

Evidence from Lagos on Discrimination across Ethnic and Class Identities in Informal Trade

Shelby Grossman and Dan Honig*

Please cite as: Grossman, Shelby and Dan Honig. 2017. "Evidence from Lagos on Discrimination across Ethnic and Class Identities in Informal Trade." *World Development* Vol. 96: 520-528.

Abstract

This paper investigates the determinants of price discrimination in the rice market in one neighborhood of Lagos, Nigeria. There has been little empirical study of how ethnicity and class shape economic outcomes in informal market interactions. We conduct an audit experiment – one of the first audit experiments in Africa – seeking to address this gap. We experimentally manipulate class, with confederates presenting as different classes; this may be the first audit study to take this approach. This is also one of the first in-person audits to have multiple transactions for each buyer and seller, thus allowing for the use of buyer and seller fixed effects. We find little evidence that, all else equal, sharing an ethnicity on its own influences market treatment. Class, however, does have substantial effects, at least for non-coethnics. High class non-coethnics receive higher prices per unit than low class non-coethnics. Our findings suggest that the boundaries of group identity appear to be at least partially defined by class in the informal economy.

*This research was partially funded by the Real Estate Academic Initiative at Harvard, and approved by Harvard's Committee on the Use of Human Subjects under IRB protocol #F22592-102 and #15-0611. We thank Aderemi Adedoyin for research assistance, and the 22 project confederates. We thank Robert Bates, Bart Bonikowski, Jeff Frieden, Filiz Garip, Oyebola Olabisi, Jonathan Phillips, Amanda Pinkston, Ryan Sheely, three anonymous reviewers for *World Development*, and participants from seminars at Oxford's Nigeria Day and the graduate student political economy workshop at Harvard for their feedback and comments, and Ryann Manning for her role in the initial brainstorming of this project.

1 Introduction

There is substantial evidence that discrimination is a central driver of economic disparities, particularly as regards race (Darity and Mason, 1998; Moss and Tilly, 2001; Pager and Quillian, 2005; Wilson, 1996). We know surprisingly little, however, about the extent to which discrimination occurs based solely on characteristics of one individual or rather based on the intersection of two individuals' characteristics, for example the shared identity (or lack thereof) between buyers and sellers. We also know little about which potential bases for discriminatory treatment (race, religion, ethnicity, gender, class, etc.) dominate, or how these identities interact.

In this article we focus on informal economy interactions between members of different groups, where which are the relevant “groups” remains an open question. Prior studies about casual interactions focus on their consequences, ignoring the critical prior question: what actually happens in these interactions, and why? Our study asks: On what dimensions does differential treatment occur in casual interactions and what motivates it? When and where are certain identities salient, and are these underpinned by taste-based or rational economic calculations? We further analyze how the nature of differential treatment in casual interactions compares to differential treatment in more political interactions, such as cooperation in collective action problems and vote choice.

One emerging method of studying the dynamics of discrimination is with in-person audits (e.g. Pager, Western and Bonikowski, 2009). Audits are increasingly in use in political science (Adida, Laitin and Valfort, 2010; McClendon, N.d.; Michelitch, 2015). There are a number of advantages to audits, not least of which is the generation of causally identified findings which can complement qualitative work and provide context for the generation of new theory (Pager, 2007). We conduct an audit experiment in a densely populated neighborhood in Lagos, Nigeria in the retail rice market to test hypotheses about differential treatment in casual interactions. Confederates visit rice sellers dressed to look like they come from a medium/high socioeconomic (SES) group or a

low socioeconomic group, greeting the seller in the language of one of two large ethnic groups in Nigeria. Confederates inquire into the price of rice, and purchase a pre-determined quantity. We record both the quoted price and weight of rice received. We conducted the audit with 464 interactions, a sample size that far exceeds similar city-level housing audits conducted in America (e.g. Turner et al., 2002).

Our central findings are that buyer socioeconomic status rather than ethnic match drives discrimination. This class effect, however, only rises to conventional levels of statistical significance among those who are not of the same ethnicity as the seller. Non-coethnics are penalized by class; high class non-coethnics receive higher prices per unit than low class non-coethnics. The findings are more ambiguous for coethnics of the seller. While the effect for coethnics and the effect for non-coethnics are not themselves statistically significantly different from one another, this leaves open whether all buyers, or only non-coethnics, are affected by class penalties.

A limitation of in-person audits, which have been concentrated in the US, particularly in the housing (1977 Housing Market Practices Survey; 2000 Housing Discrimination Study) and employment (e.g. Pager, Western and Bonikowski, 2009) markets, is that the salient features in these audits – most commonly race – cannot be manipulated experimentally. This leaves studies vulnerable to the critique that there are characteristics of confederates unobserved by researchers that thus cannot be matched on, and that these unobserved characteristics could be driving the observed effect (Guryan and Charles, 2013; Heckman, 1998). This has led many social scientists to conduct correspondence audits, where inquiries are made by (for example) email, where identity can be manipulated experimentally (e.g. Galarza and Yamada, 2014). These audits are vulnerable to another set of criticisms regarding the relevance of these contexts, given that, for example, few job seekers find employment in this manner (relying instead on personal contact and connections), and there are few domains outside of employment where consequential discrimination might occur

without face to face interactions.

Our audit study is designed partly to address the criticism of unobserved confederate characteristics without sacrificing the critical in-person component. By experimentally manipulating class we mitigate potential bias related to unobserved confederate characteristics as regards class. Ethnicity, however, is not experimentally manipulated; as such the Heckman (1998) critique still pertains, and interpretation of findings as regards ethnicity should be considered in the context of potentially heterogeneous unobserved confederate characteristics.

In Nigeria, as in several other African countries, ethnicity is the most salient identity for a large plurality of citizens.¹ In Lagos, Yoruba and Igbo identities are extremely salient, and these two groups have frequently antagonistic relations. The state government has been controlled by Yorubas for over 15 years, and 82% of Igbos in Lagos report feeling like the government always, often, or sometimes treats them unfairly due to their ethnicity (Afrobarometer 2014-2015). In this sense Lagos is similar to many other African contexts where ethnicity is an important identity.

With the literature on the consequences of ethnic salience focusing on relatively infrequent political outcomes such as cooperation around public goods and vote choice (e.g. Alesina, Baqir and Easterly, 1999; Bratton, Bhavnani and Chen, 2012; Carlson, 2015; Dionne, 2015; Habyarimana et al., 2009; Miguel and Gugerty, 2005), we know little about differential treatment² and identity salience in *casual* interactions in the informal sector, this despite an emerging literature on the political economy of the informal sector (e.g. Auerbach, 2016; Cross, 1998; Gill et al., 2012; Holland, 2016; Levitt and Venkatesh, 2000; Nordman, Rakotomanana and Roubaud, 2012; Williams, Shahid and Martínez, 2016). In interactions with businesses that are informal – i.e. not registered with all relevant levels of government – prices are typically not listed, leading to substantial space for discretionary treatment.³

Though these casual interactions are sometimes called “superficial” (Amir, 1969; Sigelman et al.,

1996), they matter for many reasons. Depending on context, casual interactions can remove or exacerbate stereotypes (Allport, 1954; Bobo, 1999; Putnam, 2007; Stolle, Soroka and Johnston, 2008). Casual interactions can impede or facilitate more intimate forms of cross-group engagement, such as friendship (Mann, 1959; Williams, Dean and Suchman, 1964). They can be necessary for cross-group associational forms of engagement (Varshney, 2001) which can prevent violent conflict, yet they might also *exacerbate* inter-group tensions as individual casual interactions might incentivize a group to work harder to maintain group boundaries (Forbes, 2004). Though there is debate about causal mechanisms, a vast inter-disciplinary literature argues that social trust promotes economic development (Dearmon and Grier, 2009; Fukuyama, 2001; Woolcock and Narayan, 2000). As such, the nature of the frequent casual interactions that take place in the informal economy should not be ignored.

The nature of identity and political mobilization has long been a topic of political science theorizing. From Varshney's (2001) associational engagement to Putnam's (2002) bridging social capital, the notion that inter-group contact can promote peace and responsive governance has become an under-explored premise of both political science theorizing and external international development interventions, which often focus on fostering cross-group engagement. It is not clear this always need be the case; being treated less well by individuals unlike you may strengthen in-group identification and exacerbate out-group antipathies. Political appeals to class and ethnicity (for example) are often at cross-purposes, and which will be more successful depends on identity salience; this has substantial implications for the redistributive effects of democracy (Huber, 2013).⁴ These mobilizations may in turn have path-dependent consequences for identity salience (Eifert, Miguel and Posner, 2010), driving a cycle wherein identities and political mobilizations become increasingly path-dependent.

This study's results contribute to a number of research areas beyond the direct study of discrim-

ination, most notably studies of inter-group relations. Our work suggests a number of prominent schools, from sociology’s “contact hypothesis” to studies of ethnic heterogeneity in political (e.g. Habyarimana et al., 2009) and organizational life (e.g. Hjort, 2014), may ignore casual market transactions and their potential impact on inter-group beliefs at their peril. As Forbes (2004) has suggested, it seems implausible that meaningful cross-group associational interactions could occur in the absence of casual cross-group interactions. Varshney has considered the historical roots of associational forms of engagement, arguing that factors such as labor abuses can impede the ability to form civic networks (2003; p.16). Casual interactions could exacerbate or moderate antipathy stemming from these factors.

We begin this paper by discussing existing theory on how and why ethnic and class identity are expected to affect interactions in casual and political interactions. We develop hypotheses from a careful consideration of the mechanisms that could plausibly be operative in casual interactions. Next we discuss the experiment design. We proceed to present our audit results on discrimination, and then attempt to disentangle potential mechanisms driving the results.

2 Theory

What is the scope of discrimination in everyday forms of engagement, on what bases does it occur, and what motivates discriminatory treatment? A large literature has provided evidence that contributions to public goods are higher in ethnically homogenous contexts (e.g. Alesina and Glaeser, 2006; Habyarimana et al., 2009; Miguel and Gugerty, 2005). Yet the mechanism that these studies identify relies on the assumption of repeat interaction, which we design our experiment explicitly to avoid so as to mirror the many one-off casual interactions in the informal sector that occur in daily life. There is a large literature on discrimination in Western labor markets (for a review of these studies see Altonji and Blank, 1999), but also on discrimination in everyday

interactions in America, using the audit method, just as we do in this paper (e.g. Fong and Luttmer, 2009; Gneezy, List and Price, 2012). This literature finds overwhelming evidence of racial bias: blacks and Hispanics are uniformly treated worse than non-Hispanic whites, and the degree of discrimination in these audits is staggering. Yet it is unclear what lessons this has for us, as racial groups are roughly ranked in America; blacks and Hispanics, on average, tend to be less wealthy than non-Hispanic whites. Statistical discrimination could be motivating differential treatment, where minorities are treated worse because their socioeconomic status is approximated based on the mean SES of their group. This motivation seems implausible in unranked contexts like Lagos. Moreover, most American audits do not consider “seller” identity, so it is difficult to know whether shared identity is motivating treatment.

However there is some evidence from unranked contexts that casual inter-group contact worsens inter-group trust (Forbes, 2004). This is suggestive of some type of negative bias toward non-coethnics in these interactions.

Hypothesis 1: All else equal, sellers will charge less per gram of rice to buyers who share an ethnic identity.

In recent years the importance of class in political interactions has been mostly dismissed;⁵ ethnic identity offers more explanatory power in some cases (e.g. Eifert, Miguel and Posner, 2010). However, this does not mean class identities are not activated under some circumstances, including as regards political mobilization. Evidence of intra-ethnic group class conflict in Lagos abounds. For example, recently Yoruba *indigenes*, those who can trace their ancestry back a few generations to Lagos state and are on average much poorer than non-*indigene* Yoruba, have been protesting that the state government (which is controlled by the wealthier non-*indigene* Yoruba) has been denying them access to important political dialogues.⁶ We expect that class will also be salient in casual interactions.

We are aware of two papers that have looked at the effect of status in casual interactions (Ball et al., 2001; Bulte et al., 2012). These studies, however, come to contradictory findings. Based on anecdotal evidence from wealthy Nigerians who say they “dress down” when shopping at a market to appear of lower SES, or send house staff to buy things for them so that they will not get charged very high prices, we expect that class identity will result in differential treatment as well.

Hypothesis 2: All else equal, sellers will charge higher prices per gram of rice to those who look to be of higher socioeconomic status.

How might class and shared ethnicity interact? For many political outcomes, such as vote choice, this question has not been of interest.⁷ What matters is which single identity an individual identifies with “first and foremost” (Eifert, Miguel and Posner, 2010; 500) or whether a citizen supports an ethnic *or* labor party (Melson, 1971) or which *single* identity forms the basis of an alliance for elections (Posner, 2005) or conflict (Esteban and Ray, 2008). In the business transactions under study here, outcomes are continuous, and individuals need not make a decision about whether ethnicity or class matters more. We expected to see a simple additive relationship between shared ethnicity and being lower class; both sharing an ethnicity and appearing lower class should each lower the price paid per gram of rice received.⁸

Hypothesis 3: There will be an additive relationship between shared ethnicity and being lower class in decreasing the price per gram of rice received.

3 Experimental Design

We recruited 22 male University of Lagos students between the ages of 20 and 27 to act as confederates and engage in rice transactions. 10 confederates were Yoruba and 10 were Igbo.

Before the start of the experiment, a research assistant and the authors identified 36 rice sellers in an ethnically heterogeneous neighborhood called Bariga, 7 miles north of Lagos Island. 8 of the

sellers were Yoruba, and 28 Igbo.⁹ We selected the Bariga neighborhood because of its proximity to University of Lagos, which made it ordinary to see students walking around and shopping. We selected a neighborhood with rice sellers scattered among residences and other businesses, as opposed to a market, so that rice sellers would not observe a student purchasing a small quantity of rice from multiple sellers, which might have raised suspicions.¹⁰

Treatment

Confederates were alternately assigned to dress in a higher class way (what our confederates called “radiant”) or a lower class way (“unkempt”). On days when confederates were radiant, they would wear a button-down shirt, pants, dress shoes, and often a watch. On unkempt days they would wear a t-shirt, shorts, and sandals. This was the extent of the SES treatment.

University of Lagos students were well-suited for this treatment, as this university is a federal school that permits students to work while enrolled, allowing for students from a variety of backgrounds to attend. It was thus natural for rice sellers to interact with low and high SES students.

One concern is that while University of Lagos students could be low or high SES, given that they are university students they may have mannerisms or speak in a way that signals higher-than-average SES, muddling the class treatment. Were this the case, however, this would bias downward any effect we find. As such, the design is a “hard” test for the theory.

Confederates conveyed their ethnicity by greeting the rice seller in Igbo or Yoruba. If the seller did not respond in the same language, confederates reverted immediately to Pidgin English. While each confederate played both high and low SES, confederates always represented their true ethnicity. The reason for this was if a Yoruba student gave the Igbo greeting, and the rice seller spoke Igbo, the Yoruba student would not be able to hold a conversation in Igbo.

Ethnicity	Igbo Yoruba
Class	Medium/high Low

Table 1: Identities considered for the audit. While an earlier pilot audit considered three ethnicities (Hausa, Igbo, and Yoruba), to increase statistical power the full audit included only interactions with Igbo and Yoruba individuals.

To identify the ethnic identity of the rice sellers, during debriefs the authors asked confederates about any clues they had picked up in this regard. Sometimes there were seller-initiated explicit conversations about ethnicity. In cases where there was any uncertainty we had the last confederate to visit a seller casually raise the question explicitly after the interaction’s completion. Ethnicity is discussed frequently in Nigeria, and these are not particularly sensitive or unusual questions.

The interaction

Confederates received approximately four hours of training on the audit scripts. There were role plays and quizzes until the authors were confident each confederate had mastered the scripts.

After the greetings, confederates were trained to ask: “How much for rice?” to signal naiveté and provide the opportunity for seller discretion. Confederates were instructed not to bargain to obviate problems of unobserved bargaining abilities across confederates.¹¹ They then requested a scoop of rice into an empty 15 ounce can (the local term for this unit is a *dereka*),¹² paid, and brought the rice back to one of the authors, who would debrief the confederate about the interaction and weigh the rice received.

Rice interactions allow for a cleaner test of the theory than other possible interactions, such as interactions we piloted in the housing rental sector to more closely mimic US housing audits. Confederate-housing agent interactions provided many cases where confederates had to go off script, confounding goals of keeping interactions as similar as possible. The rice interactions were more straightforward, making it easier to ensure the interactions were as uniform as possible.

This paper further improves on the standard in-person audit designs in two important ways: 1) we manipulate one of the salient characteristics under study (class) to overcome the challenge of matching on unobserved confederate characteristics, addressing a critique made by Heckman (1998), and 2) we increase the number of interactions that occur with each individual seller whose behavior is the subject of study. In a survey we conducted of 15 published in-person and correspondence audits across disciplines over the past decade, we found that only three involved more than three audits per “seller.” By increasing the number of audits per seller we are then able to use of both buyer and seller fixed effects.

Attributes of the rice transactions also provide the opportunity to disentangle mechanisms that might be driving discrimination, discussed further in section 5. We can capture differential treatment that is easier to observe by buyers (price) and harder to observe (weight).

4 Results

In this section we present results from the audit, looking at the 464 interactions. As noted above, we capture two measures: price paid and quantity received for one can of rice, a “standard” measure among Lagos rice sellers; however, as the data shows, a can seems not to be so standard after all, with the biggest quantity obtained more than 56% heavier than the smallest quantity obtained (figure 1).

Table 2 presents overall summary statistics for the data.¹³ We have dropped observations where auditors forgot to put small stickers that noted the seller ID on their bags of rice, leading to confusion about which bag of rice was associated with which seller. We have also dropped observations where the bag of rice was leaking, leading to uncertainty about its true weight, and we drop observations where the auditor reported buying from a child who was manning the shop.

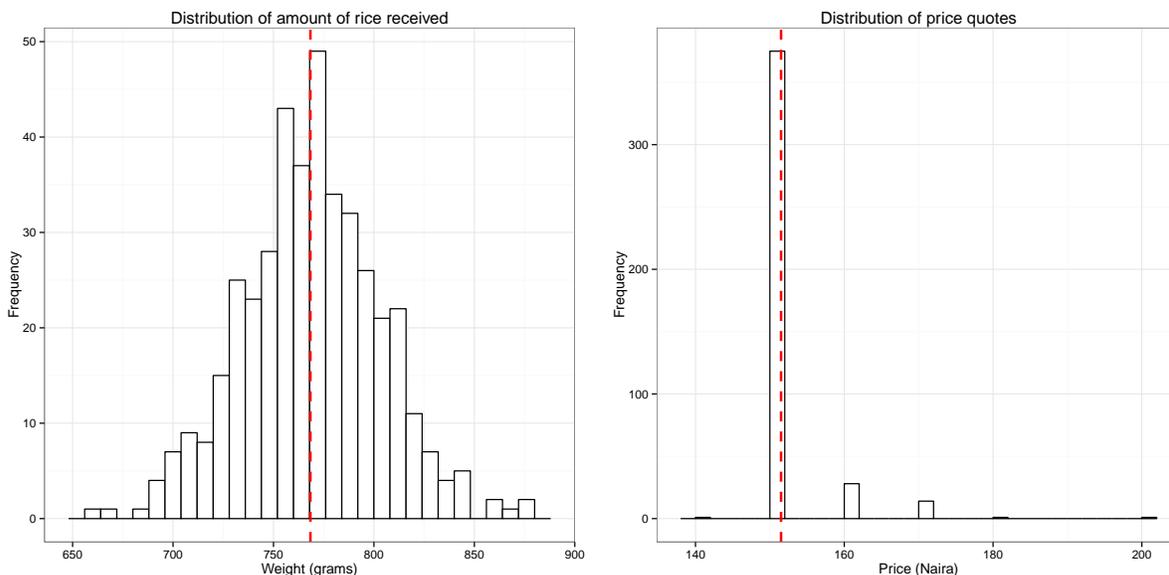


Figure 1: Distribution of rice weight and price; dashed lines represent mean values.

	count	mean	sd	min	max
Total Price (Naira)	460	151.70	5.77	140	200
Weight (g)	458	767.09	35.08	553.5	865
Price (Naira) per gram	458	.20	.01	.17	.36
Ethnic Match	460	.53	.50	0	1
High SES	461	.48	.50	0	1
Observations	464				

Table 2: Summary statistics

Table 3 demonstrates the main findings from this experiment. It shows that buyer class alone rather than ethnic match alone seems to drive discrimination, as measured by price paid per gram. Ethnic match has no discernible effect on price paid, whereas high class buyers pay approximately 1.5% higher prices per gram than the same individuals (given that these models incorporate both buyer and seller fixed effects) pay when they approach sellers as lower class buyers. Model 4 indicates that non-coethnic higher class purchasers pay approximately 2.5% more per gram than lower class non-coethnic purchasers.

	Price (Naira) per kilogram			
	(1)	(2)	(3)	(4)
Ethnic Match	0.197 (0.937)		-0.0826 (0.945)	1.403 (1.096)
High SES		3.268* (1.395)	3.272* (1.407)	4.936+ (2.771)
HighSES*Ethnic Match				-3.196 (3.088)
Constant	190.6*** (2.394)	189.5*** (3.352)	189.6*** (3.234)	189.8*** (3.217)
Buyer FEs	Y	Y	Y	Y
Seller FEs	Y	Y	Y	Y
R^2	0.262	0.273	0.273	0.276
Observations	458	455	455	455

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: This table presents the main experimental finding. The outcome is price paid (Naira) per gram of rice received. Buyer class, not ethnic match, drives discrimination.

Including the interaction between ethnic match and class in model 4 of Table 3 indicates that coethnicity is not in and of itself a significant mediator of the SES result in model 3. That said, Table 3 indicates that differential treatment of low SES non-coethnics is the primary driver of the results as regards SES. That is, low SES non-coethnics are differentiable from both coethnics and non-coethnics of high SES. The same cannot be said for coethnics of low SES, who are not differentiable from high SES coethnics or non-coethnics. The difference between high SES coethnics and low SES coethnics notably has a smaller t-statistic than even the difference between low SES non-coethnics and low SES coethnics. Taken in combination with the (not presented here) results of a pilot study we conducted which had the same pattern of findings but in which coethnic mediation of the class effect was itself statistically significant, these results suggest the potential for future research. It is possible that co-ethnicity mutes the class effect otherwise present.

None of this demonstrates a statistically significant effect of ethnicity in the current sample;

	Non-Coethnic High SES	Non-Coethnic Low SES	Coethnic High SES	Coethnic Low SES
Non-Coethnic, High SES	NA			
Non-Coethnic, Low SES	4.899 (2.76) ⁺	NA		
Coethnic, High SES	1.85 (2.67)	3.04 (1.24)*	NA	
Coethnic, Low SES	3.443 (2.44)	1.49 (1.05)	1.59 (1.49)	NA

Predicted Values in price (Naira) per kilogram, a quantity that is slightly larger than the standard can used in this experiment. Standard Errors in parentheses.

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Summary of differences in predicted values by type (absolute values). This table presents pairwise comparisons drawn from a model nearly identical to Model 4 of Table 3. (Due to Stata limitations, Table 4 replicates model 4 of table 3 with clustering of standard errors only on the buyer, rather than the buyer and seller as in table 3.) It demonstrates that non-coethnics of low SES are differentiable from both coethnics and non-coethnics of high SES. The same cannot be said for coethnics of low SES, who are not differentiable from high SES coethnics or non-coethnics.

we cannot confidently reject the null hypothesis that there is no differential treatment based on shared ethnicity. This is surprising given the earlier discussion about the salience of Yoruba and Igbo identities in Lagos. It is notable in this context that sellers do not generally treat all coethnics better than non-coethnics. Additional analysis (not shown here) shows this result does not vary by seller ethnicity; neither Igbos nor Yorubas show a preference for coethnics.

The effect sizes are modest. Indeed these effect sizes may seem exceptionally low in light of findings from price discrimination audits in the US. One audit study in Chicago found that black men were quoted car prices 9% higher than white men (Ayres and Siegelman, 1995). We make two points on this. First, while ethnic and class-based discrimination in Lagos may be more moderate than racial discrimination in Chicago, our study was also designed differently than standard price discrimination audits. Most obviously we considered shared ethnic identity as opposed to only buyer ethnic identity. Additionally, the two ethnic groups we studied are considered on average to be of equal SES. This is not the case in other contexts. Second, 1-2.5% translates into a substantial amount of money for larger purchases. Our pilot audit in the housing rental market suggested similar rates of differential treatment, and the average two-year advance rent (which is standard)

for a flat was 71,757 Naira (USD \$399, using the exchange rate at the time of the experiment). 2.5% of \$399 is \$10. In a country where 77% of people live on less than \$2/day,¹⁴ \$10 is a substantial amount of money.

The results presented here are robust to alternative specifications, including clustering standard errors on either sellers or buyers (rather than two way clustering). These results are also robust to a variety of treatments of the single case where a seller refused to provide rice to the buyer. (See endnote 11 for a fuller discussion of this case.)

5 Mechanisms

What could explain the differential treatment we observe? Political scientists and economists theorize separately on this question. Habyarimana et al. (2009) provide evidence that the mechanism that explains why coethnics are more likely to cooperate is the credible expectation that shirking will be punished. This mechanism, along with most of the others they test, are plausible in *repeat* casual interactions, but unlikely in *one-off* casual interactions like small business transactions where there is a large chance two individuals will not encounter each other again. Habyarimana et al. find no support for a mechanism that could be at work in these everyday interactions: an other-regarding preference mechanism, where an individual gets utility simply by helping a coethnic over a non-coethnic (2009).

Two motivations for discrimination are typically offered by economists: taste-based and statistical discrimination. Taste-based discrimination is essentially the same as an other-regarding preference, where individuals get disutility from interacting with a certain group of people (Becker, 1957) and treating someone who is like you better might bolster your own sense of identity (Akerlof and Kranton, 2000). Statistical discrimination in our context would involve sellers inferring ability to pay of a buyer based on the perceived average wealth of a group the buyer belongs to (Aigner

and Cain, 1977; Arrow, 1973; Phelps, 1972), and offering price quotes accordingly.

Charging higher class buyers higher prices is consistent with statistical discrimination, with higher class buyers perhaps less price sensitive consumers. However our data are also suggestive of taste-based motivations. The first piece of evidence for this claim stems from the straightforward observation, as seen in figure 1, that there is substantial variation in the *amount* of rice provided and less variation in price. The overwhelming majority of confederates are quoted 150 Naira for the can of rice, but the minimum weight is 36% less than the maximum weight of rice received. That the variation is on this much less visible dimension of discrimination is suggestive, though by no means definitive, of taste-based preference rather than economically rational behavior.

The relative lack of variation in price is not because of some universally accepted price point; in 45 of the interactions the buyer paid a price other than the (modal) 150 Naira. Additionally, before the start of the experiment one of the authors asked the team of research assistants if any of them knew the price of a can of rice. This started a several-minute long discussion about what the price was. There was disagreement and uncertainty.

That the experimental design called for all confederates to inquire into the price of a can of rice in every single interaction may also suggest to sellers that this will not be a repeat customer; a regular buyer of rice would be unlikely to do this. This signals that the buyer is not a regular purchaser of rice *anywhere* and that not only will this be a one-off transaction with the particular seller, but that the buyer might not buy a can of rice again for quite a long time. This suggests discrimination in this context might not be wholly driven by a desire for repeat patronage.¹⁵

The second piece of evidence comes from disaggregating the price per gram effect into its components (price paid and weight received), tables 5 and 6. This analysis suggests that higher class purchasers both pay higher prices and receive lower weights, though the price effect is more statistically robust. However, the possible differences between high class coethnics and high class

	Weight (grams)			
	(1)	(2)	(3)	(4)
Ethnic Match	3.319 (2.922)		3.534 (2.923)	-0.956 (3.721)
High SES		-4.922 (4.098)	-5.089 (4.058)	-10.12 ⁺ (5.718)
HighSES*Ethnic Match				9.660 (6.394)
Constant	793.5*** (5.707)	800.8*** (9.025)	797.6*** (8.796)	797.1*** (9.058)
Buyer FEs	Y	Y	Y	Y
Seller FEs	Y	Y	Y	Y
R^2	0.306	0.308	0.309	0.314
Observations	458	455	455	455

Standard errors in parentheses; two way clustered on agent and confederate

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Rice weight and buyer identity

non-coethnics – while, as noted above, not statistically significant at conventional confidence intervals – seems to flow through the weight, rather than price, channel. High class coethnics pay virtually equivalent prices for their rice as high class non-coethnics, but Table 5 suggests high class coethnics may receive more rice in return than their non-coethnic peers, though this result is also not significant at conventional confidence intervals. That the differential treatment here may be through the less visible weight, and not price, is further suggestive evidence of some level of taste-based discrimination.

In short, the higher prices charged high class buyers is suggestive of statistical discrimination; however the wide variation around the less visible weight measure is suggestive of taste-based discrimination as well. Further, if indeed there is differential treatment of high class buyers (but not low class buyers) by ethnicity, this would also be suggestive of taste based motivations. Future work could be designed explicitly to disentangle these two mechanisms in this context, leveraging

	Total price (Naira)			
	(1)	(2)	(3)	(4)
Ethnic Match	0.958 (0.592)		0.794 (0.598)	0.786 (0.565)
High SES		1.285* (0.627)	1.246* (0.603)	1.238 (0.867)
HighSES*Ethnic Match				0.0163 (1.300)
Constant	150.8*** (1.294)	151.7*** (1.100)	151.0*** (1.274)	151.0*** (1.296)
Buyer FEs	Y	Y	Y	Y
Seller FEs	Y	Y	Y	Y
R^2	0.286	0.295	0.298	0.298
Observations	460	457	457	457

Standard errors in parentheses; two way clustered on agent and confederate

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Price and buyer identity

innovative research designs from Altonji and Pierret (2001), Charles and Guryan (2008), and Hjort (2014).

6 Conclusion

We have presented evidence that the nature of discrimination in casual interactions in the informal sector may be different from discrimination in more directly political interactions. In contrast to findings on differential treatment in political interactions, our data suggest that shared ethnicity alone does not affect discrimination; indeed, we cannot reject the hypothesis that ethnicity plays no role at all in this sample. While we are reluctant to put too much weight on this finding given that we conduct the audit in one neighborhood of one city using college-aged male confederates, in some sense this finding is not surprising. Recent research suggests differential treatment of coethnics is largely driven by expectations about repeat interactions, and we design our study to – as much as

possible – make the transaction appear one-off. As such, in addition to the possibility that there is no ethnic discrimination, it is possible ethnic discrimination exists in repeat but is absent in one-off interactions. Of course it is also possible aspects of the experimental design prevented us from observing ethnic discrimination; perhaps greeting the seller in the language of the buyer’s ethnic group did not cue all sellers as to the buyer’s ethnicity. We also find that non-coethnic confederates who appear higher-class pay more per unit of rice than confederates who appear lower class.

The results suggest we cannot assume discrimination in casual interactions mirrors discrimination in other types of interactions. The credible fear of social sanction, which is the mechanism that has been found to explain why coethnics are more likely to cooperate than non-coethnics, is unlikely to be operative in casual interactions that appear one-off. Nor does the expectation of future gain, which is the mechanism driving instrumental ethnic voting, seem to be operative in this context. While in developed countries discriminatory behavior in casual interactions is constrained by the law – in the UK it can be a criminal offense if a shop owner does not clearly display prices, and in America the federal government finances housing audits to enforce anti-discrimination law – in Lagos and many other contexts the police do not enforce equal treatment in informal sector interactions.

Understanding discrimination in casual interactions is critical, as cross-group associational forms of engagement are unlikely to form in the absence of equitable inter-group everyday contact. Our results suggest that scholars and practitioners who wish to explain the emergence of effective local conflict mediation organizations or bolster such groups should pay attention to class. Class may play a role in the perceived unrepresentativeness of some cross-group associations that aim to foster peace (International Crisis Group 2010, 24). This raises the concern that cross-cutting cleavages such as economic status could stymie the effectiveness of conflict mediations; further empirical work might explore this possibility.

A puzzle for scholars of diversity are the consistent but seemingly contradictory findings that diversity is associated with lower levels of inter-group trust, yet under certain conditions individual contact with out-group members is associated with higher levels of trust. Stolle et al. resolve this puzzle by suggesting that individual inter-group contact mitigates the negative relationship between diversity and trust (2008). Allport (1954) has suggested that equal status is necessary for casual inter-group contact to promote trust. Future research might explore this finding and our own, and consider the connection between multiple salient identities, casual interaction, and trust. Our expectation would be that in contexts where discriminatory treatment is not constrained by the rule of law, casual inter-group interactions would 1) indirectly worsen trust by promoting sorting (i.e. individuals choosing to interact only with in-group members), and/or 2) directly worsen trust. Though issues of endogeneity along with challenges in isolating mechanisms complicate research attempting to identify a causal relationship between trust and development, there is suggestive evidence of a positive feedback loop between the two (Bjørnskov, 2012; Delhey and Newton, 2005). Discrimination in these casual interactions could stymie economic development.

The boundaries of group identity appear to be at least partially defined by class in the informal economy. Most intriguing, perhaps, is the suggestion that class sometimes trumps ethnicity. This suggests we may need to think more carefully about how identities can be shaped and manipulated, with attendant implications for the conditions under which ethnic and/or class mobilization will and will not be effective and the broader political and redistributive implications of such mobilization.

References

- Adida, Claire L., David Laitin and Marie-Anne Valfort. 2010. "Identifying Barriers to Muslim Integration in France." Proceedings of the National Academy of Sciences 107(52).
- Aigner, Dennis J. and Glen G. Cain. 1977. "Statistical Theories of Discrimination in Labor Markets." Industrial and Labor Relations Review 30(2).
- Akerlof, George A and Rachel E Kranton. 2000. "Economics and identity." The Quarterly Journal of Economics 115(3):715–753.
- Alesina, Alberto and Edward L. Glaeser. 2006. Fighting Poverty in the US and Europe: A World of Difference. Oxford University Press.
- Alesina, Alberto, Reza Baqir and William Easterly. 1999. "Public goods and ethnic divisions." The Quarterly Journal of Economics 114(4):1243–1284.
- Allport, Gordon W. 1954. "The Nature of Prejudice." Reading: Addison-Wesley .
- Altonji, Joseph G and Charles R Pierret. 2001. "Employer Learning and Statistical Discrimination." Quarterly Journal of Economics 116(1).
- Altonji, Joseph G and Rebecca M Blank. 1999. "Race and gender in the labor market." Handbook of labor economics 3:3143–3259.
- Amir, Yehuda. 1969. "Contact hypothesis in ethnic relations." Psychological Bulletin 71(5):319.
- Arrow, Kenneth. 1973. "The theory of discrimination." Discrimination in labor markets 3(10).
- Auerbach, Adam Michael. 2016. "Clients and Communities." World Politics 68(01):111–148.
- Ball, Sheryl, Catherine Eckel, Philip J Grossman and William Zame. 2001. "Status in Markets." The Quarterly Journal of Economics 116(1):161–188.

- Becker, Gary. 1957. The Economics of Discrimination. University of Chicago Press.
- Bjørnskov, Christian. 2012. “How does social trust affect economic growth?” Southern Economic Journal 78(4):1346–1368.
- Bobo, Lawrence D. 1999. “Prejudice as group position: Microfoundations of a sociological approach to racism and race relations.” Journal of Social Issues 55(3):445–472.
- Bratton, Michael, Ravi Bhavnani and Tse-Hsin Chen. 2012. “Voting intentions in Africa: Ethnic, economic or partisan?” Commonwealth & Comparative Politics 50(1):27–52.
- Bulte, Erwin, Andreas Kontoleon, John List, Ty Turley and Maarten Voors. 2012. “When Economics Meets Hierarchy: A Field Experiment on the Workings of the Invisible Hand.” Working paper .
- Carlson, Elizabeth. 2015. “Ethnic voting and accountability in Africa: A choice experiment in Uganda.” World Politics 67(02):353–385.
- Charles, Kerwin Kofi and Jonathan Guryan. 2008. “Prejudice and wages: an empirical assessment of Becker’s The Economics of Discrimination.” Journal of Political Economy 116(5):773–809.
- Cheeseman, Nic et al. 2014. Does the African middle class defend democracy? Evidence from Kenya. Technical report WIDER Working Paper 2014/096.
- Constitution of the Federal Republic of Nigeria. 1999.
URL: <http://www.nigeria-law.org/ConstitutionOfTheFederalRepublicOfNigeria.htm>
- Cross, John Christopher. 1998. Informal politics: Street vendors and the state in Mexico City. Stanford University Press.

- Darity, William A and Patrick L Mason. 1998. "Evidence on discrimination in employment: codes of color, codes of gender." Journal of Economic Perspectives 12(2):63–90.
- Dearmon, Jacob and Kevin Grier. 2009. "Trust and development." Journal of Economic Behavior & Organization 71(2):210–220.
- Delhey, Jan and Kenneth Newton. 2005. "Predicting cross-national levels of social trust: Global pattern or Nordic exceptionalism?" European Sociological Review 21(4):311–327.
- Dionne, Kim Yi. 2015. "Social networks, ethnic diversity, and cooperative behavior in rural Malawi." Journal of Theoretical Politics 27(4):522–543.
- Eifert, Benn, Edward Miguel and Daniel N Posner. 2010. "Political competition and ethnic identification in Africa." American Journal of Political Science 54(2):494–510.
- Esteban, Joan and Debraj Ray. 2008. "On the salience of ethnic conflict." The American Economic Review pp. 2185–2202.
- Fong, Christina M. and Erzo F.P. Luttmer. 2009. "What Determines Giving to Hurricane Katrina Victims? Experimental Evidence on Racial Group Loyalty." American Economic Journal: Applied Economics 1(2):64–87.
- Forbes, Harold D. 2004. "Ethnic conflict and the contact hypothesis." The Psychology of Ethnic and Cultural Conflict pp. 69–88.
- Fukuyama, Francis. 2001. "Social capital, civil society and development." Third world quarterly 22(1):7–20.
- Galarza, Francisco B and Gustavo Yamada. 2014. "Labor market discrimination in Lima, Peru: Evidence from a field experiment." World Development 58:83–94.

- Gill, Kaveri et al. 2012. "Of poverty and plastic: scavenging and scrap trading entrepreneurs in India's urban informal economy." OUP Catalogue .
- Gneezy, Uri, John List and Michael K. Price. 2012. Toward an Understanding of Why People Discriminate: Evidence from a Series of Natural Field Experiments. Working Paper 17855 National Bureau of Economic Research.
URL: <http://www.nber.org/papers/w17855>
- Guryan, Jonathan and Kerwin Kofi Charles. 2013. "Taste-based or Statistical Discrimination: The Economics of Discrimination Returns to its Roots." The Economic Journal 123(572):F417–F432.
- Habyarimana, James, Macartan Humphreys, Daniel N Posner and Jeremy M Weinstein. 2009. Coethnicity: Diversity and the dilemmas of collective action. Russell Sage Foundation.
- Heckman, James. 1998. "Detecting Discrimination." Journal of Economic Perspectives 12(2):101–116.
- Henley, Andrew, G Reza Arabsheibani and Francisco G Carneiro. 2009. "On defining and measuring the informal sector: Evidence from Brazil." World Development 37(5):992–1003.
- Hjort, Jonas. 2014. "Ethnic divisions and production in firms." The Quarterly Journal of Economics 129(4):1899–1946.
- Holland, Alisha. 2016. "Forbearance." American Political Science Review 110(2).
- Huber, John. 2013. "Ethnicity or Class? Identity Choice in Elections and its Imperfect Implications for Redistribution." Working Paper .
- Huber, John D and Pavithra Suryanarayan. 2016. "Ethnic Inequality and the Ethnification of Political Parties: Evidence from India." World Politics 68(1):149–188.

- International Crisis Group. 2010. Northern Nigeria: Background to the Conflict. Technical report.
- Levitt, Steven D and Sudhir Alladi Venkatesh. 2000. "An economic analysis of a drug-selling gang's finances." Quarterly Journal of Economics pp. 755–789.
- Mann, John H. 1959. "The Effect of Inter-Racial Contact on Socio-Metric Choices and Perceptions." The Journal of social psychology 50(1):143–152.
- McClendon, Gwyneth. N.d. "Race and Responsiveness: A Field Experiment with South African Politicians." The Journal of Experimental Political Science. Forthcoming.
- Melson, Robert. 1971. "Ideology and Inconsistency: The "Cross-Pressured" Nigerian Worker." The American Political Science Review 65(1):161–171.
- Michelitch, Kristin. 2015. "Does electoral competition exacerbate interethnic or interpartisan economic discrimination? Evidence from a field experiment in market price bargaining." American Political Science Review 109(01):43–61.
- Miguel, Edward and Mary Kay Gugerty. 2005. "Ethnic diversity, social sanctions, and public goods in Kenya." Journal of Public Economics 89(11):2325–2368.
- Moss, Philip and Chris Tilly. 2001. Stories employers tell: Race, skill, and hiring in America. Russell Sage Foundation.
- Nordman, Christophe J, Faly Rakotomanana and François Roubaud. 2012. "Informal versus Formal: A Panel Data Analysis of Earnings Gaps in Madagascar."
- Pager, Devah. 2007. "The Use of Field Experiments for Studies of Employment Discrimination: Contributions, Critiques, and Directions for the Future." The ANNALS of the American Academy of Political and Social Science 609(1):104–133.

- Pager, Devah, Bruce Western and Bart Bonikowski. 2009. "Discrimination in a Low-Wage Labor Market A Field Experiment." American Sociological Review 74(5):777–799.
- Pager, Devah and Lincoln Quillian. 2005. "Walking the talk? What employers say versus what they do." American Sociological Review 70(3):355–380.
- Phelps, Edmund S. 1972. "The statistical theory of racism and sexism." The American Economic Review 62(4):659–661.
- Posner, Daniel N. 2005. Institutions and ethnic politics in Africa. Cambridge University Press.
- Putnam, Robert D. 2002. Democracy in flux: Social capital in contemporary societies. New York: Oxford University Press.
- Putnam, Robert D. 2007. "E pluribus unum: Diversity and community in the twenty-first century the 2006 Johan Skytte Prize Lecture." Scandinavian Political Studies 30(2):137–174.
- Sigelman, Lee, Timothy Bledsoe, Susan Welch and Michael W Combs. 1996. "Making contact? Black-white social interaction in an urban setting." American Journal of Sociology pp. 1306–1332.
- Stolle, Dietlind, Stuart Soroka and Richard Johnston. 2008. "When does diversity erode trust? Neighborhood diversity, interpersonal trust and the mediating effect of social interactions." Political Studies 56(1):57–75.
- Turner, Margery A., Stephen Ross, George C. Galster and John Yinger. 2002. Discrimination in Metropolitan Housing Markets: National Results from Phase 1 of the Housing Discrimination Study (HDS). Working paper 2002-16 University of Connecticut, Department of Economics.
URL: <http://ideas.repec.org/p/uct/uconnp/2002-16.html>
- Varshney, Ashutosh. 2001. "Ethnic Conflict and Civil Society: India and Beyond." World Politics 53(03):362–398.

- Varshney, Ashutosh. 2003. Ethnic conflict and civic life: Hindus and Muslims in India. Yale University Press.
- Williams, Colin C, Muhammad S Shahid and Alvaro Martínez. 2016. “Determinants of the level of informality of informal micro-enterprises: some evidence from the city of Lahore, Pakistan.” World Development 84:312–325.
- Williams, Robin Murphy, John P Dean and Edward A Suchman. 1964. Strangers next door: Ethnic relations in American communities. Prentice-Hall Englewood Cliffs, NJ.
- Wilson, William J. 1996. “When work disappears: The world of the urban poor.” NY: Alfred Knopf .
- Woolcock, Michael and Deepa Narayan. 2000. “Social capital: Implications for development theory, research, and policy.” The World Bank Research Observer 15(2):225–249.
- World Health Organization. 2009. Urban Population Growth. Technical report.

Notes

¹When asked to choose which of their many identities they feel closest to, 48% of Nigerians picked their ethnic identity (Afrobarometer 2003). This question was dropped from future Afrobarometer rounds. In Botswana, Ghana, and Namibia more respondents report feeling closer to their ethnic identity than any other identity (Eifert, Miguel and Posner, 2010).

²In this article we use the terms “discrimination” and “differential treatment” interchangeably.

³While there is variation across countries in how the informal sector is conceptualized (Henley, Arabsheibani and Carneiro, 2009), this is a standard definition, and the one used by Nigerians.

⁴Huber argues that inequality makes ethnicity more salient, and that the effect of democracy on redistribution is weaker with higher levels of inequality. That said, Huber and Suryanarayan (2016) note that when class and ethnicity

overlap (which is not the case in Lagos) parties do not need to choose between ethnicity and class in their targeting of voters.

⁵One exception is Cheeseman (2014).

⁶“The Exclusion Of Ogu (Egun) People From The Lagos And Ogun National Conference Delegates’ List,” *Sahara Reporters*, 4 March 2014, <http://saharareporters.com/2014/03/04/exclusion-ogu-egun-people-lagos-and-ogun-national-conference-delegates%E2%80%99-list> (accessed July 9, 2016).

⁷An exception is Huber and Suryanarayan (2016) who consider this question in the India context. They argue that as group ethnic identity and class increasingly overlap, members of an ethnic group will be more likely to support the same party.

⁸We chose to focus on ethnic and class identity after conducting a pilot audit that found suggestive evidence that ethnic and class identity appeared to be salient identities in this context, while religion was not. Restricting the number of treatment arms for the full audit provided us with more statistical power.

⁹Each group constituted a proportional share of interactions; 22% of interactions were with Yoruba sellers, 78% were with Igbo sellers.

¹⁰Using sellers who were not part of physically-delimited marketplaces had the additional advantage of reducing the likelihood that the sellers would meet and discuss their customers. However, data from the Lagos Trader Survey, a representative panel survey of informal traders in Lagos, suggest that even within markets information sharing among traders is rare. When asked who traders tell when they are cheated by a customer (e.g. a customer buys on credit and does not repay), 34% of traders say they tell no one. Only 4% report sharing this information with another trader in their market or plaza. This is perhaps because traders are in competition with each other. (This data come from the 2016 panel, N=532.)

¹¹This, of course, means that the quotes received might be different than what sellers actually expected buyers to pay, or what they would pay in a non-experimental environment. We believe that this effect, if any, is small—it would be unusual for anyone (especially a man, especially a university student) to bargain over a few Naira for a single can of rice. Finally, even were one to believe sellers did not expect buyers to pay something quite close to the initial prices offered—despite, we believe, compelling reasons to the contrary—this only would affect the findings were one to believe that for certain types (coethnics/noncoethnics, higher SES/lower SES) of people sellers expected that despite initially quoting higher (lower) prices these individuals would ultimately pay lower (higher) prices than were they of a different type. If this is not the case, one would expect initial quotes to be a monotonic transformation of expected final prices, and as such would not affect the overall story of this work.

¹²In instances where different types of rice were being sold, confederates were instructed to ask for the cheapest available.

¹³In one audit interaction a confederate was refused rice. This is arguably the most clear-cut observation in which discretion seems to be present, inasmuch as confederates who approached this sellers both before and after the transaction in question were sold rice. As such, dropping this case seems inappropriate. We treat this case the same as being offered 25% more than the maximum price offered by the seller and 25% less than the minimum weight offered by the seller.

¹⁴hdr.undp.org/en/countries/profiles/NGA

¹⁵One-off transactions are a common feature of informal markets in cities. While we do not deny that many transactions for rice retailers are with repeat customers, interviews with out-of-sample rice sellers following the pilot experiment suggest that rice sellers have a mix of one-off and repeat customers, with one rice seller estimating about half of her customers are one-off (Interviews on January 29, 2013 in Bariga and February 5, 2013 in Lekki). Further, data from the Lagos Trader Survey which focused on traders who sell a wider variety of goods suggest that in an average week 56% of a trader's customers have *never* bought from them before (2015 panel, N = 1,179).