appendix E.

⁹A vendor is characterized as a person or multiple people who sell at the same spot. For example, in cases in which there is a couple, or a family, selling in the same place, they all have the same ID. It is possible that two different experimenters obtained the prices from the same vendor ID, but from two actual different vendors.

identified and coded all vendors in the five zones. Finally, a subset of all vendors in each zone was chosen to guarantee independence among observations. In other words, with this subset, we ensured that there was no other vendor close enough when a potential buyer was quoting the list. By doing this, we avoid a situation in which a vendor updates the price after seeing the potential buyer talking to another vendor.

Additionally, potential buyers had a map available in Google Maps with an ID assigned to each vendor and its exact location, as well as pictures of the vendor. This was crucial especially on Street 147, since the density of vendors along a single street was very high and we required accurate identification to guarantee independence between observations.

The experimenter who was acting as a potential buyer approached the vendor, while the other remained hidden to not be recognized by the vendors. Figure 1 presents four pictures. In picture A, a Colombian woman is quoting the *Short List*. In picture B an Argentinian woman is quoting the *Long List*. Picture C shows the Colombian man quoting the *Short List*, and Picture D shows the Argentinian man quoting the *Long List*.

Figure 1: Potential buyers



Four experimenters, acting as potential buyers, quoted the *Long List*. As shown in Table A1, the logos of Colombia and Argentina were included in all the lists. These were chosen with the purpose of investigating whether asking for the emblem of the buyer's own country affected the price given by the street vendor. Additionally, the *Long List* had a random logo of a team¹⁰ allocated in Pot 2 for the official Final Draw of the 2018 FIFA World Cup Russia.¹¹

The World Cup album includes an additional shiny sticker for each country that has been World Cup Champion. These additional shiny stickers are called "Legends". We included in the *Long List* the legend of Argentina (which shows Diego Armando Maradona holding

¹⁰The three teams quoted were Peru, Uruguay, and Mexico. Multiple t-tests show that there is no difference in prices between these three stickers.

¹¹All teams were allocated to eight-team pots, from pot 1 to 4, based on sporting principles. All 32 teams were allocated according to their FIFA ranking in descending order, after hosts Russia, who took top seeding spot. For more information about the Final Draw, you can visit: https://www.fifa.com/worldcup/news/pots-announced-for-final-draw-2920191.

the 1986 FIFA World Cup Trophy aloft) to make the nationality of the Argentinians experimenters explicit in the script (see the script in Appendix E). The FIFA World Cup Trophy and the Official ball - Telstar were randomly chosen from the front page emblems. The stadiums were also randomly assigned to each list, while the two teams, Denmark and Iceland were chosen from Pot 3. The player in each list was selected from Spain and England, two teams allocated in Pot 2.¹²

In the *Short List*, the logo of a team assigned to Pot 1, like Brazil or Germany, was quoted, replacing the logo of Argentina, which had also been allocated to this pot.¹³ This was done to avoid that the vendors would perceive an unusual situation in which many people had come to quote a similar list and recognize that an experiment was being conducted. We kept the logo of Colombia in this list, considering that multiple vendors mentioned that it was a very scarce sticker and we noticed a relevant variation in its price between zones.

We also realized that it was necessary to keep the FIFA World Cup Trophy in the *Short List*, since it usually had a higher price than the other emblems of the first page. Finally, in order to make it comparable with the *Long List*, we included a sticker of the front page, similar to the Ball. We replaced this sticker with either the FIFA Fair Play emblem or the Panini Knight Logo (see Table A2).¹⁴ All the quoted stickers, either in the *Long List* or the *Short List*, are shown in Figure A2.

In the *Long List* treatment, every potential buyer had their own printed list marked for each vendor. They used it to write the prices of each sticker on the front and additional characteristics such as location, gender, and age of the vendor, among others, on the back. In case that the vendor did not have the sticker, the potential buyer asked the price that they would charge to find it or the price they usually charged for that sticker. There was also some room left for additional notes which could include information provided by the vendor in an informal talk. When quoting, the potential buyer had three options:

- Show a handwritten list, and write down the prices in an agenda or a notebook. Then walk away at least five meters to copy the prices and information about the vendor in the printed list.
- Ask the prices and write down directly the prices in the printed list (but not letting the vendor see it). Then walk away at least five meters to write down the information related to the vendor's characteristics in the printed list.
- \bullet Memorize the price of the stickers and then walk away at least five meters to write down the prices and information in the printed list.¹⁵

¹²We test whether there is any difference in prices between the quoted stickers in each category (stadium, team, and player). Multiple t-tests point out that there is no difference between the stickers used in each list.

¹³Multiple t-tests show that the price of the logo of a team located in Pot 1 is the same regardless of whether the potential buyer quoted the logo of Argentina, Brazil or Germany.

¹⁴According to multiple t-tests, the prices of the Ball, the Panini Knight Logo, and the FIFA Fair Play emblem are not statistically different.

¹⁵To see an example, Figure A1 shows the printed list used by the Argentinian male experimenter acting as a potential buyer.

The selection of one option or another depended mainly on the specific situation; some vendors wanted to see the list themselves, while others just said the prices without the need of looking at it. We encouraged potential buyers to use the hand-written list and walk away a few meters to write down the prices in the printed list. By doing this, we ensured that the process was as natural as possible for the street vendors, whose behavior is of primary interest in this field experiment.

3 Data

We collected information from 59 street vendors, 28 who were accompanied by family or friends and 31 who were usually alone in their stall. We also coded a dummy variable that indicated whether, according to the experimenter's assessment, the vendor was under 35 years old or older. The results show that 39% of the sample is younger than 35. Additionally, we coded a variable to indicate whether the vendor was around more vendors or not. The analysis shows that 24 vendors are not very close to others, while 28 have some vendors around and 7 are in a cluster.¹⁶

We obtained data from 199 experimenter-vendor interactions using the *Long List* and 88 experimenter-vendor interactions using the *Short List*. On average, each street vendor was approached by 5 potential buyers.¹⁷ Figure 2 displays the average price of each sticker by zone and gives a hint about differences that might exist between them. We will explore this result deeper in the next section.

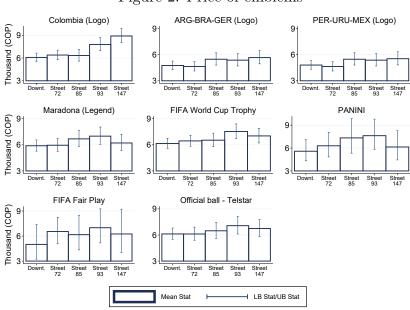


Figure 2: Price of emblems

Notes: Every column represents the average quoted price in each zone.

The total number of observations is 1,712 in the Long List and 697 in the Short List, when

 $^{^{16}}$ All the vendors classified in a cluster are located in a mall in Street 147. Panel E in Figure A3 shows how close these vendors are from each other.

¹⁷Figure A1 shows the vendors approached by each experimenter acting as a potential buyer.

the information is organized as a panel data.¹⁸ In this setting, the unit of analysis is the sticker - vendor pair. Table 3 reports the descriptive statistics of the stickers in each list. Additionally it shows information about the total price of the list.¹⁹

Table 3: Descriptive Statistics (in thousand COP)

| | | | | | | , |
|------------|-----|-------|-----------|-----|------|------------------------------------|
| | | Lo | ng List | | | Short List |
| Sticker | Obs | Mean | Std. Dev. | Min | Max | Sticker Obs Mean Std. Dev. Min Max |
| Colombia | 193 | 6.89 | 2.98 | 2 | 20 | Colombia 75 6.83 2.42 4 15 |
| Argentina | 192 | 5.04 | 1.15 | 2 | 10 | |
| Other Logo | 192 | 5.04 | 1.15 | 2 | 10 | Other Logo 76 5.14 1.04 3 8 |
| Legend | 188 | 6.25 | 1.81 | 3 | 15 | Panini 43 6.47 1.86 4 10 |
| Cup | 187 | 6.66 | 1.96 | 3 | 10 | Cup 75 6.61 1.83 4 10 |
| Ball | 187 | 6.41 | 1.84 | 3 | 10 | FIFA Logo 33 6.30 1.49 4 10 |
| Stadium | 190 | 0.95 | 0.60 | 0 | 3 | |
| Team | 191 | 0.86 | 0.53 | 0 | 3 | |
| Player | 192 | 0.47 | 0.31 | 0 | 3 | |
| Total | 187 | 38.13 | 8.45 | 15 | 64.4 | Total 85 24.58 5.48 12 37 |

Table A1 shows the number of vendors approached by each potential buyer and the mean value of the covariates associated to vendors' characteristics. This table also shows balance in the gender of vendors, and time of the day in which they were approached, but not in their age, when the *Long List* was quoted. Additionally, it shows balance in the characteristics of the vendors, but not in the time of the day in which they were approached, when the information of the four Colombians is considered (*Short List* experiment).

The Colombian woman quoting the *Long List* asked 58 vendors, the Argentinian woman 47 of them, the Argentinian man 46, and the Colombian man, 48. Chi-squared tests indicate that there is balance (p-value=0.556) in the two variables of interest (gender and nationality of the potential buyer) in the *Long list* treatment and balance (p-value=0.981) in the variables of interest (gender and type of list) in the *Short list* treatment. The Colombian woman quoting the *Short List* asked 48 vendors, while the Colombian man quoting the *Short List* approached 40. Table 4 shows gender interaction between experimenter and vendor. Chi-squared tests show that this interaction was random in both the *Long list* and the *Short list* treatments (p-value=0.914 and p-value=0.874, respectively).

Table 4: Gender interaction

| Long List | | | | Short List | | | | | |
|-----------|---------|--------|-------|------------|---------|--------|-------|--|--|
| | Experin | nenter | | | Experin | nenter | | | |
| Vendor | Female | Male | Total | Vendor | Female | Male | Total | | |
| Female | 45 | 41 | 86 | Female | 20 | 16 | 36 | | |
| Male | 60 | 53 | 113 | Male | 28 | 24 | 52 | | |
| Total | 105 | 94 | 199 | Total | 48 | 40 | 88 | | |

¹⁸Some vendors refused to say the price of individual stickers, and preferred to mention the total amount charged for all the list. Additionally, some vendors could not be found by every potential buyer. Others got upset and did not want to say the prices when the potential buyer mentioned that she was only quoting, but not buying. Also note that 697 is the sum of 302 observations collected by two experimenters quoting the *Short List* and 395 observations collected by experimenters quoting equivalent stickers in the *Long List*.

¹⁹The total in both lists is the total quoted by the vendor when she mentions it and when she does not, then it is replaced by the sum of prices of the quoted stickers.

4 Results

Our primary question of interest is whether street vendors discriminate prices based on i) nationality, ii) gender or iii) number of quoted stickers. To find this, we estimate a simple linear regression model and a random effects model. Both specifications lead to similar conclusions. Formally, Equation 1 shows the estimated model.

$$Price_{isj} = \beta_1 Foreign_j + \beta_2 Male_j + \beta_3 RP_{ij} + X_i'\alpha + T_{isj}'\delta + \epsilon_{isj}$$
 (1)

The dependent variable is the price of sticker s quoted by vendor i to potential buyer j (expressed in thousand of Colombian pesos). The indicator Foreign equals one if potential buyer is Argentinian and equals zero if the experimenter is Colombian. Male equals one if the potential buyer is a man and equals zero otherwise. RP (reference point) is an indicator variable that takes the value of one if the vendor quoted a price and then changed it to frame it as a discount to the potential buyer (RP - Reference Point). For example, the vendor could have said: "The price of the logo of Colombia, legends and emblems from the front page is 8,000 COP, the logo of Peru and Argentina are 5,000 COP each, the price of each stadium and each team is 2,000 COP, and the player is 500 COP. But if you buy them all, then the price of each emblem is 6,000 COP and I give you the other three (player, team and stadium) as a gift." Then this vendor has a "1" in this variable. Also, if the vendor said something like "I'll let you take it for only 5,000 COP", we also count it as a reference point, since the vendor is implicitly saying that the original price is higher and is giving the potential buyer a discount.

Additionally, X_i is a vector that includes characteristics of the vendors, such as age, gender, zone where they are located, and whether they are alone or in a cluster. On the other hand, T_{isj} is a vector that includes sticker and time fixed effects (day and morning)²¹, and a constant.

4.1 Main econometric results: Long List

RESULT 1: street vendors quote significantly higher prices to Argentinians than to Colombians.

Using information collected by the four experimenters quoting the *Long List*, Table 5 displays four different specifications indicating that the quoted price to a foreigner is between 157 COP and 224 COP larger than the quoted price to a Colombian buyer (a difference of 3.5%).²² All specifications include fixed effects for all the nine stickers, individually. They also include fixed effects for the zone and the day of the week in which the experimenter quoted the list. Specifications 2 and 4 augment the model by adding gender and age of the

²⁰There are no systematic differences between a fixed effects model and a random effects model, based on a Hausman test (p-value= 0.148).

 $^{^{21}}$ These fixed effects indicate i) whether the potential buyer approached the vendor before midday, ii) which day of the week was used by the experimenter to quote the prices, and iii) the sticker that was quoted. 22 The average price of the quoted stickers is 4,300 COP (about 1.5 USD).

vendor, time of the day in which the potential buyer approached the vendor,²³ and a dummy variable that indicates if the vendor hinted at a discount.

Table 5: Effect of foreign origin of potential buyer on street vendors' price quotations

| | (1) | (2) | (3) | (4) |
|----------------------------|---------|----------------|----------|---------------|
| | OLS | OLS + controls | RE | RE + controls |
| Foreigner | 0.157* | 0.198** | 0.185** | 0.224*** |
| | (0.082) | (0.084) | (0.075) | (0.079) |
| $Male_{Buyer}$ | 0.394 | 0.355 | 0.334 | 0.317 |
| • | (0.338) | (0.346) | (0.280) | (0.281) |
| Reference Point | , , | -0.246*** | , , | -0.231*** |
| | | (0.0931) | | (0.0818) |
| Constant | 0.225** | 0.062 | 0.262*** | 0.144 |
| | (0.104) | (0.169) | (0.096) | (0.145) |
| R-squared | 0.734 | 0.740 | 0.733 | 0.734 |
| Additional controls | X | ✓ | Х | ✓ |
| Number of observations | 1712 | 1712 | 1712 | 1712 |
| Number of stickers*vendors | 531 | 531 | 531 | 531 |

Notes: *p<.1, ***p<.05, *** p<.01. The dependent variable in all specifications is the price quoted by the vendor. Standard errors clustered by sticker-vendor are shown in parentheses. Controls included in all specifications are zone, day and sticker fixed effects. Additional controls in columns 2 and 4, include a dummy variable to indicate if the vendor is alone or in a cluster, time of the day, gender of the vendor, reference point and a proxy created for age of the street vendor.

These results present evidence that suggests street vendors quote significantly higher prices to Argentinians than to Colombians. As Ayres and Siegelman (1995) and List (2004) note, vendors might use customer's nationality to infer buyer's knowledge, search and bargaining costs, or more generally, their reservation price for a sticker.

Table 6: Effect of foreign origin of potential buyer on street vendors' price quotations (total list)

| | (1) | (2) | (3) |
|------------------------|-----------|----------------|---------------|
| | OLS | OLS + controls | RE + controls |
| Foreigner | 2.625* | 2.750* | 2.700* |
| | (1.391) | (1.431) | (1.393) |
| $Male_{Buyer}$ | 3.470 | 1.656 | 2.892 |
| | (3.523) | (5.749) | (3.830) |
| Reference Point | | -2.058 | -1.808 |
| | | (1.440) | (1.302) |
| Constant | 35.927*** | 34.194*** | 34.529*** |
| | (1.720) | (2.426) | (2.300) |
| R-squared | 0.106 | 0.182 | 0.172 |
| Additional controls | X | ✓ | ✓ |
| Number of observations | 187 | 187 | 187 |
| Number of vendors | 59 | 59 | 59 |

Notes: * p<.0, ** p<.05, *** p<.01. The dependent variable in all specifications is the price of the total list quoted by the vendor. Standard errors clustered by vendor are shown in parentheses. Controls included in all specifications are zone fixed effects and day fixed effects. Additional controls in columns 2 and 3 include a dummy variable to indicate if the vendor is alone or in a cluster, time of the day, gender of the vendor, reference point and a proxy created for age of the street vendor.

²³This is a dummy variable that indicates whether the experimenter approached the vendor in the afternoon/evening (0) or in the morning (1).

Additionally, we check whether the price discrimination based on the nationality holds once the price of the total list is considered. Table 6 shows that this is the case; Argentinians quoted an identical list than Colombians, but it was 2,700 COP (1 USD or 7%) more expensive.

The pattern of results exhibited in Table 5 also leads to our second result:

RESULT 2: Vendors who frame a quotation as a discount are indeed reducing prices.

Specifications 2 and 4 in Table 5 show that potential buyers who quoted a list from vendors who framed prices as a discount, indeed received a lower quotation. This quotation was 231 COP cheaper than a quotation from a vendor that did not allude to any kind of discount.

RESULT 3: The logo of Colombia is treated as an expensive emblem, while the quoted price for the logo of Argentina is lower and is quoted equally to Argentinians and Colombians.

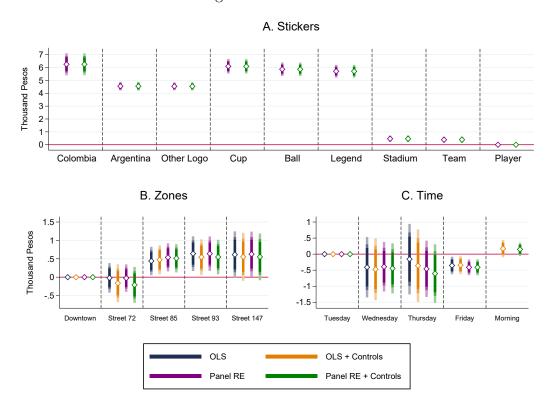


Figure 3: Fixed Effects

Notes: Diamonds are the coefficients of the fixed effects included in T in Equation 1. The color of the diamonds and the confidence intervals (90%, 95%, and 99%) are related to different specifications. Downtown and Player serve as the reference categories.

Figure 3 presents three plots depicting the coefficients associated with the fixed effects in Table 5. Panel A displays the coefficients related to each sticker. One can readily notice that the quoted prices of the logo of Colombia, the FIFA World Cup Trophy, the Official Ball (Telstar), and the legend of Argentina, are similar.²⁴ The price of each sticker is about

²⁴When the potential buyers were quoting this sticker, vendors used to mention that the price of this

6,400 COP higher than the price of players. It is also remarkable that the price of the logo of Argentina is statistically equal to the price of the other logos (Mexico, Uruguay, and Peru), and 2,000 COP cheaper than the other emblems (Cup, Ball, and Legend). Finally, there is no statistically significant difference between the team, the stadium, and the player. This is a result mainly driven by the fact that many vendors proposed the potential buyer to give her these three stickers for free if she bought all the emblems on the list.

RESULT 4: Sticker prices also reflect variation in prices across zones in Bogota.

Additionally, an interesting, but not surprising result in Panel B, is that Street 72 and Downtown have similar prices, while Street 85, Street 93 and Street 147 have higher prices. It is well known in Bogota, that the cost of living varies widely across neighborhoods. In particular, prices in the North of the city are noticeably higher than in the South. This is closely related to the fact that most of the poorest neighborhoods in Bogota are located on the South side, while the North concentrates the middle, upper middle, and upper classes. As it is mentioned in Section 5, many vendors prefer to commute long distances carrying their goods in the search for customers in the North.

RESULT 5: Sticker prices are lower on Fridays and higher in the morning.

Panel C in Figure 3 shows two things: first, sticker prices are lower on Friday and second, the prices are higher in the morning. These two results can be linked to the fact that weekends are hard days for street vendors, because many of them are located in zones where workers pass by during lunch time or after work. Considering this, we speculate that Friday may be the day in which they try to reduce the price to speed up their sells. Noting this, it is instructive to consider that even though the point estimate of Friday is significantly different from Tuesday, because it is more precise, the point estimates of Wednesday, Thursday and Friday are not different among them (Wald test, p-value>0.11 in all specifications). This might also be happening in the afternoons and the evenings; as it gets late, vendors get more stressed if they have not sold enough, and this leads them to reduce prices.

4.2 Which stickers are driving the effect?

RESULT 6: Price discrimination is U-shaped.

Figure 3 gives a hint about the stickers that street vendors use to make a profit. Clearly, all the emblems (shiny stickers), are more valuable than the regular ones. Intersestingly, Table 7 outlines that the effect of foreign origin of potential buyers on street vendors' price quotations is not monotonic. We can also infer from Table 7 that the vendor is not quoting a higher price to Colombians for the logo of their country or to Argentinians for the stickers related to their nationality. It is particularly intriguing that street vendors charge more to Argentinians for the logo of Colombia and for the FIFA World Cup Trophy, which are the most expensive stickers, but not for the logo or the legend of Argentina, as we expected.

particular logo was more expensive, because it was more scarce. They also recognize that some people bought this sticker for their kids or themselves, even though, they did not want to complete the collection.

Additionally, we find that this effect appears again for the team and the player, the most inexpensive stickers in the list.

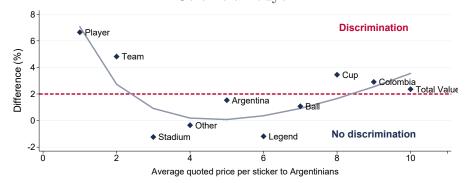
Table 7: Effect of foreign origin of potential buyer on street vendors' price quotations (individual stickers)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|------------------------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| | Colombia | Argentina | Other | Cup | Ball | Legend | Stadium | Team | Player |
| Foreigner | 0.559* | 0.040 | -0.066 | 0.734** | 0.386 | 0.103 | 0.137 | 0.187** | 0.166* |
| · · | (0.298) | (0.207) | (0.226) | (0.330) | (0.296) | (0.335) | (0.083) | (0.087) | (0.096) |
| Male Experimenter | 1.071 | 0.024 | 0.499 | 0.371 | 0.048 | -0.438 | -0.059 | 0.083 | 0.222* |
| _ | (1.510) | (0.515) | (1.013) | (0.608) | (0.620) | (0.745) | (0.152) | (0.196) | (0.123) |
| Reference Point | -0.511 | 0.341* | 0.020 | -0.523 | -0.490 | -0.423 | -0.238** | -0.106 | -0.043 |
| | (0.327) | (0.203) | (0.285) | (0.339) | (0.336) | (0.291) | (0.096) | (0.085) | (0.049) |
| Constant | 6.252*** | 4.947*** | 5.188*** | 6.555*** | 6.274*** | 6.226*** | 1.100*** | 0.905*** | 0.435*** |
| | (0.526) | (0.339) | (0.337) | (0.385) | (0.360) | (0.366) | (0.080) | (0.066) | (0.051) |
| R-squared | 0.097 | 0.060 | 0.030 | 0.041 | 0.024 | 0.021 | 0.087 | 0.053 | 0.084 |
| Additional controls | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Model | RE | RE | FE | RE | RE | RE | FE | FE | FE |
| Number of observations | 193 | 192 | 192 | 187 | 187 | 188 | 190 | 191 | 192 |
| Number of vendors | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 |

Notes: * p<.1, ** p<.05, *** p<.01. A fixed effects model or a random effects model is used in each specification based on a Hausman test. The dependent variable is the price of the sticker quoted by the vendor. Standard errors clustered by vendor are shown in parentheses. Controls included in all specifications are time fixed effects (day and time of the day), gender of the vendor, reference point and a proxy created for age of the street vendor.

We present this result in Figure 4, by displaying the percentage difference between the quoted prices to Argentinians and to Colombians. This exercise works well as a robustness check of our estimations. This figure shows that the results are U-shaped; the quoted prices of all the stickers (and the total value of the *Long List*) that are statistically higher for Argentinians exceed a difference of at least 2.3 percentage points. We speculate that in the case of the logo of Colombia, and the emblem of the Cup, vendors are discriminating in the stickers where it is possible to have a greater margin of profit. In the case of the most inexpensive stickers, this result is driven by some vendors who quoted very high prices to Argentinians, but not to Colombians.²⁵

Figure 4: Additional price (in percentage) charged to Argentinian buyer compared to Colombian buyer



Notes: This figure shows the percentage difference in quoted prices to Argentinians and to Colombians. It also includes the total value quoted for the nine stickers in the $Long\ List.$

 $^{^{25}\}mathrm{The}$ highest quoted price for a Player to a Colombian was 1,500 COP, while it was 3,000 COP to an Argentinian.

4.3 Do street vendors charge more when they know the seller needs few stickers to complete the collection?

A person who is completing the sticker collection, has increasing marginal utility, because each additional sticker adds more value to her total utility than the previous one. The more stickers she has, the closer she is to completing the collection. Considering this, street vendors may have incentives to charge a higher price once they know that the potential buyer is missing a small quantity of stickers.

In Bogotá, it is common to hear a street vendor saying: "If you only buy one sticker, then the price is 7,000 COP, but if you buy more, then each one is 6,000 COP)". Therefore, they hint to the potential buyers that if they bought more, then the discount would be larger. As mentioned by Wilcox et al. (1987), this behavior may be explained by a model of per-unit pricing. That is, as the buyer orders larger quantities, the price per unit charged applies to all units purchased. Moreover, there are two cases; one in which a unique price is associated with each unit, and another one in which there is presence of quantity intervals over which a certain price per unit applies.

An examination of the differences in prices of equivalent stickers quoted in two distinctive lists can shed light on whether or not vendors are actually charging different prices to potential buyers, based on the length of the list they are quoting. Towards this end, we analyze information collected from four Colombian potential buyers; two who quoted the *Long List* and two who quoted the *Short List*. The relevance of this analysis rests with the manner in which vendors internalize the need of the buyer and form their belief about their reservation price. ²⁷

RESULT 7: Street vendors do not quote different prices based on the length of the list of missing stickers needed by the potential buyer to complete the collection.

Table 8 shows that vendors do not discriminate in prices based on the number of quoted stickers. A random effects model is used in all specifications. The dependent variable in columns 1 to 3 is the quoted price of each sticker, and for columns 4 to 6 is the total price of the list. Based on these results, it is likely that one of the following mechanisms is at play. First, vendors may be identifying both lists as short lists. Therefore, charging the same price per unit in both cases. It is possible that both amount of stickers, four and nine, are in the same quantity interval over which a certain price per unit applies. Therefore, we may not be capturing a threshold in which vendors change the price.

Another possible reason is that vendors do not take into account that potential buyers really need these stickers to complete their collection and do not use this factor to quote a higher price per unit for a shorter list. We tried to make salient in the script (see Appendix E) that the stickers in the list were the last ones missing to complete the collection. However, some

²⁶Full details about the equivalent stickers that we study when we compare the *Long List* and the *Short List* can be found in Section 2.

²⁷We cannot study discrimination by nationality in the *Short List*, because we did not have more Argentinian experimenters to act as potential buyers.

vendors may not have internalized this information.

Table 8: Effect of number of stickers on vendors' price quotations

| | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------------------|----------|----------|----------|-----------|-----------|-----------|
| Long List | 0.060 | | | 0.314 | | |
| | (0.086) | | | (0.429) | | |
| $Male_{Buyer}$ | -0.089 | -0.120 | -0.155 | -0.591 | -0.499 | -0.343 |
| | (0.092) | (0.135) | (0.132) | (0.510) | (0.757) | (0.817) |
| Reference Point | -0.228 | -0.330 | -0.184 | -1.718* | -1.529 | -2.494* |
| | (0.193) | (0.260) | (0.240) | (0.984) | (1.429) | (1.438) |
| Constant | 5.579*** | 5.881*** | 4.675*** | 21.138*** | 23.104*** | 17.944*** |
| | (0.345) | (0.387) | (0.592) | (1.656) | (1.975) | (2.391) |
| List(s) | Both | Long | Short | Both | Long | Short |
| Number of observations | 697 | 395 | 302 | 182 | 97 | 85 |
| Number of stickers*vendors | 236 | 236 | 204 | 182 | 97 | 85 |
| Number of vendors | 59 | 59 | 59 | 59 | 59 | 53 |

Notes: *p<.1, **p<.05, ***p<.01. A random effects model is used in each specification based on a Hausman test. The dependent variable in specifications 1 to 3 is the quoted price by sticker. The dependent variable in specifications 4 to 6 is the total quoted price for the four stickers. For columns 1 to 3 (4 to 6), standard errors clustered by sticker-vendor(vendor) are shown in parentheses. Columns 1 and 4 present the result when the data of the four Colombian potential buyers is considered and a dummy variable is used to identify the observations registered using the Long List. Columns 2, 3, 5 and 6, only use information of one type of list. Controls included in all specifications are zone fixed effects, a dummy variable to indicate if the vendor is alone or in a cluster, time of the day, reference point, gender of the vendor, and a proxy created for age of the street vendor.

According to interviews explored in depth in the next Section, vendors say they charge less per sticker if the potential buyer wants more stickers, but this is not happening, or at least not when quoting prices.²⁸ It is possible that vendors only want to make an impression of charging low prices to attract the potential buyers in the *Short List*. However, when a *Long List* is quoted, they maintain the same prices. Finally, we may not be capturing differences in prices between the two lists, because, even if street vendors recognize the two lists as different, they may not be capable of developing this type of sophisticated discrimination. We have outlined the possible mechanisms, but we are very agnostic about the accuracy of the factor that is driving this result.

Importantly, Table 8 shows that the impact of the reference point (which embeds a discount) is also pervasive in the *Short List*. A potential buyer who received a quotation framed as a discount did indeed receive a lower quotation.

4.4 Exploratory analysis of gender effects

In Table 5 we did not identify an effect of the potential buyer's gender on the price quoted by the vendor. Adding interaction terms to a regression model can greatly expand understanding of the relationships among the variables in the model and allows more hypotheses to be tested.

²⁸Some vendors say they give a discount once they know that the person is *actually* going to buy; if potential buyers only come to quote they do not say the discount right away.

We provide insights into the robustness of the results by making some changes in the specification of the regression—for instance, i) we interact the gender of the experimenter and the gender of the vendor (Table 9), and ii) we interact the gender of the experimenter and the dummy variable that indicates a reference point (Table 10).

Table 9 provides support for the result found in Table 5, as the price quoted by the vendor does not rely directly on the interaction of buyer and vendor in terms of gender. This result holds regardless of whether or not covariates are included in the model. Importantly, the effect of being a foreigner and framing the price as a discount (reference point) have an effect on the price quoted, which is consistent with the result in Table 5.

Table 9: Effect of gender interaction on price quoted by the vendor

| | (1) | (2) | (3) | (4) |
|--|----------|----------------|----------|---------------|
| | OLS | OLS + controls | RE | RE + controls |
| Foreigner | 0.138* | 0.203** | 0.176** | 0.221*** |
| G | (0.0823) | (0.0835) | (0.0755) | (0.0783) |
| $\text{Female}_{Buver} \times Male_{vendor}$ | -0.416 | -0.411 | -0.298 | -0.285 |
| | (0.340) | (0.345) | (0.284) | (0.286) |
| $Male_{Buver} \times Female_{vendor}$ | 0.146 | 0.0681 | 0.0828 | 0.0464 |
| | (0.133) | (0.138) | (0.0964) | (0.0996) |
| $Female_{Buuer} \times Female_{vendor}$ | -0.204 | -0.248 | -0.268 | -0.298 |
| | (0.356) | (0.363) | (0.294) | (0.298) |
| Reference Point | , , | -0.240** | , | -0.235*** |
| | | (0.0941) | | (0.0827) |
| Constant | 0.515 | 0.331 | 0.539* | 0.428 |
| | (0.352) | (0.380) | (0.300) | (0.315) |
| R-squared | 0.735 | 0.740 | 0.734 | 0.738 |
| Additional controls | Х | ✓ | Х | ✓ |
| Number of observations | 1712 | 1712 | 1712 | 1712 |
| Number of stickers*vendors | 531 | 531 | 531 | 531 |

Notes: *p<.1, ***p<.05, ****p<.01. The dependent variable in all specifications is the price quoted by the vendor. Standard errors clustered by sticker-vendor are shown in parentheses. Controls included in all specifications are zone fixed effects and day fixed effects. Additional controls in columns 2 and 4, include a dummy variable to indicate if the vendor is alone or in a cluster, time of the day, reference point and a proxy created for age of the street vendor.

Even though previous results suggest that there is no direct effect of gender on price discrimination, the results displayed in Table 10 prompt that this effect is captured in the reference point; women who quoted a price and the vendor framed it as a discount, actually received a lower quotation. Table A1 shows that male potential buyers who interacted with a male vendor who quoted the price as a discount (reference point), received a lower quotation than a male potential buyers who interacted with a male vendor, but did not mention anything related to a discount. Moreover, female potential buyers, who quoted prices framed as discounts, either from a male or a female street vendor, received a lower quotation. We cautiously speculate that a source to explain these results (no difference in vendors' price quotations between men and women) relates to vendors expecting better bargaining ability from women, even though a set in which potential buyers actually negotiate is not reached in our experimental design.

Table 10: Effect of RP and gender interaction on price quoted by the vendor

| | (1) | (2) | (3) | (4) |
|-------------------------------------|----------|----------------|----------|---------------|
| | OLS | OLS + controls | RE | RE + controls |
| Foreigner | 0.192** | 0.195** | 0.213*** | 0.222*** |
| | (0.0859) | (0.0884) | (0.0799) | (0.0822) |
| $Male_{Buyer} \times RP$ | -0.303* | -0.218 | -0.243 | -0.217 |
| · | (0.176) | (0.176) | (0.154) | (0.157) |
| $\text{Female}_{Buyer} \times RP$ | -0.668* | -0.605* | -0.566* | -0.550* |
| - | (0.351) | (0.360) | (0.291) | (0.294) |
| $\text{Female}_{Buyer} \times NoRP$ | -0.358 | -0.348 | -0.319 | -0.314 |
| | (0.340) | (0.349) | (0.280) | (0.283) |
| Constant | 0.630* | 0.412 | 0.616** | 0.459 |
| | (0.348) | (0.388) | (0.296) | (0.318) |
| R-squared | 0.736 | 0.740 | 0.735 | 0.734 |
| Additional controls | Х | ✓ | Х | ✓ |
| Number of observations | 1712 | 1712 | 1712 | 1712 |
| Number of stickers*vendors | 531 | 531 | 531 | 531 |

Notes: * p<.1, ** p<.05, *** p<.01. The dependent variable in all specifications is the price quoted by the vendor. Standard errors clustered by sticker-vendor are shown in parentheses. Controls included in all specifications are zone fixed effects and day fixed effects. Additional controls in columns 2,and 4, include a dummy variable to indicate if the vendor is alone or in a cluster, time of the day, gender of the vendor, and a proxy created for age of the street vendor.

5 Qualitative Analysiis

We collect information from eleven interviews with street vendors to integrate qualitative and quantitative data within this field experiment and explore possible mechanisms that may be driving our results. All the eleven street vendors were in our sample. Two were located in Downtown, two in Street 72, two in Street 85, two in Street 93, and three in Street 147. Ten interviews were carried out on July 2 and July 3, 2018, four weeks after the experiment was conducted. The last interview was carried out on July 13, 2018. The interviewed vendors were chosen based on gender, location, and the number of observations collected by the experimental team.²⁹

We encouraged them to participate by offering them an incentive of 10,000 COP (3.4 USD), which represents approximately 38% of the minimum daily wage in Colombia, upon completion of the interview.³⁰ All the vendors agreed to answer all questions as long as they did not have to provide personal information. Other vendors indicated that they did not want any picture or recording of them to be presented anywhere.

Some vendors usually work alone in their stall, while others share it with their family, mainly their partner, or have hired other informal street vendors to meet the demand or to help them to watch over the stall when they are away. Street vendors start working between 7 a.m. and 10:30 a.m. and leave between 5 p.m. and 9 p.m. They work on average 10 hours per day.

²⁹We chose the vendors for the interviews among those that had quoted prices to the six potential buyers.

³⁰We noticed that several vendors were very grateful with this payment. Some insisted that they just wanted to help and did not want to receive the money, but we insisted.

Vendors located in a residential area (Street 147), usually leave late, while vendors in more commercial areas leave earlier. Additional to the schedule, the area is highly correlated with the time of the day in which vendors sell the most. For example, in Downtown, Street 72, Street 85, and Street 93, where customers are mostly office workers, vendors mention that lunchtime and after office hours are the most productive hours, while weekends and evenings are very harsh. By contrast, vendors in Street 147 point out that the most valuable days are Friday, Saturday, and Sunday, and it is easier to make a profit in the evenings. Importantly, vendors mention that the difference in prices between zones is noticeable and some prefer to face extra costs imposed by longer commuting distances in order to make a higher profit, like a vendor who lives in Downtown but takes a taxi with his merchandise to sell in Street 93.

This business naturally involves vast uncertainty. For example, the weather is an element that all vendors must deal with. Sunny days yield higher profits, but vendors also have to contend with days of pouring rain, in which it is difficult to break even. Things may be difficult, not only because of the weather but also because of the suppliers, the smuggling, the performance of the national team, among other factors that might yield to long days that slowly drag by when no one comes to a vendor's stall. In a situation like this, a vendor can despair and get upset when a potential buyer only quotes but does not buy. Bearing this in mind, we incorporated into the interview a question prompting respondents to indicate if this actually happens.³¹ All the interviewed vendors said they were always willing to give quotations as required, because they recognized this hassle as part of their job; it is something they have to deal with on a daily basis if they want to make a living of it. However, they mentioned that a sure deterrent of their patience are customers that quote prices and then say that it is costly and prefer to buy somewhere else at lower prices.³² In fact, vendors find this kind of attitude and comments very offensive.

Interestingly, vendors are located very close to a famous Colombian chain of supermarkets in most of the zones (except Downtown), because they think this increases the probability of being seen by potential buyers. Even though street vendors do not have a formal place to work and some of them wander over a zone, particularly in Downtown, Street 72 ad Street 93, they all know that location is paramount for their business. In fact, many of them have been struggling for many years guarding their spot closely; they need to stand on their spot regularly, otherwise they fear someone else takes their place, or the police start intimidating them more. This might explain why they have been selling in the same spot for so many years; on average, vendors under 35 have been selling in the street in the same zone for ten years, while older street vendors have had independent stalls for 13 to 29 years.

Regarding price discrimination, on the one hand, only one of the eleven vendors that were interviewed recognizes that he tries to charge higher prices to foreigners, but all coincide when they are asked about women, men, young people or old people, saying that they do not discriminate. On the other hand, vendors claim that they do not change prices throughout

³¹When running the field experiment, we noticed that some vendors refused to give prices if the potential buyer said from the beginning that she only wanted to quote, but was not going to buy anything, or in the case that they did not have the sticker that potential buyers were asking for.

³²Potential buyers in the experiment never used this expression in the script.

the day, but during the week, and this variation mainly depends on the price given by the supplier.

They all agree that prices of the stickers dropped drastically compared to the release date of the sticker collection in March 2018. For instance, the price charged by them for an emblem was as high as 15,000 COP (5 USD) by then, and it dropped to 3,000 COP (1 USD) by the time of the interview, at the beginning of July. This was obviously a direct consequence of the downward trend in the price of the box of stickers, which cost was 218,400 COP (74 USD) when it was released, and reached 140,000 COP (46 USD) by the beginning of July, when we conducted the interviews.³³ One vendor mentioned that he did not passed-through this reduction in price to the buyers; he charged the same in March and in July, and only gave a discount if the client bought many stickers. Thus, this also brings up the question about whether setting the prices only depends on the price charged by the supplier or hinges on other aspects.

As a result, we were able to ascertain that vendors recognize experience selling stickers in previous World Cups as an important source of information to choose the current prices. Moreover, in addition to the pervasive role of the suppliers, vendors usually buy packages that contain 12 boxes of 104 packets. Total vendor's provision varies in a wide range; from 12 boxes to 100, opening daily between 1 box and 8 boxes. They organize the stickers and determine which ones are more scarce, and according to that establish the prices. Considering that the interviews were carried out during the World Cup, we realized that the performance of the national team in each match also guided vendors' expectations. Additionally, one vendor mentioned that she set the prices after asking other vendors.

Another relevant aspect is the level of competition at the place where the vendor is located. A woman at the mall in street 147 mentioned that vendors are competing in terms of quantity, but not in price, and this has affected her because she cannot set the prices she desires. This is not a concern for vendors located in other zones.³⁴ This has an intimate relationship with the fact that particularly in this zone, vendors are very close to each other as Figures A2 and A3 show, and they face high leasing costs (1,200,000 COP - 400 USD).³⁵

Among other factors influencing the prices of the stickers, vendors also mentioned that the ease of online transactions has increased competition. In addition, supermarket chains also began selling the boxes and events in which people trade stickers in established meeting spots, "cambiatones", also became more common, thus affecting their market niche.

Additionally, one of the most striking features in the analysis is that original stickers came

 $^{^{33}}$ The cost of each packet containing five stickers was 2,300 COP (0.79 USD) and fell to 1,500 COP (0.5 USD).

³⁴Competition in terms of quantities means that vendors pay more attention to the amount sold (profit in the extensive margin), but do not focus on the price of each sticker (profit in the intensive margin). For example, a vendor that was not in the sample, but saw one of the potential buyers quoting prices, said that he could reduce even more the lowest price among all the vendors located at the mall.

³⁵A tenant of a stall at the mall pointed out that the Venezuelan population working at the mall has increased substantially. Bearing this in mind, it would also be interesting to deeply analyze the integration of Venezuelan labor force to the informal economy in Colombia.

to Colombia from Brazil and Italy, and the price of the box was the same, but the average quantity of emblems that came in each one, differed significantly. Vendors report that the Brazilian box contained approximately 20 emblems, while a client could find between 37 and 40 emblems in the Italian box. However, Brazilian stickers were cheaper. This might seem bizarre, but this situation is explained by the fact that Italian emblems are brighter, the official hologram is easily recognized, and the regular stickers have a clear white background. On the contrary, Brazilian stickers have a darker background, and the hologram in the emblems is more tenuous. Therefore, vendors charge higher prices for Italian stickers, because they seem to be stickers of higher quality. One such example is the difference in the price of the logo of Colombia and the legends; the price of the Italian version was 15,000 COP, and 10,000 COP, respectively, while the price of the Brazilian version was 7,000 COP for any of them.

5.1 Fake stickers

I always give the price of the original in the first place, but if the client says: "no, that is too expensive", then I respond: "alright, if you want cheaper, then I can give you cheaper prices, but then you know what kind of stickers".

—Street vendor in Downtown

On top of competition, many vendors complained that vendors' dishonesty and fake stickers also drove down the price. On the one hand, a vendor revealed that he used to buy the boxes in Downtown until he noticed that he was being scammed, because when he opened the boxes, he only counted a few emblems and many duplicates. He argued that people were opening the packets, replacing the stickers and sealing them again. As a matter of fact, the official supplier in Colombia recognized that it was challenging to identify whether the packet had been opened or not.³⁶

On the other hand, once or twice a day, some particular individuals passed by asking vendors whether they wanted to buy the package of 50 emblems.³⁷ The price of this fake bundle ranged between 20,000 COP and 50,000 COP (7 USD - 17 USD), and also fell over time. Some fake stickers were easy to recognize because they did not have the hologram and it was easy to notice that they were scanned and printed, but some others were counterfeit copies of similar quality to the originals, which made it very difficult to distinguish between an original and a fake one.³⁸

Vendors also comment that this state of affairs might be due to the unexpected demand for stickers this year. One instance was that the supply failed to meet the demand, and

³⁶The recommendation of the authorities to avoid scammers was to buy the stickers in authorized places, because even pirated albums had entered the market: https://www.youtube.com/watch?v=3v1y1hfAKXk.

³⁷A vendor said the *same* people passed by every day.

³⁸A couple of vendors agreed to show us the difference between the originals and the false ones. The video on this website shows the differences: https://comutricolor.com/video-reconocer-las-laminas-falsas-del-album-del-mundial-rusia-2018/. You can also watch this video to learn more details: https://www.youtube.com/watch?v=iLgeANFo5t4.

additionally, many people who were not collectors wanted to complete the collection. For example, people wanted to do it for their kids, but since it seemed very difficult and expensive, they preferred to buy stickers of any kind. In addition, the "World Cup sticker season" began very early (three months before the start of the World Cup) and since it was not easy nor cheap to complete the collection, and people of every age and social class were completing the album, the season lasted more than four months.

All these aspects could have driven the sale of fake stickers in Colombia, because as vendors mentioned, people were also demanding lower quality this time. However, it is important to highlight that even though this type of stickers are readily available, all vendors agree that when somebody quotes a list of prices, they prefer to give the price of the original stickers in the first place, because they do not want to harm their reputation.³⁹ Nevertheless, if the potential buyer expressed low willingness to pay or great disagreement with the price, then the vendor offered her the other kind of stickers; fake stickers known among sellers as "Ecuadorians".⁴⁰ This allowed vendors to segment their market and use "second-degree price discrimination", offering tiered prices based on product quality.

Vendors recognized that clients were selecting themselves in a group who did not want to demand high-quality items. Then, bearing in mind that many people were willing to buy them, some vendors ended up selling them. Even though they mention fake stickers as a bad thing that pushed the prices down, it is also true that they had them in stock and they could make a high profit out of them. For example, if the packet of 50 emblems was 50,000 COP, then they sold each of them for at least 2,000 COP and up to 3,000 COP, which means at least a 100% profit on cost per sticker.

While we were conducting the field experiment, we also noticed that some vendors were trimming stickers. After quoting the prices, some experimenters asked them if they were original. All vendors said yes, and explained that the sheet they were trimming was provided by the official supplier to compensate the stickers shortage. Later, during the interviews, a vendor said the same; they were receiving two sheets of original stickers for every box they bought. However, we did not have enough information to prove whether this was true or not.

Some other vendors express that they cannot dare to sell fake stickers, because they have been in the same location for a long time and have regular clients. It is a delicate issue because collectors invest much money completing the album, and if they find out that one of the stickers is fake, they may report the vendor to the police and try to get their full collection paid by the vendor.

³⁹This was important to check to ensure that the prices quoted by the vendors to potential buyers were the prices for original stickers. We guarantee this in the script, since the potential buyer never used expressions that would signal the vendor their willingness to pay.

⁴⁰One vendor located in Street 85, when asked about this matter, said that all the stickers were original, but the differences were due to the fact that the stickers had different countries of origin, such as Ecuador, Panama, and Peru.

5.2 Street vending as a way to make a living

We have already mentioned that vendors work long hours, under the sun or in the rain, and have also highlighted specific things regarding the sale of stickers. Apart from this, we wanted to explore more with the interviews and asked them directly what were their incentives to start working as street vendors, what items they sell once the World Cup is over, how do they deal with the police and what is their social security status.

As mentioned before, street vendors have had this way of living for a long time, and they have worked with a wide array of things over the years. Many vendors started to sell things in the street, because they lost their job, and women, in particular, argue that they made this decision because they were single mothers (heads of household). Most of them commute long distances to reach the place where their work and pay storage on a daily basis (5,000 COP - 1.6 USD per day).

Usually, these vendors sell candy, peanuts, umbrellas, cigarettes, pens, fast food, plastic toppers, flowers, clothes, pirated movies, sunglasses, among others. Their wares depend on the season of the year; in Halloween, they sell costumes, and at Christmas, all the decorations. The World Cup is a season of few months every four years, but it creates high expectations among vendors. Many of them get loans to buy and stock Colombia soccer flags, shirts, balls, mascot-themed items, magnets and more in anticipation of a single selling season in which demand for the items is uncertain.

In addition to this source of uncertainty, vendors often work in fear of police evictions and confiscations; they have to be as ready to scatter when a police cruiser drives by as they are to make a sale. In general, the interaction between vendors and police is very tense, because the regulation in Bogota establishes a series of fines when a person occupies unduly the public space. According to the code, the fine for street vending is four daily minimum wages. In case of being caught again, the police might impose the confiscation or destruction of the property. However, many vendors do not pay or avoid the pedagogical sanctions.

Particularly in Downtown, but more recently in Street 72, various plans have been implemented to recover the public space. Under these circumstances, authorities are in charge of enforcing the law and ordering all street vendors to clear off the sidewalks.⁴¹ This explains why every potential buyer could not find all the 59 vendors. Especially during the morning in Downtown, the police is usually around, and vendors have to move temporarily or hide their merchandise, which made it difficult for us to find them when we were conducting the experiment.

An interesting fact, mentioned by one of the vendors who was interviewed in Downtown is that even though he has a formal business and pays rent for it, he also uses public space for selling stickers. He states that he places the bench on the sidewalk, taking the risk of getting fined because this serves as a way to guard the entrance and prevents other vendors from locating there.

 $^{^{41}}$ In particular, police usually approach vendors whose stand is big and take up an ample space on the sidewalk.

It is also possible a situation in which police imposes a particular condition to vendors to let them work. For example, they should not let any other street vendor enter the zone. An interviewed vendor also mentioned that, as an extreme condition imposed by the police, vendors have to give the police free merchandise (e.g., the National Team's Jersey) and stickers to be allowed to stay there for work.

On the other hand, the relationship between vendors and the police is very different in Street 147 compared to their relationship in other zones. Since vendors at the mall pay a lease and they are not located on the sidewalk, they usually do not have any problem with the police. However, in case that this situation happened, vendors argue that the mall management is responsible for that. Interestingly, other vendors in Street 147, who do not work at the mall, comment that they have an association of street vendors that protects them when the police order them to clear off. This association has a coordinator and is supported by an elected representative of the area.

6 Final discussion

This is an attempt to advance our understanding of price discrimination in an informal market in a developing country. By exploiting the seasonal demand for football stickers in Bogotá, Colombia, we conduct a field experiment designed to examine whether street vendors discriminate based on nationality, gender or amount of quoted items. To meet this goal, six experimenters posed as potential buyers and asked a list of stickers needed to complete the collection. Each of them approached 59 vendors located in five different zones in the city that are typically bursting with street activity. Four of the experimenters, two Argentinians, and two Colombians, quoted a set of nine stickers, and the other two Colombian experimenters quoted a list including only four stickers.

This study presents experimental evidence that is consistent with foreigners being discriminated against; street vendors quote prices to Argentinians that are 7% higher compared to the quoted prices to their Colombian counterparts. Apparently, statistical discrimination is present in this context. Vendors seem to be using nationality as a proxy for the distribution of reservation values, assuming that Argentinians have a larger disposable income and therefore their reservation value for stickers is higher.

On the other hand, we do not find gender-based discrimination. We undertake an additional exploratory analysis and the results suggest that a possible mechanism driving our result is related to the interaction between the reference point established by street vendors (prices framed as discounts) and gender. Nevertheless, we would need to carry out a new experiment to test this hypothesis.

Even though we find evidence supporting price discrimination against foreigners, street vendors are not doing it consciously or they are embarrassed to acknowledge it. It is also interesting that they do not exert more sophisticated forms of discrimination. For example, we found that they do not quote higher prices to Argentinians asking for two stickers re-

lated to their country, neither they quote higher prices to Colombians quoting a small set of missing stickers.

While these insights are interesting in their own right, one may consider a novelty of the study to be the combination of these insights in an informal market with those drawn from our complementary direct interviews with street vendors. This is important, because it sheds light about the possible mechanisms that are driving the results. For example, information from the interviews suggests that the price discrimination we have pointed out, may be mitigated by allowing potential buyers to bargain, considering that this may mute the importance of unconscious reactions. Finally, we believe this is a fundamental step forward in analyses of discrimination, as it provides a new framework for understanding the nature of this practice.

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Appendix for "Sticker fever, discrimination, and informal street vendors"

A Characterization of informal street vendors

According to the T-772 Constitutional Court judgment in 2003, informal vendors are people who obtain an economic benefit by carrying out their commercial activity in the public space without generating a return to the city. Street vendors are classified into roving vendors, stationary vendors, and semi-stationary vendors.

- Informal roving vendors: vendors who physically carry on their person the goods and merchandise they use to work. These individuals do not obstruct the transit of people and vehicles beyond their physical presence; for example, vendors of sweets, cigarettes, and chewing gum that lift and haul their wares on a daily basis.
- Stationary informal vendors: those street vendors are installed with the goods, implements, and merchandise they use to work in a fixed manner, in a specific segment of the public space. They exclude the use and enjoyment of it by other people on a permanent basis, so that the occupation of the space still exists at the time the vendor is absent from the place; for example, employing a shelter or an awning.
- Semi-stationary informal vendors are street vendors who do not permanently occupy a specific area of the public space. Nevertheless, by the characteristics of the goods and the merchandise they sell, must necessarily occupy a specific segment of the public space; for example, the seller of hot dogs and hamburgers, or those who push fruit or grocery carts through the streets.

B Sample (59 street vendors)

E. Street 147 Bogotá USAQUÉN Jardín Botánico José ie 93 Celestino Mutis D. Street 93 C. Street 85 nercial o tación B. Street 72 TEUSAQUILLO Museo Nacional Mc rate @ A. Downtown LA CASELARIA RESTREP Google My Maps

Figure A1: Zones in the experiment

Figure A2: Location of vendors

A. Downtown - 21 vendors



B. Street 72 - 13 vendors



C. Street 85 - 9 vendors

ad Pediatrica de los Andes de los Armando Records de Servicios Publicos... ter carried los Armando Records de Servicios Publicos... de los Records de los Armando Records de Servicios Publicos... de los Records de los Andes de Servicios Publicos... de los Records de los Armando Records de Servicios Publicos... de los Records de los Armando Records de los Arma

D. Street 93 - 8 vendors



E. Street 147 - 8 vendors



Figure A3: Street vendors









C. Street 85





D. Street 93

B. Street 72



D. Street 147



E. all in Street 147







C Lists quoted

Table A1: Long list

| Col-W-LL | Arg-W-LL |
|--|---|
| Colombia (logo) | Colombia (logo) |
| Argentina (logo) | Argentina (logo) |
| Peru (logo) | Uruguay (logo) |
| Argentina (Legends - Maradona) | Argentina (Legends - Maradona) |
| FIFA World Cup Trophy | FIFA World Cup Trophy |
| Official Ball - Telstar | Official Ball - Telstar |
| Spartak Stadium | Samara Arena (stadium) |
| Denmark (team) | Iceland (team) |
| Adam Lallana (Player - England) | Sergio Busquets (Player - Spain) |
| | |
| Col-M-LL | Arg-M-LL |
| | |
| Col-M-LL Colombia (logo) Argentina (logo) | Arg-M-LL Colombia (logo) Argentina (logo) |
| Colombia (logo) | Colombia (logo) |
| Colombia (logo) Argentina (logo) | Colombia (logo) Argentina (logo) |
| Colombia (logo) Argentina (logo) Uruguay (logo) | Colombia (logo) Argentina (logo) Mexico (logo) |
| Colombia (logo) Argentina (logo) Uruguay (logo) Argentina (Legends - Maradona) | Colombia (logo) Argentina (logo) Mexico (logo) Argentina (Legends - Maradona) |
| Colombia (logo) Argentina (logo) Uruguay (logo) Argentina (Legends - Maradona) FIFA World Cup Trophy | Colombia (logo) Argentina (logo) Mexico (logo) Argentina (Legends - Maradona) FIFA World Cup Trophy |
| Colombia (logo) Argentina (logo) Uruguay (logo) Argentina (Legends - Maradona) FIFA World Cup Trophy Official Ball - Telstar | Colombia (logo) Argentina (logo) Mexico (logo) Argentina (Legends - Maradona) FIFA World Cup Trophy Official Ball - Telstar |

Table A2: Short list

| Col-W-SL | Col-M-SL |
|--|--|
| Colombia (logo) Brazil (logo) Panini Knight Logo FIFA World Cup Trophy | Colombia (logo) Germany (logo) FIFA Fair Play FIFA World Cup Trophy |

Figure A1: Handwritten List

Front Back

| | No. | Precio | Precio que cobraría por conseguiria | 1. ID | K-7 | 2. Lugar | CAOBOS 147 |
|-------------------|-----|--------|--|----------------|-----------|--------------------------------|------------|
| Escudo Argentina | 260 | 5000 | 2 | 3. HOMBRE | X | MUJER | |
| Escudo Colombia | 620 | 5000 | | 4. MENOR DE 35 | × | MAYOR O IGUAL A 35 | |
| Escudo México | 440 | 5000 | | 5. SÓLO PANINI | | XIOSCO METÁLICO | |
| Leyenda Maradona | 664 | 5000 | | | | | |
| Сора | 2 | 5000 | | | | MIXTO (sin kiosco, con panini) | X |
| Balón | 7 | 500D | | 6. SOLO | | CLUSTER (# total) | × |
| stadio | 15 | 300 | | 7. HORARIO | | 8. UBICACIÓN ESPECÍFICA | |
| quipo Dinamarca | 241 | 300 | Desiries of the | 9. NOTAS | | | - 10010 |
| ugador Inglaterra | 574 | 300 | 2000 | | V .) | | |
| OTAL | | | | - | Vovios pe | ushar) | entropie. |

Figure A2: Stickers

Front Page emblems









Logos















Legend



Teams





Stadiums









Players





D Descriptive Statistics by potential buyer

Figure A1: Observations

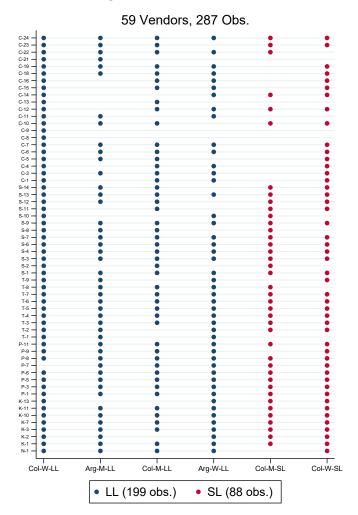


Table A1: Descriptive statistics

| | Long list | | | | | | | Short list | | | |
|-------------|-------------|-------------|-----------------|------------|-----------|-------------|----------|------------|--------------|----------|--|
| | Argentinian | | p-value | | Colombian | | p-value | | Colombian | | |
| | Woman (1) | Man (2) | Nationality (3) | Gender (4) | Woman (5) | Man (6) | List (7) | Gender (8) | Woman (9) | Man (10) | |
| Age vendor | 0.49 | 0.72 | 0.667 | 0.004*** | 0.55 | 0.73 | 0.560 | 0.236 | 0.60 | 0.58 | |
| Male vendor | 0.57 | 0.52 | 0.606 | 0.915 | 0.57 | 0.60 | 0.933 | 0.708 | 0.58 | 0.60 | |
| Alone | 0.38 | 0.43 | 0.967 | 0.617 | 0.40 | 0.42 | 0.496 | 0.331 | 0.40 | 0.53 | |
| RP | 0.28 | 0.15 | 0.081* | 0.012** | 0.19 | 0.04 | 0.481 | 0.036** | 0.10 | 0.08 | |
| Morning | 0.17 | 0.28 | 0.882 | 0.274 | 0.21 | 0.23 | 0.079 | 0.032** | 0.48 | 0.15 | |
| Day(s) | Fri. | Wed. & Thu. | | | Tues. | Wed. & Fri. | | | Thu. & Fri. | Thu. | |
| Vendors | 47 | 46 | | | 58 | 48 | | | 48 | 40 | |

Notes: Column (3) presents the p-value associated to a t-test performed to check balance between Argentinians and Colombians. Column (4) shows the p-value of a t-test carried out to analyze balance in terms of gender of the potential buyer in the Long List experiment. To check balance in the Short List experiment, two t-tests are performed: the first one compares the information of the Colombians who quoted the Long List and the information of the Colombians who quoted the Short List. The second checks balance in terms of gender.

E Script

E.1 Long List

E.1.1 Colombian

Take out the list from the envelope of the place, check the ID and the pictures to make sure that the vendor is well identified. Put the list in a notebook or an agenda, so that the vendor does not see it (do not get so close to the vendor). Mark all the information that is on the back of the list.

Good morning/afternoon, how are you?

I am quoting some stickers for my husband/wife... they are for our kid. Do you sell individual stickers?

Vendor answers Yes or No. (if the vendor says "Yes", then you continue, if she says "No", you finish here).

OK, I tell you which ones I need and you tell me the price. I am going to write them down, because they are for my kid and I also have to talk to the dad/mom

Start writing down the prices in the list assigned to that vendor. The list already has the place printed (Downtown, Street 72, Street 85, Street 93, Street 147) on the back of the list, in the upper right corner.

If the vendor does not have an sticker, ask her for the price that she would charge for it if she finds it for you.

OK, let's start with the logos... I need three. First of all, I need the logo of my country: Colombia, (number 620), how much is it?

Alright... how much is the logo of Argentina? (number 260)

I also need the logo of Peru/Uruguay (number 220/80)

I am missing **one** legend, Maradonna, it's 664. How much is it?

Okay... let's continue from the beginning... I need **two** from the front page: number 2, which is the cup, and number 7, which is the Ball. How much are these?

Good... I need **one** stadium (number 11/12), how much is it?

I need **one** team... Denmark/Iceland... number 241/281. How much is it?

I need **one** player... number 129/574, it's a player from Spain/England. How much is it?

Okay, what is the total?

Okay Mr./Ms./Mrs., at what time can I find you here?

Okay... maybe I come back or my husband/wife comes back... Thank you! Have a good day

E.1.2 Argentinian

Take out the list from the envelope of the place, check the ID and the pictures to make sure that the vendor is well identified. Put the list in a notebook or an agenda, so that the vendor does not see it (do not get so close to the vendor). Mark all the information that is on the back of the list.

Good morning/afternoon, how are you?

I am quoting some stickers for my husband/wife... they are for our kid. Do you sell individual stickers?

Vendor answers Yes or No. (if the vendor says "Yes", then you continue, if she says "No", you finish here).

OK, I tell you which ones I need and you tell me the price. I am going to write them down, because they are for my kid and I also have to talk to the dad/mom

Start writing down the prices in the list assigned to that vendor. The list already has the place printed (Downtown, Street 72, Street 85, Street 93, Street 147) on the back of the list, in the upper right corner.

If the vendor does not have an sticker, ask her for the price that she would charge for it if she finds it for you.

OK, let's start with the logos... I need three. First of all, I need the logo of my country: Argentina, (number 260), how much is it?

Alright... how much is the logo of Colombia? (number 620)

I also need the logo of Uruguay/Mexico (number 80/440)

I am missing **one** legend, **the one of the best player in history**. Maradonna, it's 664. The guy is a genius! How much is it?

Okay... let's continue from the beginning... I need **two** from the front page: number 2, which is the cup, and number 7, which is the Ball. How much are these?

Good... I need **one** stadium (number 15/16), how much is it?

I need **one** team... Denmark/Iceland... number 241/281. How much is it?

I need **one** player... number 129/574, it's a player from Spain/England. How much is it?

Okay, what is the total?

Okay Mr./Ms./Mrs., at what time can I find you here?

Okay... maybe I come back or my husband/wife comes back... Thank you! Have a good day

E.2 Short List

Have the notebook or the agenda ready with the list of vendors and the four stickers you are going to quote. Always check the ID and the pictures to make sure that the vendor is well identified. Do not get too close to the vendor.

Good morning/afternoon, how are you?

I am quoting some stickers for my husband/wife... they are for our kid. Do you sell individual stickers?

Vendor answers Yes or No. (if the vendor says "Yes", then you continue, if she says "No", you finish here).

OK, I tell you which ones I need and you tell me the price. I am going to write them down, because they are for my kid and I also have to talk to the dad/mom

Start writing down the prices in the notebook/agenda.

If the vendor does not have an sticker, ask her for the price that she would charge for it if she finds it for you.

OK, let's start with the emblems in the first page... I need the $\underline{\text{FIFA Fair Play/Panini Knight Logo}}$. How much is it?

Alright... how much is the cup?

Good... I also need the logo of Germany/Brasil. How much is it?

Finally, I need the logo of Colombia

Okay, what is the total?

Okay Mr./Ms./Mrs., at what time can I find you here?

Okay... maybe I come back or my husband/wife comes back... Thank you! Have a good day

F Reference point and gender interaction

Table A1: Effect of RP and gender interactions on price quoted by the vendor

| | (1) | (2) | (3) | (4) |
|--|----------|----------------|----------|---------------|
| | (1) | (2) | . , | . , |
| | OLS | OLS + controls | RE | RE + controls |
| Foreigner | 0.163* | 0.189** | 0.200** | 0.215*** |
| | (0.0886) | (0.0883) | (0.0806) | (0.0819) |
| $Male_{Buyer} \times RP \times Male_{Vendor}$ | -0.473** | -0.440** | -0.373** | -0.375** |
| | (0.189) | (0.186) | (0.169) | (0.172) |
| $Male_{Buyer} \times RP \times Female_{Vendor}$ | 0.431 | 0.489 | 0.262 | 0.323 |
| | (0.421) | (0.408) | (0.303) | (0.304) |
| $Male_{Buyer} \times NoRP \times Female_{Vendor}$ | 0.0575 | 0.00196 | 0.0268 | -0.00544 |
| - | (0.140) | (0.145) | (0.0996) | (0.103) |
| $\text{Female}_{Buyer} \times RP \times Male_{Vendor}$ | -0.683* | -0.694* | -0.543* | -0.541* |
| - | (0.355) | (0.360) | (0.298) | (0.300) |
| $\text{Female}_{Buyer} \times RP \times Female_{Vendor}$ | -0.441 | -0.435 | -0.525 | -0.549* |
| - | (0.413) | (0.422) | (0.324) | (0.325) |
| $\text{Female}_{Buyer} \times NoRP \times Male_{Vendor}$ | -0.391 | -0.421 | -0.281 | -0.302 |
| - | (0.347) | (0.351) | (0.285) | (0.287) |
| $\text{Female}_{Buyer} \times NoRP \times Female_{Vendor}$ | -0.248 | -0.273 | -0.297 | -0.310 |
| - | (0.366) | (0.371) | (0.296) | (0.301) |
| Constant | 0.570 | 0.351 | 0.586* | 0.434 |
| | (0.353) | (0.379) | (0.300) | (0.315) |
| R-squared | 0.737 | 0.740 | | |
| Additional controls | X | ✓ | Х | ✓ |
| Number of observations | 1712 | 1712 | 1712 | 1712 |
| Number of stickers*vendors | 531 | 531 | 531 | 531 |

Notes: * p<.05, *** p<.01. The dependent variable in all specifications is the price quoted by the vendor. Standard errors clustered by sticker-vendor are shown in parentheses. Controls included in all specifications are zone fixed effects and day fixed effects. Additional controls in columns 3, 5 and 6, include a dummy variable to indicate if the vendor is alone or in a cluster, time of the day, and a proxy created for age of the street vendor.

G Interview questionnaire

Good morning, how are you? Already cheering for our team, right? My name is Paula Zamora and I am working on a project about stickers of the World Cup... I was wondering if you could help me with some questions I have... I give you 10.000 COP once we are done... they are here (I take them out from my pocket and show the bill to the street vendor), what do you think?

Wait for answer

It is not going to take a long time ... Do you mind if I record with my phone? It's to make the interview faster, although if you prefer, I can write ...

Wait for answer

- 1. At what time are you here? Why that schedule?
- 2. Does anyone work here with you? Are you usually accompanied?
- 3. Do you share your business with someone else? Family? Partner? Friend? Employee?

- 4. At what time do you sell more?
- 5. How did you establish your prices?
- 6. Do you get upset if people tell you that they are only going to quote?
- 7. Do you change the prices throughout the day?
- 8. Do you charge more to some people than others? women, men? foreigners? young people or old people?
- 9. Any difference in prices before it started and during the World Cup?
- 10. When were the highest prices reached and when were the lowest?
- 11. Do you sell or used to sell original stickers?
- 12. Do you sell or used to sell fake stickers?
- 13. How do you find the fake ones?
- 14. Who sells them?
- 15. Why are you located here?
- 16. Why are you so close to the supermarket?
- 17. If you know there are many vendors here, why do not you go further?
- 18. How long have you been here?
- 19. What do you sell when there is no World Cup?
- 20. Does the police come a lot? What do you do when the police comes?
- 21. Have you ever been formal?
- 22. Do you pay social security? pension? health?
- 23. Have you ever rented a place to sell items?
- 24. Why did you decide to dedicate yourself to selling things in this way?
- 25. How much do you pay for rent?
- 26. Do you live far away?
- 27. What do you do with the merchandise? Where do you leave it?