Transparent corruption: The effect of illicit connections and trusted references on the demand for bureaucratic intermediation[*]

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Abstract

This paper investigates the effect of priming the existence of corrupt connections to the bureaucracy on the demand for intermediary services. We perform an experimental survey with undergraduate students in Caracas, Venezuela. Participants are presented with a hypothetical situation in which they need to obtain the apostille of their professional degrees in order to migrate, and are considering whether to hire an intermediary (*"gestor"*) or not. The survey randomly reveals the existence of an illicit connection between the *gestor* and the bureaucracy. Our findings are not consistent with a "market maker" hypothesis that revealing the existence of illicit connections increases demand. Consistent with the view that trust is a key element in inherently opaque transactions, we find that the demand for intermediaries is price inelastic when *gestores* are referred by trusted individuals.

JEL Codes: D73, L14, C93.

Keywords: Corruption, Bureaucracy, Intermediaries, Experiments, Venezuela.

Introduction

Bureaucratic corruption remains a key government failure in developing countries. Its high prevalence is a consequence of weak institutions that distort public and private resource allocation (Fisman and Golden, 2017; Svensson, 2005; Tanzi, 1998). From a citizen perspective, however, bureaucratic corruption is often seen as a second best strategy to "grease the wheels" of the bureaucracy and overcome constraints on the provision of government services. While bureaucratic intermediation services are not inherently corrupt (Graf Lambsdorff, 2013), intermediaries seem to play a relevant part in magnifying bureaucratic corruption in the developing world (Wiehen, 1999; Bertrand et al., 2007). Beyond their potential role as "market makers" that match citizens to bureaucrats, intermediaries can also reduce the "moral costs" of ultimately corrupt acts by allowing citizens to remain detached from -and unaware of- bribes (Hasker and Okten, 2008; Hamman et al., 2010; Bartling and Fischbacher, 2012; Coffman, 2011). These two theories yield opposing predictions whenever intermediaries are transparent about their illicit connections to the bureaucracy: While their role as "market makers" requires these connections, transparency over their existence should increase perceived costs and reduce the demand for intermediaries under the "moral cost" perspective.

This paper investigates the effect of priming the existence of corrupt connections to the bureaucracy on the demand for intermediary services and on its price elasticity. Moreover, we assess whether the effects of corruption suggestions are contingent to trusted references to the intermediary. We focus on the case of *"gestores"* (intermediaries) for the apostille of professional degrees in Venezuela. This setting is appropriate to tackle this question, as there is both high demand from young professionals choosing to migrate out of the country and low state capacity for the timely certification of degrees by Venezuela's Foreign Ministry. We propose an experimental survey on Venezuelan undergraduate students. In a hypothetical scenario in which they need to have their degrees certified in a narrow window of time and they consider hiring a *gestor*, we randomly reveal the pres-

ence of an illicit bureaucratic connection, the intermediary service fee and whether the *gestor* was referred by a trusted individual.

Anecdotal evidence from Venezuela suggests that, in an attempt to market the "quality" of their services to potential clients, intermediaries often reveal that their work operates through an illicit connection to the bureaucracy. We believe *gestores* follow this "market maker" logic because it dominates "moral" considerations in the Venezuelan institutional environment. For this reason, we pre-registered hypotheses consistent with the "market maker" view. Chiefly, we hypothesized that *gestores* that reveal their illicit connections should observe a higher demand for their services, that their demand should be relatively price inelastic, and that the former effect is strongest when the *gestor* comes from a trusted reference. Our results on all three pre-registered hypotheses are inconclusive. Interestingly, we find that suggestions of illicit connections to the bureaucracy reduced the demand for intermediary services for undergrads at early stages of their studies that are reversed for students at later stages, whose perspective on the apostille of degrees and migration might be most prescient to the hypothetical situation presented in the experimental survey. Finally, consistent with the view that uncertainty plays a key role in the demand for intermediaries, we find that trusted references induce a higher demand and a lower demand price elasticity for *gestor* services.[1] The lack of conclusive results in our main analyses does not seem driven by participant inattention, as we are able to detect a robust negative price elasticity. A number of potential aspects of our experimental design may explain the absence of conclusive results. One key concern is that, if most participants assume that all *gestores* work through illicit connections to the bureaucracy, then the implementation of our treatment would not be able to trigger a differential assessment about the corrupt nature of the intermediary service.

Our study contributes to the experimental literature on corruption by assessing key determinants in the demand for intermediary services in the developing world.[2] Given

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[1]This analysis was not pre-registered.

[2]A number of studies have focused on the "supply" side of corruption, studying whether changes to

the ubiquity of intermediaries in the developing world, and their apparent role in the mechanics of petty corruption (Bertrand et al., 2007), the empirical literature on the topic is scant. In an important precedent, Drugov et al. (2014) find that intermediaries induce higher levels of corruption by "normalizing" or "institutionalizing" corruption.[3] We contribute to this literature by studying the determinants in the demand for intermediary services in institutionally underdeveloped environments. We compare the take-up of *gestor* services for groups receiving different information about the service. Chiefly, we evaluate whether the demand for *gestores* is affected by suggestions of corruption and by the presence of a trusted reference, and find that the latter is an important determinant of the demand for intermediaries and its price elasticity. Focusing on college students in the Venezuelan context is important, as this segment of the population is in high demand for migration-related documents and certifications from a government with limited capacities to process that demand. Moreover, while our experiment is hypothetical in nature, *gestores* do play a key role in participants' *actual* institutional environment. This makes our results prescient for settings in which intermediaries are seen as ubiquitous and necessary to gain access to services from the bureaucracy.

1   Context

According to Transparency International, Venezuela currently stands as the fourth country with highest perception of corruption worldwide (Transparency International, 2022). We focus on the study of petty corruption in bureaucratic services, specifically on the case

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the competitive environment between bureaucrats affects patterns of corruption along the predictions of Shleifer and Vishny (1993). Olken and Barron (2009) examined the extent to which the behavior of corrupt officials was consistent with standard predictions from industrial organization theory, finding that market structure affects the bribes and extortion payments demanded by officials. Similarly, Ryvkin and Serra (2017) studied the effects of introducing competition between public officials, and find that it significantly reduced the magnitudes and payments of bribes.

[3]Drugov et al. (2014) compare patterns of corruption in settings with different levels of uncertainty to the introduction of an intermediary, and find that intermediaries induce corruption even when they do not limit the uncertainties associated with a transaction between a client and a bureaucrat.

of intermediaries or gestores in the apostille process for professional degrees. Given infrastructure and resource limitations, Venezuelans are faced with multiple obstacles that prevent them from gaining access to government services, including those that are part of their fundamental rights as citizens. According to Bolivar and Rodríguez (2021):

> The exercise of many rights depends on obtaining certain documents, such as the identity card or birth certificate for identification; the passport for free international transit; the certification of qualifications and titles for education and work, among others. The restrictions on the enjoyment of rights begin for many Venezuelans in their own country, to the extent that the State does not produce the documents that it is obliged to issue or does so extremely slowly, which generates access barriers that only seem to be surmountable through acts of corruption. (p.4)

Due to the economic, political and humanitarian crisis that intensified in the country between 2016 and 2017, a significant number of Venezuelans have chosen to emigrate in search for better opportunities (Transparencia Venezuela, 2021). In the case of those citizens whose emigration is oriented towards achieving their academic or professional career, the apostille of documents is an essential requirement. According to Bolivar and Rodríguez (2021):

> For most documents to be valid outside the country, their veracity must be certified by means of an apostille. In Venezuela, this procedure is carried out through the Ministry of Foreign Affairs. As in the case of identification documents, the apostille process lost transparency in the country during the last decade, due to excessive delays that led to the use of agents and acts of corruption. Consequently, the apostille became a difficult procedure to carry out. (p.9)

Regardless of the efforts made to automate the apostille process in Venezuela in order to avoid corruption and the use of *gestores*, the obstacles imposed to carry out the procedures continue to be a significant constraint for citizens that benefits the market for in-

termediaries.[4] The current "virtual platform" only allows the user to request documents on a given day of the week depending on the terminal of their identity document. Moreover, constant technical problems make the platform collapse often, which is a recurring problem in state service platforms.[5] Furthermore, access to the virtual platform remains limited and unstable, as Venezuela has the worst quality of internet and electricity services in the region . Finally, several administrative obstacles and process delays prevent the adequate access to apostille services, favoring the existence of intermediaries.

While *gestores*' services are legal in principle -as long as they limit their action to carrying out the process of requesting appointments or withdrawing documents for their clients- the use of contacts within the bureaucracy to "speed up" some process implies corrupt and illegal behavior.[6] Given the secretive nature of such corrupt behavior, the links between private clients and *gestores* are often (but not necessarily) established through direct recommendations of an individual's social circle of acquaintances. Therefore, the market for intermediation in Venezuela usually spreads through direct references within social networks, helping *gestores* and their associated bureaucrats keep a low profile.

2 Research design

2.1 Survey characteristics

We performed an experimental survey around a hypothetical situation between a client and an intermediary. The survey was distributed through Qualtrics to students from every faculty at Universidad Católica Andrés Bello (UCAB) in Caracas, Venezuela. Im-

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[4]In April 2019, the Ministry of People's Power for Foreign Affairs established a virtual portal for the Apostille System that includes the validation of documents through electronic means, in order to avoid corruption and the use of managers. See Arias (2019).

[5]"Users have reported errors in the Electronic Legalization and Apostille System, Saime and GTU. People go to managers despite the risk of fraud that this might mean" Garcia (2021).

[6]In the Venezuelan Civil Code, art. 1.684 states that a mandate is a contract by which a person undertakes free of charge, or for a salary, the execution of one or more tasks on behalf of another, who has commissioned it (Código Civil, 1982).

portantly, faculty authorities were contacted to request their support in the dissemination of the survey through institutional e-mails and official communication channels (WhatsApp groups or Telegram channels) to all undergraduate students. Additionally, kiosks were placed in different areas of the university, where willing participants were provided the participation link for them to respond to the survey[7].

2.2   Survey protocol

In the initial step for the data collection process, undergraduate students from each faculty received an invitation and were encouraged to submit their answers remotely. The participant that started the survey was presented with an informed consent form, in which all the implications and disclosable information of the study were displayed.[8] Participants were told that the project was about the demand for intermediation services in the procurement of bureaucratic services without making any explicit reference to corruption.[9] Upon acceptance, participants had three main survey sections to fill out.

1. In the first part, the participant was presented with a hypothetical situation. In this situation, the participant was accepted for a job abroad and needs to apostille her academic documents; but, due to time and information constraints, she's considering using intermediary services. Participants are shown a random script of her conversation with a possible *gestor*, in which the intermediary's fee, the suggestion of an illicit connection within the bureaucracy; whether the intermediary was introduced by an acquaintance; the speed of the process and the intermediary's experience were independently randomized (See Table A.1 for a description of each treatment). Af-

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[7]While Qualtrics prevents multiple participations from the same device, there exists the possibility that some users participate multiple times from different devices.

[8]IRB approval was obtained considering that the full purpose of the research would be withheld from participants.

[9]Similarly, participants were not debriefed about the motives of the survey after they completed it. We believe that if participants were fully informed (debriefed) on the purpose of the project before (after) their participation, there would have been a high likelihood that the motives of the study would either influence their choices or spillover to later survey participants, potentially biasing the results of the experiment.

ter being presented with the situation, the participant was asked if she would pay for the intermediary's service in a "take-it-or-leave-it" scenario. Additionally, the participant was asked if she would have bargained with the intermediary and the highest price she would have been willing to pay for the service.[10]

2. The second part consisted of three questions regarding the participant's desire to emigrate, previous experience with intermediaries and if she would characterize that prior experience as good, neutral or bad.

3. The third part consisted of questions regarding the demographic and academic information of the participant.

Participants filled their responses remotely during a period of two weeks between September 21st and October 5th. Survey information was collected in a fully anonymized manner. After the data collection process was concluded, the data was exported from Qualtrics and cleaned for econometric analysis. Figure A.1 outlines the procedure of the intervention for the control and treatment groups for the suggestion of corruption.

3   Results and Analysis

Each survey participant was randomly assigned to either a treatment group receiving a suggestion of corruption in their script, or to a control group receiving no such priming.[11] In this section, we outline our three main hypotheses and the results of our analyses.[12] Table A.2 provides summary statistics for variables connected to the first two sections of the survey. Table A.3 provides balance tests over sociodemographic variables which confirm that our procedures were effective in randomizing all five treatment branches. Finally,

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[10]The bargain and highest bid questions will be considered as inattention measures in the survey.

[11]Treatment "scripts" signalled that the service was being provided by the *gestor* and "the right contact" in the bureaucracy. Control scripts signalled that services were provided only by the "gestor".

[12]The hypotheses for our three main analyses were pre-registered with the AEA RCT Registry under the RCT ID 0009746.

Table A.4 shows that participants that did not finish the survey after being assigned a script were balanced across treatment and control groups for all treatment branches, suggesting that differential attrition is not a concern in our study. Our main sample of 501 observations is the result of filtering completed survey responses according to Qualtrics' quality flags for inattention or repetition.[13]

3.1 Effects of corruption suggestions on take-up

Since the outcome of interest is whether the participant decides to pay for the intermediary's service in the apostille process, we assessed the average effect of corruption suggestions on service take-up by performing the following Linear Probability Model (LPMs):

$$Y_i = \beta_0 + \beta_1 Corruption_i + \epsilon_i \tag{1}$$

Where Y_i is a binary marker for whether participant i decides to take the service, and $Corruption_i$ is a binary marker for the corruption suggestion treatment. β_1 captures the average effect of a suggestion of corruption on the probability of agency service take-up. We assess statistical significance of our estimates using robust standard errors.

Consistent with the "market maker" view of intermediaries, we hypothesize that estimates for β_1 should be positive and significant. Table 1, provides four estimates for β_1. Column (1) provides the simplest specification described in Equation 1. Column (2) adds sociodemographic covariates. Column (3) controls for other treatment branches. Finally, Column (4) contros for both covariates and other treatments. Our estimates for β_1 are all negative and statistically insignificant, suggesting that they are inconsistent with our hypothesis, but not conclusively so.[14]

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[13]Results are virtually unaltered when using a broader sample for the analyses that follow.
[14]A negative and significant coefficient would be consistent with a "moral cost" view on the role of intermediares in inducing corruption.

Table 1: Effect of corruption suggestions on take-up

	(1)	(2)	(3)	(4)
(Intercept)	0.629***	1.047***	0.693***	1.025***
	(0.031)	(0.309)	(0.054)	(0.304)
Corruption	-0.041	-0.046	-0.036	-0.040
	(0.044)	(0.045)	(0.043)	(0.045)
Price			-0.156***	-0.129***
			(0.043)	(0.045)
Experience			-0.051	-0.041
			(0.043)	(0.045)
Speed			0.031	0.016
			(0.043)	(0.044)
Reference			0.044	0.050
			(0.044)	(0.046)
Observations	501	501	501	501
R2	0.002	0.131	0.033	0.151
Covariates	No	Yes	No	Yes

Notes: Table shows estimates for β_1 in Equation 1. Column (1) provides the simplest specification described in Equation 1. Column (2) adds sociodemographic covariates. Column (3) controls for other treatment branches. Finally, Column (4) contros for both covariates and other treatments. Heteroskedasticity robust standard errors provided. *, $p < 0.1$; **, $p < 0.05$; ***, $p < 0.01$

3.2 Effects of corruption on demand price elasticity

We also hypothesize that, given the uncertainty and time constraints in the hypothetical situation presented to participants, corruption priming should erode the sensibility of demand for higher service fees. To test this hypothesis, we estimated the following LPM:

$$Y_i = \beta_0 + \beta_1 Corruption_i + \beta_2 Price_i + \beta_3 Corruption_i * Price_i + \epsilon_i \qquad (2)$$

Where $Price_i$ is a binary marker for whether the participant was assigned to a high price or not. β_1 captures the effect of a suggestion of corruption under a low price, β_2 captures the effect of a high price on demand under no suggestion of corruption, and β_3 captures how that effect changes with the suggestion of corruption. We hypothesize that β_1 should be positive and significant, β_2 should be negative and significant, and β_3

should be positive and of a similar absolute magnitude than β_2. This combination of results would suggest that a suggestion of corruption makes the demand for intermediary services to become inelastic. However, Table 2 suggests that estimates of β_1 and β_3 are indistinguishable from 0, while β_2 is negative and statistically significant. These results suggest that while the demand for *gestores* is elastic to higher prices, corruption suggestions do not seem to affect the demand for intermediary services or its price elasticity.

Table 2: Effect of corruption suggestions on price elasticity

	(1)	(2)	(3)	(4)
(Intercept)	0.685***	1.026***	0.707***	1.043***
	(0.041)	(0.305)	(0.070)	(0.316)
Corruption	0.003	0.002	-0.006	-0.009
	(0.059)	(0.061)	(0.059)	(0.062)
Price	-0.112*	-0.083	-0.182*	-0.182*
	(0.061)	(0.062)	(0.100)	(0.105)
Corruption $\times$ Price	-0.084	-0.088	-0.070	-0.071
	(0.086)	(0.090)	(0.086)	(0.089)
Observations	501	501	501	501
R2	0.029	0.148	0.051	0.165
Covariates	No	Yes	No	Yes
Other treatments	No	No	Yes	Yes

Notes: Table shows estimates for β_1, β_2 and β_3 in Equation 2. Column (1) provides the simplest specification described in Equation 1. Column (2) adds sociodemographic covariates. Column (3) controls for other treatment branches. Finally, Column (4) contros for both covariates and other treatments. Heteroskedasticity robust standard errors provided. *, $p < 0.1$; **, $p < 0.05$; ***, $p < 0.01$

3.3   Does the effect of corruption travel through trusted references?

To further assess how corruption suggestions may operate in making intermediary services more appealing to survey participants, we now evaluate whether the effects of corruption suggestions are contingent to instances in which *gestores* are referred by participants' trusted networks. Anecdotally, this is a relevant margin in dealing with the inherent uncertainties associated with intermediary services in Venezuela. To assess whether suggestions of illicit contacts with the bureaucracy are contingent to *gestores* referred by

trusted individuals, we perform the following LPM.

$$Y_i = \beta_0 + \beta_1 Corruption_i + \beta_2 Trusted_i + \beta_3 Corruption_i * Reference_i + \epsilon_i \tag{3}$$

Where $Reference_i$ stands for a binary marker of whether the script says that the link to the *gestor* came from a trusted individual. β_1 captures the effect of a suggestion of corruption from an agent found online, β_2 captures the effect of a trusted reference on demand under no suggestion of corruption, and β_3 captures how the effect of suggestions of corruption changes with a trusted reference. We hypothesize that β_1 should be either zero or negative, and both β_2 and β_3 to be positive and statistically significant. Importantly, we expected β_3 to be larger in absolute magnitude than β_1. These results would suggest that the "market maker" role of intermediaries is activated whenever *gestores* can leverage clients' social networks for credibility in an inherently uncertain and opaque transaction. Table 3 provides estimates for β_1, β_2 and β_3 as described in 3. While estimates for β_2 suggest that trusted references enable the demand for *gestores* in the absence of a corruption suggestion, estimates for β_1 and β_3 are statistically insignificant and inconsistent with our hypotheses.

Table 3: Effect of corruption suggestions and trusted reference to intermediares

	(1)	(2)	(3)	(4)
(Intercept)	0.578***	0.983***	0.682***	1.024***
	(0.046)	(0.310)	(0.070)	(0.312)
Corruption	0.018	0.020	-0.018	-0.011
	(0.063)	(0.065)	(0.099)	(0.104)
Reference	0.096	0.110*	0.095	0.109*
	(0.061)	(0.063)	(0.061)	(0.063)
Corruption × Reference	-0.112	-0.126	-0.094	-0.106
	(0.088)	(0.090)	(0.087)	(0.090)
Observations	501	501	501	501
R2	0.007	0.137	0.040	0.158
Covariates	No	Yes	No	Yes
Other treatments	No	No	Yes	Yes

Notes: Table shows estimates for β_1, β_2 and β_3 in Equation 3. Column (1) provides the simplest specification described in Equation 1. Column (2) adds sociodemographic covariates. Column (3) controls for other treatment branches. Finally, Column (4) contros for both covariates and other treatments. Heteroskedasticity robust standard errors provided. $*, p < 0.1; **, p < 0.05; ***, p < 0.01$

3.4 Heterogeneities over sociodemographic covariates

The "market maker" role for intermediaries may be activated contingent on specific client characteristics making them more likely to engage in transactions that involve an illicit contact with the bureaucracy. Studies have empirically found that women tend to be less likely to engage in corrupt activities (Agerberg, 2014; Alatas et al., 2009; Barnes and Beaulieu, 2014) and that people with higher income levels tend to be more likely to engage in bribery to preserve their privilege and status (Jong-Sung and Khagram, 2005). Moreover, this role may be most relevant for individuals who find the hypothetical case prescient for their current situation. For instance, in the context of this study, we presume that participants close to finishing their undergraduate studies should find it easier to relate to the hypothetical situation presented in our experimental survey.

To assess whether the effects of corruption suggestions are contingent to these margins, we evaluate heterogeneities over specific sociodemographic characteristics of the participant. We perform the following LPM:

$$Y_i = \beta_0 + \beta_1 Corruption_i + \beta_2 X_i + \beta_3 Corruption_i * X_i + \epsilon_i \tag{4}$$

Where X_i is a sociodemographic covariate hypothesized to activate the "market maker" role of intermediaries according to the references and the discussion above (Males, High income or Late stage of their undergraduate studies). We hypothesize that β_1 is zero or negative, and β_3 should be positive and larger in absolute magnitude than β_1.[15] This combination of results would suggest that the effect of a corruption suggestion is stronger and positive for individuals co-variate characteristics hypothesized to activate the "market maker" role of intermediaries.

In unreported results, we find that estimates of the effect of corruption are not heterogenous along the gender and income margins. Table 4 assesses the heterogeneity in the effects of corruption along the stage of participants' undegraduate studies. Our estimates of β_1 suggest that the effect of a corruption suggestion are negative for students at early stages of their undergraduate studies. Estimates for β_2 suggest (imprecisely) that late-stage students are less likely to take the intermediary services. Finally, estimates for β_3 suggest that the effect of corruption suggestions grow for students in later stages of their careers. Estimates of β_3 across specifications are precise and larger in absolute magnitude than those observed for β_1. However, this difference is not statistically significant, which means that we cannot reject the hypothesis that corruption suggestions have no effect on take-up on students at a later stage of their studies.

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[15]We do not have a hypothesis regarding the effect of covariates in the absence of corruption suggestions (β_2).

Table 4: Heterogeneity in the effect of corruption suggestions in career stage

	(1)	(2)	(3)	(4)
(Intercept)	0.681***	0.821***	0.735***	0.838***
	(0.037)	(0.146)	(0.066)	(0.156)
Corruption	-0.103*	-0.102*	-0.090*	-0.086
	(0.054)	(0.054)	(0.053)	(0.054)
Late Stage	-0.147**	-0.092	-0.156	-0.129
	(0.065)	(0.076)	(0.117)	(0.127)
Corruption × Late Stage	0.176*	0.184**	0.175*	0.178**
	(0.092)	(0.090)	(0.092)	(0.091)
Observations	501	501	501	501
R2	0.013	0.058	0.049	0.088
Covariates	No	Yes	No	Yes
Other treatments	No	No	Yes	Yes

Notes: Table shows estimates for β_1, β_2 and β_3 in Equation 3. Column (1) provides the simplest specification described in Equation 4. Column (2) adds sociodemographic covariates. Column (3) controls for other treatment branches. Finally, Column (4) contros for both covariates and other treatments. Heteroskedasticity robust standard errors provided. *, $p < 0.1$; **, $p < 0.05$; ***, $p < 0.01$

3.5 Discussion

While the results in Table 4 suggest that "market maker" views might be most prescient for late-stage college students, the overall findings from our work are not consistent with such perspective of the role of intermediaries in magnifying corruption. While it is entirely possible that such findings are the result of conflating "moral costs" associated with a transaction that transparently implies an illicit connection to the bureaucracy, they may also be driven by potential failings of our empirical design. A key concern for experimental surveys about hypothetical scenarios is that results may be driven by the inattention of participants. We believe that this is not the main driver of our lack of hypothesized results. First, we take a data sample that overcomes Qualtrics' automatic checks for inattention. Second, we find very strong evidence that higher prices reduce the demand for *gestores*, suggesting that the average participant was paying attention to the script.

On the other hand, the experimental design may not have adequately conveyed the difference in the presence of corruption between the treatment and control groups. There

is the possibility that the script was not explicit enough to inform the participants' decision. Chiefly, if most participants assume that intermediaries operate through illicit connections to the bureaucracy, then reaffirming such connections may not add information - or may actually scare the participant.[16] An alternative experimental design would have explicitly mentioned the absence of any connections to the bureaucracy for participants in the control group.

Similarly, we chose the case of apostille certifications of professional degrees because it should have been prescient for students considering migration decisions. Nevertheless, participants (especially younger students) may have not been aware of such certification at the time of the survey, leaving room for ambiguities in the interpretation of the treatment. Alternatively, we could have designed our hypothetical situation around the need of obtaining a passport, which faces similar supply constraints and is equally urgent in out hypothetical scenario. Finally, there may have been participant misinformation regarding the overall legality of intermediary services.

3.6 Trusted references and the price elasticity of demand for *gestores*.

Results shown in Tables 1 and 3 hinted at the possibility that whenever a trusted reference to *gestores* may have an independent positive effect on the demand for their services. This is consistent with the view that references solve the inherent uncertainty associated with intermediary services in which illicit connections to the bureaucracy are implied, and with anecdotal evidence about the spread of information about intermediaries in Venezuela. We test the effect of references on price elasticity through the following LPM:[17]

$$Y_i = \beta_0 + \beta_1 Price_i + \beta_2 Reference_i + \beta_3 Price_i * Reference_i + \epsilon_i \tag{5}$$

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[16]Still, as discussed in the introduction, the fact that *gestores* usually reveal the presence of these connections suggest that such information on its own should have some informative value in the real world.

[17]This analysis was not pre-registered.

We hypothesize that β_1 is negative, β_2 is zero or positive, and β_3 is positive and of a similar absolute magnitude as β_1, which would suggest that the demand for intermediary services becomes inelastic for *gestores* whose information came from trusted individuals. Table 5 shows estimates for each of these coefficients. Negative and significant estimates for β_1 suggest a precise price elasticity of demand in the absence of a trusted reference. Estimates of β_2 suggest that that trusted references do not magnify the demand for *gestores* at low prices. Finally, estimates for β_3 suggest that the negative effects of prices on take-up are completely absent whenever a *gestor* was introduced to the participant by a trusted individual - that is, the demand for such intermediaries seems to be price-inelastic.

Table 5: Demand price elasticity and intermediaries referred by trusted individuals

	(1)	(2)	(3)	(4)
(Intercept)	0.722***	1.012***	0.737***	1.058***
	(0.040)	(0.301)	(0.069)	(0.311)
Price	-0.276***	-0.242***	-0.274***	-0.241***
	(0.061)	(0.063)	(0.061)	(0.064)
Reference	-0.072	-0.057	-0.043	-0.007
	(0.059)	(0.060)	(0.096)	(0.097)
Price x Reference	0.236***	0.223***	0.238***	0.232***
	(0.086)	(0.088)	(0.086)	(0.089)
Observations	501	501	501	501
R2	0.042	0.159	0.051	0.167
Covariates	No	Yes	No	Yes
Other treatments	No	No	Yes	Yes

Notes: Table shows estimates for β_1, β_2 and β_3 in Equation 5. Column (1) provides the simplest specification described in Equation 4. Column (2) adds sociodemographic covariates. Column (3) controls for other treatment branches. Finally, Column (4) contros for both covariates and other treatments. Heteroskedasticity robust standard errors provided. $^{*}, p < 0.1$; $^{**}, p < 0.05$; $^{***}, p < 0.01$

Conclusions

The purpose of this study was to determine how intermediaries' transparency over the existence of illicit connections to the bureaucracy affected clients' demand for their services. This is an important question to understand how intermediaries may affect corruption. If

citizens value their services because they provide these connections, transparency should increase demand. To the contrary, if citizens value intermediation services because they allow them to remain detached from (and unaware of) illicit connections to bureaucracy, then transparency should decrease the demand for intermediaries.

We addressed this question building on an experimental survey on the demand for *gestores* in the procurement of apostille certifications of professional degrees. We surveyed undergraduate students in the Andrés Bello Catholic University (Caracas, Venezuela). This setting is ideal to tackle questions over the demand for intermediary services, as there is a high demand of young Venezuelan professionals who are considering whether to emigrate from the country, a limited capacity in the supply of these services by the Venezuelan Ministry of Foreign Affairs, and an ubiquitous presence of *gestores* in the procurement of these services.

This study contributes to the literature on bureaucratic corruption by providing experimental evidence on the determinants of demand for intermediaries. Focusing on a relevant case for participants inhabiting a high-corruption environment allows us to observe how citizens in such settings assess their options in procuring services from the bureaucracy. To the degree that such assessments are context specific, this approach offers a unique window to potential inadequacies in the supply of bureaucratic services.

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A Appendix

Figure A.1: Diagram of treatment protocol
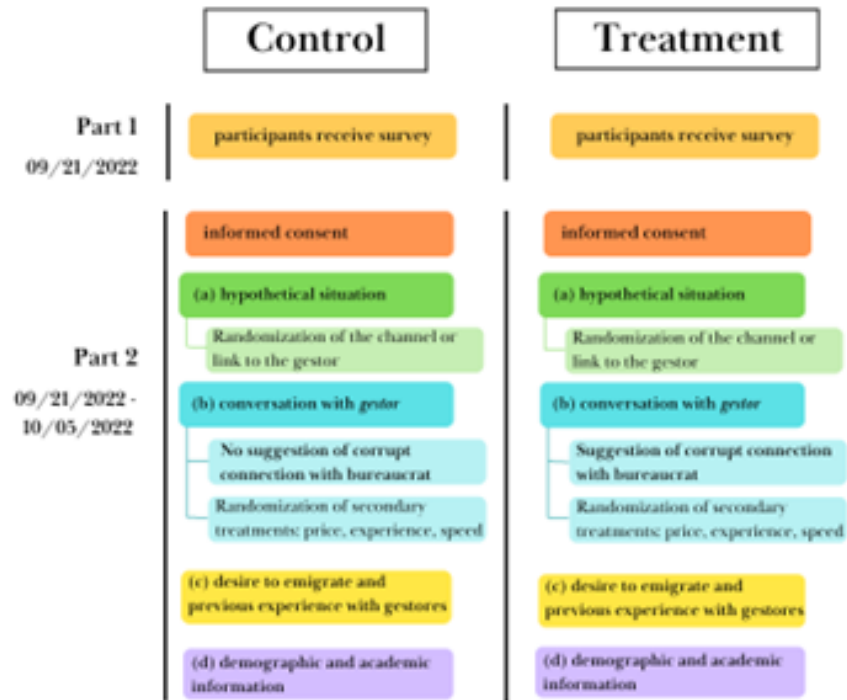
Notes: Diagram shows the timing of the release of the survey and period of data collection, along with the protocol of information gathering for groups assigned to different treatment branches along the corruption suggestion dimension.

Table A.1: Treatment branches

Variable	Alternatives	% Assigned to Treatment
Corruption suggestions	• Illicit connections • No illicit connections	48
Price	• High (US$ 300) • Low (US$ 120)	52
Experience	• Experienced (2014) • Not experienced (2019)	48
Speed	• Fast (2 weeks) • Slow (6 weeks)	48
Link to Gestor	• Cousin • Google	50

Notes: Table shows the specifics of each independent random treatment assigned in each participant's script.

Table A.2: Summary Statistics

	N.Valid	Mean	Std.Dev	Min	Max
Y	690	0.5608696	0.4966411	0	1
Corruption Suggestion	690	0.4768116	0.4998243	0	1
Price	690	0.5217391	0.4998896	0	1
Link Gestor	690	0.4985507	0.5003606	0	1
Speed	690	0.4782609	0.4998896	0	1
Experience	690	0.4797101	0.4999506	0	1

	N.Valid	Mean	Std.Dev	Min	Max
Bargain	592	0.7162162	0.4512144	0	1
Income source	568	0.1073944	0.3098869	0	1
Migration thoughts	581	0.8175559	0.3865429	0	1
Prev. Gestor	581	0.4130809	0.4928114	0	1

Notes: Table shows summary statistics for variables associated with the first two survey sections (treatment branches, take-up decision, answers to additional questions). Y stands for the binary decision to either take the *gestor* services or not.

Table A.3: Balance tests

Covariates	Corruption	Price	Link Gestor	Experience	Speed
Gender	0.068	-0.0536	-0.0669	0.0122	-0.016
	(0.0415)	(0.0415)	(0.0415)	(0.0416)	(0.0416)
Age	-0.2425	0.2703	-0.1095	0.2064	-0.0563
	(0.2359)	(0.2358)	(0.236)	(0.2359)	(0.2361)
Ingeniería	0.0606	0.0056	-0.054	-0.0056	0.054
	(0.0385)	(0.0386)	(0.0385)	(0.0386)	(0.0385)
FACES	**-0.0592 ***	-0.0263	0.0421	-0.0437	-0.0141
	(0.0359)	(0.036)	(0.036)	(0.036)	(0.036)
Comunicación Social	0.0012	-0.0299	-0.0027	0.0019	0.0097
	(0.0348)	(0.0348)	(0.0348)	(0.0348)	(0.0348)
Humanidades	0.0089	**0.0638 ****	0.0106	-0.001	-0.0385
	(0.0275)	(0.0273)	(0.0275)	(0.0275)	(0.0274)
Derecho y otros	-0.0114	-0.0133	0.0041	**0.0482 ***	-0.0111
	(0.0257)	(0.0257)	(0.0257)	(0.0256)	(0.0257)
Univ. start	0.0014	0.0301	-0.0014	0.0538	-0.0266
	(0.0384)	(0.0384)	(0.0384)	(0.0383)	(0.0384)
Semester	0.0135	0.0094	-0.0237	0.0395	0.0027
	(0.0399)	(0.0399)	(0.0398)	(0.0398)	(0.0399)
Acad. rank	0.0241	-0.0506	-0.0282	-0.0193	-0.0417
	(0.0358)	(0.0358)	(0.0358)	(0.0358)	(0.0358)
Income source	-0.0151	-0.0098	-0.0214	**0.0528 ****	0.0128
	(0.026)	(0.026)	(0.026)	(0.0259)	(0.026)
Monthly income	-0.0143	0.0376	0.0022	0.007	0.0353
	(0.0398)	(0.0397)	(0.0398)	(0.0398)	(0.0397)
Inattention	-0.0459	-0.001	-0.03	-0.0048	0.0024
	(0.0394)	(0.0395)	(0.0395)	(0.0395)	(0.0395)
Qualtrics quality	-0.0291	0.016	-0.0132	0.0248	-0.0036
	(0.0236)	(0.0236)	(0.0236)	(0.0236)	(0.0236)

Notes: Table shows the estimates of β_1 in performing the regression specification $X_i = \beta_0 + \beta_1 Treatment_i + \epsilon_i$ for all treatment branches as independent variables and each of the sociodemographic co-variates of the study, measures of inattention and Qualtrics' data quality measurement as dependent variables. Heteroskedasticity robust standard errors provided. *, $p < 0.1$; **, $p < 0.05$; ***, $p < 0.01$.

Table A.4: Attrition Analysis

	Corruption	Price	Link Gestor	Experience	Speed
Attrition	0.0057	-0.0111	-0.0054	0.0049	0.0169
	(0.0183)	(0.0183)	(0.0182)	(0.0183)	(0.0183)

Notes: Table shows the estimates of β_1 in performing the regression specification $A_i = \beta_0 + \beta_1 Treatment_i + \epsilon_i$ for all treatment branches as independent variables, where A_i is a binary marker for whether the survey was not completed after being assigned to a treatment branch. Heteroskedasticity robust standard errors provided. $^*, p < 0.1$; $^{**}, p < 0.05$; $^{***}, p < 0.01$.