

The Economics of Begging*

Nishtha Sharma[†] Samreen Malik[‡]

(Job Market Paper)

Abstract

We study the role of donors' perceptions about why people beg in shaping the market for begging. Our model suggests that one may beg due to a low preference for paid work (by choice) or due to labor market misfortune (by luck). A donor's perception that one is begging by choice reduces their donations to that beggar, which creates an incentive for beggars to signal labor market misfortune. We collect novel data on begging activity and incentivized measures of preferences and perceptions of beggars and donors in India. Extensive field observations and experiments reveal three main empirical findings. First, about 30% of the beggars use costly signaling, begging under the pretext of selling low-value items to signal a preference for paid work, which increases donations by 35%, more than compensating for the costs of items. Second, 87% choose paid work over free cash, thus suggesting that begging is not a choice, and instead a consequence of limited access to employment. Third, donors have strong preferences for giving only in case of real need (when paid work is not an option), but they underestimate how many beggars actually prefer paid work. Viewed through the lens of our theoretical model, donors' misperceptions, combined with their fairness preferences, result in suboptimal donations. Thus, addressing barriers to employment, rather than focusing on discouraging donations or taking legal punitive measures, may be more effective in reducing begging. JEL Codes: C93, D63, D64, H0, J22, J68

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[†]New York University Abu Dhabi; nishtha.sharma@nyu.edu

[‡]New York University Abu Dhabi; samreen.malik@nyu.edu

1 Introduction

Begging – the act of soliciting alms in public spaces – is a pervasive phenomenon worldwide. Although exact statistics on the number of beggars are unavailable, the large scale of begging is reflected in charitable behavior: 60% of the global population reported “helping a stranger,” often a beggar, in the past year (Charity Aid Foundation, World Giving Index, 2023). There is significant policy interest in addressing begging, as street beggars represent a highly vulnerable population and serve as a visible marker of poverty and inequality within society. Governments worldwide allocate millions of dollars to *conceal* begging during international events, frequently employing forced relocations and crackdowns on public spaces.¹ Despite the large scale and political interest, there remains a limited understanding of the drivers of begging and charitable giving to beggars.

Studying begging poses methodological challenges because beggars are an informal and transient population, often lacking fixed addresses or phone numbers and frequently missed by traditional surveys or census efforts. Additionally, existing survey measures and experimental tools designed to study the preferences and behaviors of the general population do not easily translate to highly marginalized groups like beggars. At the same time, the rhetoric surrounding beggars—both in public discourse and in anti-begging legislation—has historically been shaped by notions of fairness and deservingness. Many laws, beginning with England’s Vagabonds and Beggars Act of 1494 and now present in about 65% of countries worldwide, reflect meritocratic beliefs that cast beggars as unwilling to work and therefore undeserving of charity. These beliefs persist despite a lack of empirical evidence or theoretical foundations for the assumption that people choose to beg due to a dispreference for work.²

In this paper, we develop an economic framework to study begging and report on a unique and large-scale data collection effort in India to study begging and charitable giving. Using experimental methods, we examine the economic preferences and perceptions of beggars and the general population, and through survey methods, we analyze actual begging and charitable behavior. Our focus is on donors’ fairness preferences and their beliefs about whether beggars prefer work over free cash, and whether these beliefs align with beggars’ true preferences. We examine beggars’ use

¹For instance, Brazil during the 2014 FIFA World Cup and 2016 Olympics, India during the 2010 Commonwealth Games, China for the 2008 Beijing Olympics, and the U.S. during events like the 1996 Atlanta Olympics and the 2016 Super Bowl in San Francisco.

²The following quote from one of the most prominent philanthropists in American history further illustrates how perceptions of begging, as driven by misfortune versus unwillingness to work, may influence charitable attitudes toward beggars (Carnegie, 1962). “One of the serious obstacles to the improvement of our race is indiscriminate charity. It were better for mankind that the millions of the rich were thrown into the sea than so spent as to encourage the slothful, the drunken, the unworthy.”

of signals of effort and deservingness, how these signals shape donor beliefs and giving behavior, and whether they reflect actual differences in work preferences to comprehensively study the begging market and the role of fairness concerns in driving it.

We model begging as an alternative to participation in the formal labor market. Labor market participation provides utility from wages (and hence consumption) and disutility from having to work; begging provides utility from donations (and hence consumption) and disutility from stigma, harassment, and exposure to economic and environmental shocks. The supply of beggars depends on the comparison of payoffs from begging and labor market participation. We assume a minimum consumption bundle below which, consumption is the only source of utility, and a person's labor market productivity rises in consumption (Shah et al., 2012; Mani et al., 2013; Schilbach et al., 2016). On the supply side, begging may be due to three possible reasons: necessity (wages are insufficient to meet survival needs), misfortune (prefer but fail to find paid work), choice (prefer begging over paid work). On the demand side, charitable behavior depends on a passerby's generosity and the perception that the recipient is "begging by choice." Merit-based fairness concerned donors give less to beggars whom they perceive to be begging by choice and less deserving of charity.

Donors' fairness preferences create an incentive for beggars to signal deservingness through activities that suggest preference to work. Our model predicts that signals of effort improve donors' perceptions about beggars' preference and ability to work. Donors consider the beggars who signal as more deservingness of charity and this effect increases in the intensity of their fairness concern. Consequently, beggars who signal receive higher donations than those who do not. Beggars with a low preference for work (beggars by choice) are less likely to signal because it involves effort. However, when donations fall below the minimum consumption requirement, beggars' decisions to signal depend solely on the expected returns and access to signaling tools. In this case, beggars derive utility from consumption, and their preference for work does not matter.

Since most beggars appear similar and may go unnoticed in brief, informal encounters, they need distinctive ways to signal deservingness. One dimension on which beggars differ is that some offer low-value items while soliciting charity, while others do not. Begging with items arguably involves effort in procuring and offering the items and may change donors' perceptions about a beggar from "lazy" or "unwilling to work" to "at-least trying to do something" or "putting in an effort." We only consider survey-validated items that the general population considers to be associated with beggars as beggars with items. Moreover, beggars with items themselves recognize

that people do not buy the items for their economic value but out of generosity.

To test the role of fairness preferences and the effect of signaling misfortune (by begging with items), we measure donors' beliefs about beggars' economic preferences and abilities. We first conduct a *beggars' preferences survey* of 1200 beggars in 83 crowded areas in Delhi to measure their economic preferences (preferences for paid work, free-riding, honesty) and abilities using laboratory experimental tools. To measure whether a beggar prefers paid work, we ask them to choose between free cash of 50 INR and a real-effort task to earn up to 100 INR. We measure dishonesty at the group level (beggars - with or without items) using a coin-flipping task where each beggar privately flips a coin ten times, and receives a monetary reward for every head reported (Buccioli and Piovesan, 2011). Free-riding preferences are measured using a social vignette. We measure beggars' ability with a numeracy task, paying them the INR equivalent of the number they can count to, up to 100.

Then, we employ a between-subjects experimental design to compare donor's beliefs about beggars with and without items. We survey 1,204 donors across 40 randomly selected neighborhoods in Delhi and ask them to guess the proportion of beggars who choose free-cash, agree with free-riding, can count to 100 and the total number of heads reported. The respondents see a photo collage of beggars, differing only in whether the beggars hold items or not. The incentivized belief elicitation exercise is followed by a survey of respondents' socio-economic backgrounds and economic values. Finally, to test the effect of signaling on donors' perceptions about beggars' deservingness for charity, we use a split the pie game. Donors split a fixed sum between two randomly selected beggars who differ only in their begging styles (with or without items).

Further, we test if charitable behavior in the field is consistent with our experimental findings. We examine if beggars with items indeed receive higher amounts in donations by collecting survey data from the field (83 crowded areas in Delhi). Surveyors work in pairs and immediately after observing an interaction with an exchange of money, one approaches the beggar and the other the donor to ask about the donation amount and items exchanged.³ Additionally, we collect data on the cost of items exchanged and counterfactual beliefs about donation amounts if the item had not been offered (and vice versa). Since data on donation amounts is limited to successful interactions, we also examine differences in donation rates between beggars with and without items (extensive margin) to assess overall differences in average charitable receipts. To achieve this, we conduct an observational survey of begging activity in the same 83

³We limit data collection to one successful interaction per street to minimize behavioral alterations once beggars become aware of the survey, especially since participation is incentivized. To ensure credible measurement, we informed both the beggar and the donor that their reported amounts would be matched, which worked in 98% of the 634 documented interactions between beggars and passersby.

crowded areas. In this survey, we record the observable demographic characteristics of all beggars and passersby, as well as their rates of soliciting and success rates per solicitation, documenting evidence from 4,619 begging interactions.

Data from the donors' perceptions survey experiment reveal that donors perceive the beggars with items to be significantly more deserving of charity and have a significantly higher preference for paid work (0.15 standard deviations), a significantly lower preference for free-riding (0.12 standard deviations), a significantly higher ability (0.1 standard deviations), but no difference in honesty (0.04 standard deviations). In the allocation game, respondents allocated a significantly higher amount than half of the funds to a beggar with items (58 INR out of 100), considering them more deserving of charity. As expected, the premium to beggars with items is significantly higher by people with a strong belief in merit based income allocation. On the beggars' side, we find no significant differences in the actual preferences of the beggars based on their begging styles (with and without items). However, by comparing actual donations with perceived counterfactuals, we find that the beggars with items perceive that they get more donations than they would without items, while those without items do not expect to get more by offering items.

Notably, donors highly and significantly underestimate the beggars' preferences for paid work and overestimate their preferences for free-riding. Beliefs about dishonesty are not biased in either direction, but donors overestimate beggars' ability, more so for beggars with items than without items. Our experimental findings on perceptions are consistent with field evidence such that, on average, passersby make significantly higher donations to beggars with items than to beggars without items (controlling for several beggar, donor and street characteristics), with no differences in the rates of donating. Together, our findings suggest that donations are likely pushed too low (due to donors' merit-based fairness concern but a significant underestimation of beggars who prefer paid work). Moreover, beggars who expect positive returns to signaling beg with items, while there are no actual differences in the economic preferences of beggars with and without items, consistent with the theoretical prediction under low donations.

While we need more research to evaluate different policies to reduce begging and improve welfare, our findings suggest that the rate of begging is likely inelastic to pecuniary and non-pecuniary returns of begging, as beggars are unlikely begging by choice. As a result, policies such as banning or criminalizing begging, which increase the cost of begging by posing the risk of getting caught or police harassment, may not be effective. Welfare policies such as cash transfers and upskilling or workfare policies which pay beggars in return for work would be more effective than legal regulations in reducing begging in such a case. Between welfare and workfare though,

workfare policies are more likely to receive support by the general population than welfare policies in societies where people have meritocratic preferences and beggars' willingness and ability to work influence perceived deservingness for charity. Indeed, 80% of our respondents prefer unproductive workfare to unconditional cash transfers to support beggars, similar to employers' preferred way of redistribution found in the literature (Macchi and Stalder, 2023).

Related Literature - The economics of begging is largely a neglected area of study, traditionally left within the realm of other social sciences (Mock et al., 2011; Lee and Farrell, 2003; Kennedy and Fitzpatrick, 2001). Exceptions include small-scale observational studies of beggars' location choice showing profit maximizing behavior among beggars in Manhattan (Leeson et al., 2022; Dordick et al., 2018), and estimating yields to begging in Brussels (Adriaenssens and Hendrickx, 2011). We introduce the first conceptual framework to study the market for begging, highlighting its economic and behavioral drivers, alongside novel methods for large-scale data collection with this hard-to-study population. Our findings suggest that the supply of beggars is inelastic to changes in costs and benefits, consistent with evidence from Manhattan, underscoring the external validity of our results in meritocratic societies (Dordick et al., 2018).

We address a critical gap in the rich literature on the economics of charitable giving by focusing on giving to beggars, which is arguably distinct from formal charities, government welfare programs, or online giving platforms (Andreoni, 1989, 1990; Glazer and Konrad, 1996; Vesterlund, 2006; List, 2008, 2011; Vesterlund, 2016). Unlike these settings, giving to beggars involves direct, brief interactions shaped by immediate perceptions and contextual cues, with no institutional oversight or structured signaling mechanisms. Moreover, in low- and middle-income countries like India, where formal charity systems are often underdeveloped, giving to beggars is the dominant form of charitable behavior. By studying this context, we extend existing theories of charitable giving to informal, non-Western settings, addressing the call for research beyond the Western world (List and Price, 2012).⁴

Within the charitable giving literature, our paper also contributes to research on the effect of material offerings on charitable behavior. Prior research suggests two hypotheses: material offerings may increase donations through perceptions of direct repayment, gift exchange, or reciprocity (Buraschi and Cornelli, 2002; Andreoni and Petrie, 2004; Landry et al., 2006; Falk, 2007; Alpizar et al., 2008). Alternatively, they may reduce donations by crowding out intrinsic motivations and warm-glow effects

⁴"A strong plea is made to engage researchers in the exploration of why non-Westerners give.... A first examination of whether the pecuniary and non-pecuniary incentive effects found in the USA and European data extend to other regions of the world would be of great interest."(List and Price, 2012)

(Zuckerman et al., 1979; Anik et al., 2009; Newman and Shen, 2012). While recent work finds that charitable motivations drive the purchase of items from beggars (Jain, 2024), our design compares donations and beliefs about beggars with and without items. We show that material offerings by beggars increase donations by signaling higher deservingness—a mechanism distinct from direct benefit, gift exchange, or reciprocity.⁵

This mechanism of signaling deservingness aligns with a broader literature on the role of fairness preferences and beliefs in shaping economic decisions, especially charitable behavior. Previous research shows higher donations to recipients perceived as hardworking compared to lazy ones (Fong, 2007; Fong and Luttmer, 2011) and highlights how information about recipient efforts influences altruism (Gangadharan et al., 2023), consistent with our findings. However, much of this literature, including studies on how fairness considerations influence public policy such as tax rates and social security, relies on self-reported values or lab-based dictator games, raising concerns about validity (Eckel and Grossman, 1996; Alesina and Angeletos, 2005; Fong, 2007; Cappelen et al., 2007; Fong and Luttmer, 2011; Almås et al., 2020; Gangadharan et al., 2023). We argue that a passerby-beggar interaction serves as a natural dictator game in the field, involving needier recipients than lab participants, which offers external validity and a robustness test of the economic implications of fairness preferences.

Finally, our finding of policy preference for unproductive workfare over unconditional welfare has been previously shown in employers' choice of hiring for useless but effort intensive tasks rather than giving free cash (Macchi and Stalder, 2023), public support for aid often hinges on whether recipients are perceived as making an effort to improve their situation (Drenik and Perez-Truglia, 2018). While givers care about fairness and effort, we find evidence of significant misperceptions about beggars' work preferences, consistent with previous findings of "shallow meritocracy" (Andre, 2024). Such misperceptions suggest that legal regulations are unlikely to reduce begging as donations are responsive to these perceptions and most beggars are unlikely begging by choice. Although workfare may be preferred by voters, our findings and recent evidence suggest that direct welfare programs, such as cash transfers and upskilling, can also be effective without incentivizing more begging (Cunha et al., 2024).

Our finding that people prefer unproductive workfare over unconditional welfare aligns with a recent study showing that employers tend to hire for effort-intensive, but ultimately useless, tasks rather than offering free cash (Macchi and Stalder, 2023). Similarly, public support for aid is often contingent upon the perception that recipients are making an effort to improve their situation (Drenik and Perez-Truglia, 2018). While givers value fairness and effort, we find significant misperceptions about beggars'

⁵Most givers to beggars with items either do not take the item or discard it immediately.

work preferences. This is consistent with evidence of “shallow meritocracy,” such that people advocate for merit-based resource allocation but fail to recognize performance differences due to merit or uncontrollable factors (Andre, 2024). Notably, misperceptions about beggars suggest that legal regulations alone are unlikely to reduce begging, as donations are influenced by these beliefs, implying that most beggars are not begging by choice. Although voters show a preference for workfare, our findings, along with recent evidence, suggest that direct welfare programs such as cash transfers and upskilling can be effective alternatives without encouraging more begging (Cunha et al., 2024).

The rest of this paper is structured as follows. We describe our theoretical model of begging as an alternative to the formal labor market and extend it to understand the role of fairness preferences in shaping the begging market in section 2. In section 3, we provide the details of our survey and experimental design. We first describe our sample selection protocol in section 4.1, followed by summary statistics from our surveys in Section 4.2. In section 5, we present our findings, showing that donations and perceptions of beggars improve when items are offered. Finally, we discuss our inferences and policy implications of this research in section 6.

2 An economic theory of begging

In this section, we describe a model of begging as an alternative to participation in the formal labor market. We assume a minimum consumption bundle which restricts an individual’s capacity to provide productive labor and to enjoy utility from non-consumption sources. Comparing optimal utility from the labor market and payoff from begging, we define three causes of begging - necessity, misfortune and choice. Next, we extend the model to understand the effect of fairness preferences such that a donor gains more utility from giving to a beggar by necessity or misfortune than a beggar by choice within a signaling framework.

2.1 The Baseline Model

Preferences and Types - People derive utility from consuming goods (c) and enjoying leisure (l). However, leisure (and other non-material sources of utility) only becomes valuable once the basic survival needs for consumption are met. We denote the minimum consumption requirement as \underline{c} . Beyond this threshold, people differ in their preferences for consumption versus leisure, represented by the parameter α_i . The utility function is thus defined as follows:

$$U_i(c, l) = \begin{cases} c & \text{if } c \leq \underline{c} \\ \underline{c} + (c - \underline{c})^{\alpha_i} l^{(1-\alpha_i)} & \text{if } c > \underline{c} \end{cases} \quad (1)$$

Following are the usual budget constraints where the price of consumption is normalised to 1, w_i is the hourly wage for individual i , h is the hours of work, T is the total time endowment and l and c denote leisure and consumption respectively.

$$c = w_i h \quad (2)$$

$$T = h + l \quad (3)$$

Wages are determined by an individual's labor market productivity or ability. However, productivity is an increasing function of consumption until one consumes their minimum survival consumption bundle. Our assumptions of utility and productivity realizations being limited by consumption bundles, and the low bargaining power of workers pushing their wages to marginal productivity are consistent with findings in behavioral development economics and labor economics, especially relevant for the poor (Shah et al., 2012; Mani et al., 2013; Schilbach et al., 2016). We describe an individual's output function as follows.

$$F_i(\pi_i, c, h) = \begin{cases} f(c)\pi_i h & \text{if } c \leq \underline{c} \\ \pi_i h & \text{if } c \geq \underline{c} \end{cases} \quad (4)$$

where, $f(0) = 0$, $f' > 0$ and $f'' \geq 0$. $\pi_i > 0$ is individual i 's constant marginal productivity of labor, and an individual's wage w_i is given by,

$$w_i = \begin{cases} f(c)\pi_i & \text{if } c \leq \underline{c} \\ \pi_i & \text{if } c \geq \underline{c} \end{cases} \quad (5)$$

This gives a range of π_i for which there is no viable solution in the labor market ($\pi_i < \underline{\pi}_1$), where $\underline{\pi}_1 = \frac{\underline{c}}{T}$. Even if people spend all their time working in the labor market ($h = T$), they would not be able to buy the consumption units necessary to supply that labor. The viable range of consumption is increasing in an individual's ability π_i . In figure 1, we illustrate how low ability people have no viable solution in the labor market, as the maximum possible income depicted in dashed green curves is smaller than the required expenditure to earn that income. Beyond $\underline{\pi}_1$, labour market supply becomes viable, and an individual enters begging based on preference and unemployment.

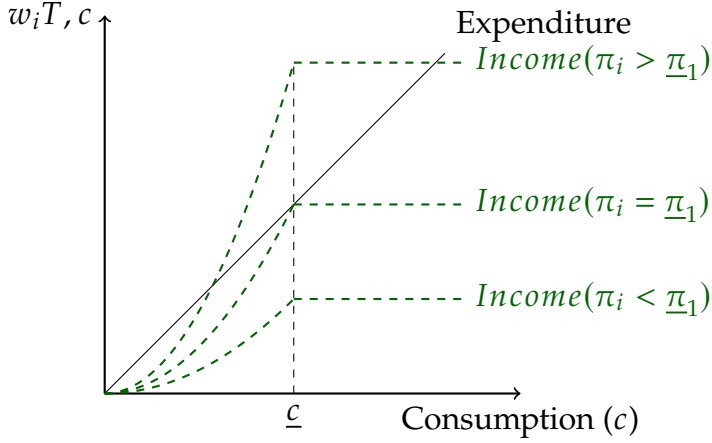


Figure 1: Income and Expenditure at different levels of productivity/ability ($h = T$).

Labor supply Maximizing the above utility with respect to consumption and leisure, gives the optimal values of consumption, labor and leisure, given ability π_i and preference for consumption versus leisure α_i . The optimum values of consumption, labor hours, and leisure hours is given as follows.

$$(c_i^*, h^*, l^*) = \begin{cases} (0, h, T - h) & \text{if } \pi_i < \underline{\pi} \\ \left(\underline{c} + \alpha_i(T\pi_i - \underline{c}), \frac{\underline{c}}{\pi_i} + \alpha_i\left(T - \frac{\underline{c}}{\pi_i}\right), (1 - \alpha_i)\left(T - \frac{\underline{c}}{\pi_i}\right) \right) & \text{if } \pi_i > \underline{\pi} \end{cases} \quad (6)$$

where, $\underline{\pi} = \frac{\underline{c}}{T}$

When productivity is too low i.e., $\pi_i < \underline{\pi}$, the labor market is not a viable option for the individual. This is because even if they put all their hours to work, their income does not cover the cost of even the minimum required consumption bundle. However, when $\pi_i > \underline{\pi}$, there is a range of consumption bundles that the individual may choose from, and they can trade off consumption against leisure. The optimal allocation of time to labour versus leisure depends on an individual's ability and preference for consumption relative to leisure or dispreference for work.

The corresponding optimized utility from labor market is given by,

$$U_i^L = \begin{cases} 0 & \text{if } \pi_i < \underline{\pi} \\ \underline{c} + (c^* - \underline{c})^{\alpha_i} (l^*)^{1-\alpha_i} & \text{if } \pi_i > \underline{\pi} \end{cases} \quad (7)$$

where c^* and l^* are given in equation 6.

Donations and payoff from begging - Let the total donations received from begging be denoted by D . D optimizes a representative or average donor's utility from charity. Let the average donor's utility from giving x to a beggar be given by,

$$U(x) = g(x) - x \quad (8)$$

where, $g(0) = 0$, $g' > 0$, $g'' < 0$ captures generosity or warm-glow that the individual experiences from giving x (Andreoni, 1989, 1990). Thus, donation D is given by, $g'(D) = 1$.

We assume that beggars face internalized and social stigma, harassment and exposure to risks such as weather and the risk of getting caught and punished when begging is legally regulated. We denote these socio-psychological costs of begging by s , deducted from the non-consumption leisure payoff. Moreover, the stigma of begging also prevents a beggar from partly working in the labor market, which leads to leisure $l = T$ for a beggar. Thus, utility payoff from begging is given as follows.

$$U_i^B = U_i(D, s) = \begin{cases} D & \text{if } D < \underline{c} \\ \underline{c} + (D - \underline{c})^{\alpha_i} (T - s)^{1-\alpha_i} & \text{if } D \geq \underline{c} \end{cases} \quad (9)$$

Begging versus labor market participation - Comparing the payoffs from begging and labor market participation provides the conditions under which an individual engages in begging, leading to our first theoretical result.

Unemployment - Let there be a probability γ that an individual does not find a job in the labor market. In this case, even if begging is not preferred, the individual is forced to beg for survival.

Proposition 1. *If $\pi_i < \underline{\pi}$, begging is the dominant choice for all $\alpha \in [0, 1]$ and for all $D > 0$. If $\pi_i \geq \underline{\pi}$, then there exists $\alpha_i \in (0, 1)$ such that:*

1. *If $\alpha_i < \underline{\alpha}(D, \pi_i, s)$, begging is the dominant choice.*
2. *If $\alpha_i > \underline{\alpha}(D, \pi_i, s)$, labor market participation is the dominant choice.*

where, $\underline{\alpha}(D, \pi_i, s)$ is the threshold determined by comparing the utility from labor market participation (U_L) and the utility from begging (U_B).

Next, we define different types of begging—by necessity, by choice, and by misfortune—as follows.

Definition.

1. **Begging by Necessity:** Occurs when begging is the only viable option for survival due to an inability to participate in the labor market, i.e., $\pi_i < \underline{\pi}$.
2. **Begging by Choice:** Occurs when labor market participation is viable, but begging is preferred due to a higher preference for leisure, i.e., $\pi_i \geq \underline{\pi}$ but $\alpha_i < \underline{\alpha}(D, \pi_i, s)$.
3. **Begging by Misfortune:** Occurs when labor market participation is both viable ($\pi_i \geq \underline{\pi}$) and preferred ($\alpha_i > \underline{\alpha}(D, \pi_i, s)$), but unemployment forces the individual to beg with probability γ .

The distributions of π_i (ability) and α_i (preference for leisure) determine the proportion of beggars by the cause of begging—necessity, choice, and misfortune—for given values of D (donations) and s (non-consumption factors).

Corollary 1. *The number of beggars by necessity and misfortune is unaffected by the returns to begging - donor generosity or begging costs due to harassment or legal regulations. However, a decline in donation amounts or increase in costs of begging pushes the marginal beggar by choice into labor market participation.*

This corollary has direct implications for policies aimed at reducing the prevalence of begging. When begging is driven by necessity or misfortune, legal restrictions on begging or donations fail to decrease the number of beggars. Instead, such policies primarily reduce the welfare of both beggars and donors. Conversely, when begging is a choice, legal regulations incentivizes the marginal beggars to enter the labor market.

If donors hold meritocratic fairness preferences and perceive beggars by choice as less deserving of charity, they may naturally donate less to them. This reduced generosity decreases the returns to begging, incentivizing labor market participation. As a result, only beggars by necessity or misfortune might remain. In such cases, where donors have fairness concerns, legal restrictions would primarily reduce welfare without achieving additional benefits—unless donors incorrectly perceive beggars by choice as being in genuine need.

On the other hand, if donors misperceive beggars in genuine need as choosing to beg, they may over-penalize them by reducing donations. In such scenarios, legal regulations not only reduce welfare but also highlight the need for welfare and workfare policies. These policies could better address survival needs, reduce the incidence of begging, and help individuals realize their productive potential. Next, we discuss donors' fairness preferences and a signaling framework allowing for misperceptions to understand these dynamics and arrive at policy implications.

2.2 Fairness concerns and Signaling

Next, we model the market for begging when donors have fairness concerns and their realized utility from donating to a beggar is declining in their perceived probability that the beggar is begging by choice. If a beggar's ability is observably very low, then signaling is unnecessary because begging is unlikely to be perceived as a choice. This applies to beggars with disabilities or severe mental health issues, who have few viable options in the labor market. Thus, fairness concerns and signaling is typically to discern begging by choice and misfortune.

The fairness concerned donor's utility from donating x can be written as:

$$U(\hat{p}, x) = (1 - \hat{p}\beta)g(x) - x \quad (10)$$

where, \hat{p} is the donor's perceived probability that the beggar is begging by choice; $\beta < 1$ is a measure of the donor's fairness preference, reflecting a lower utility from donating when the beggar is perceived to be begging by choice with positive probability.

Given that $g'(D) = 1$, where D is the optimal donation without fairness concerns or at $\beta = 0$, the optimal donation with fairness concerns is less than the optimal donation without fairness concerns, i.e., $d(\hat{p}, \beta) < D$ if $\hat{p} > 0$. This leads to the following comparative statics.

Proposition 2. *When donors have a fairness concern measured by β and perceive that the beggar is begging by choice with probability \hat{p} , then, all else equal:*

1. *Donation under fairness: $d(\hat{p}, \beta)$ is decreasing in \hat{p} , and the negative effect of \hat{p} on donations is stronger for donors with a high concern for fairness β , i.e., $d_{\hat{p}} < 0$ and $d_{\hat{p}\beta} > 0$.*
2. *The perceived probability \hat{p} is decreasing in both the perceived relative preference for consumption $\hat{\alpha}$ and the perceived ability \hat{a} , i.e., $\hat{p}_{\hat{\alpha}} < 0$ and $\hat{p}_{\hat{a}} < 0$.*

Signaling - Donors perceive beggars who beg by choice (e.g., those with a high preference for leisure or low ability) as less deserving of charity, leading to lower donations. As a result, beggars have an incentive to signal that they are begging out of misfortune, as this makes them appear more deserving of charity. For signaling to be effective, it must be less costly or easier for beggars who are truly in misfortune than for those who beg by choice.

Let m represent the monetary cost of signaling, and e the effort cost. We also consider the budget and information constraints faced by beggars. The monetary returns to signaling—the difference between donations to beggars who signal and those who

do not, minus the monetary cost m —are denoted by r . Beggars may have different perceptions of these returns. Specifically, let \hat{r}_i denote beggar i 's perceived returns to signaling. We assume that a proportion θ of beggars have correct beliefs about donors' fairness concerns and the monetary returns to signaling, while the rest may perceive the returns to signaling as non-positive.

Additionally, a beggar may not be able to signal due to budget constraints, with probability $1 - \epsilon$. The expected utility of a beggar i who perceives the monetary returns of signaling to be \hat{r}_i , given the monetary and effort costs of signaling, is as follows:

$$\text{EU}_i(\text{Signaling}) = \begin{cases} d(\hat{p}, \beta) + \hat{r}_i & \text{if } d(\hat{p}, \beta) + \hat{r}_i \leq \underline{c}, \\ \underline{c} + (d(\hat{p}, \beta) + \hat{r}_i - \underline{c})^{\alpha_i} (T - e - s)^{1-\alpha_i} & \text{if } d(\hat{p}, \beta) + \hat{r}_i > \underline{c}. \end{cases}$$

This equation models the expected utility, considering both the donations without signaling and the returns from signaling. Now, we turn to the conditions under which a beggar chooses to signal.

Proposition 3. *Let m denote the monetary cost, e the effort cost of signaling, and \hat{r}_i the perceived monetary returns to signaling for beggar i , which is positive with probability θ . Let ϵ be the probability that the budget constraints are non-binding, and assume donors' fairness concerns are captured by the utility function described in equation 10. Then beggar i will choose to signal if and only if the following conditions hold:*

1. *The expected monetary returns are positive: $\hat{r}_i > 0$, with probability θ .*
2. *Budget constraints are non-binding, with probability ϵ .*
3. *The dispreference for work is less than a threshold or the relative preference for consumption over leisure is higher than a threshold: $\alpha_i > \underline{\alpha}(\pi_i, s, e, m, \hat{r}_i)$.*

Signaling is used by beggars based on their expected returns to signaling, budget or access to signals, and dispreference for work. When donations are low, non-consumption sources of utility are not relevant, and hence dispreference for work does not play a role. The probability of signaling in such cases is given by

$$P(\text{signal}) = \theta\epsilon,$$

where θ represents the proportion of beggars who expect positive monetary returns to signaling, and ϵ is the probability that budget constraints are non-binding, allowing them to participate in signaling.

When donations exceed the minimum survival consumption needs, beggars' preferences for work, their ability, their expected monetary returns from signaling, and their budget constraints collectively influence their decision to signal. In such cases, the probability of signaling is given by

$$P(\text{signal}) = P(\alpha_i > \underline{\alpha})\theta\epsilon,$$

where $1 - \alpha_i$ represents the beggar's dispreference for work, and $\underline{\alpha}$ is the threshold at which signaling becomes worthwhile. A beggar will choose to signal only if their dispreference for work falls below this threshold, suggesting they are willing to exert effort to appear more deserving of charity.

Overall, donors who perceive that beggars receive low donations insufficient for survival are indifferent to signaling and donate similarly to beggars regardless of whether they signal or not. In contrast, donors who perceive that beggars receive donations exceeding survival needs respond to signaling by viewing beggars who signal as more likely to have a high preference and ability to work. This perception implies that such beggars are more likely to be begging out of misfortune rather than choice, making them appear more deserving of charity. Consequently, on average, beggars who signal receive higher donation amounts than those who do not.

One such signal of deservingness is offering low-cost, low-value items while soliciting charity. The effort involved in procuring these items makes it easier for beggars who are willing to work but beg due to labor market misfortune than those who strongly disprefer work and choose to beg. Thus, begging with items serves as a credible signal, reducing the donors' perception that the beggar is begging by choice and leading to an increase in donations. If donations are too low, all beggars experience low consumption and have little to no preference for leisure. In such cases, beggars will be more likely to adopt any strategy that can increase their consumption, such as offering items, if they understand that it signals deservingness and can lead to higher donations.

Testable hypotheses - The key testable hypotheses based on our theory are that, on average, donors are more likely to perceive beggars with items as having a higher preference for work (as opposed to leisure), higher ability, and as being more deserving of charity than those without items, with a larger effect for meritocratic donors. Moreover, we design our study to test if beggars who signal effort by offering items differ in their from the beggars who do not signal given their different implications. Beggars with and without items differ in their preferences for leisure, work, and ability when donations at least cover the minimum survival consumption needs - which implies that beggars with

items are less likely to beg by choice and signaling at-least partially separates beggars' types. However, both groups of beggars—those with and without items—have similarly low preferences for leisure and ability when donations are too low and do not cover the minimum survival needs of consumption. In this case, the proportion of beggars by choice are likely very low and necessity or labor market misfortune lead people to beg.

3 Research Design

Our experimental design is aimed at understanding the economic preferences of beggars and the beliefs about those preferences among donors. We examine if fairness preferences matter and whether beliefs about beggars' ability, preferences, and deservingness for charity differ for beggars with and without items. We complement our experimental evidence with observational and survey-based evidence on actual solicitation and charitable behavior from the field. Below, we provide details on our designs for experimental and field surveys.

3.1 Experimental design

The experimental design comprises of two components. First, we measure the innate preferences and abilities of beggars with and without items. Second, we incentivize donors to report their beliefs about beggars' preferences by rewarding correct guesses. Further, we measure donors' perceptions about the deservingness for charity of the two kinds of beggars. We elaborate the design of each component below.

Beggars' Preferences Survey. In this survey, we interview beggars (with and without items) across crowded streets in Delhi, including religious sites, metro stations and marketplaces. The survey documents the beggars' socio-economic background, experience with the labor market, economic values, aspirations, and migration status. Moreover, in a lab-in-the-field experiment, we collected incentivized measures of their preference for paid work, free-riding, and honesty, and their basic numeracy. This survey took approximately one hour per respondent, and the enumerator conducted the survey with every beggar they observed on the randomly assigned street. Participating beggars received a flat participation fee of 400 INR (almost all beggars gave consent to participate). Despite being on the street, we consciously ensured that the beggars were interviewed privately without being overheard.

To measure whether a beggar prefers paid work, we ask them to choose between free cash of 50 INR and a real-effort task of sorting black and white chickpeas in up to 4

boxes at a piece-rate of 25 INR per box. This task is simple enough not to be affected by abilities or confidence. On average, it takes 15 minutes to do all four boxes. We measure free-riding preferences using a vignette describing a person who chose not to contribute efforts in a community setting and beggars reported whether they agree or disagree with their choice of free-riding. Dishonesty is measured at the group level (beggars - with or without items) using a coin-flipping task where each beggar privately flips a coin ten times, and receives a monetary reward for every head reported (Buccioli and Piovesan, 2011). While individual lying cannot be detected, we can compare the group responses for beggars with and without items with the underlying distribution (50-50 heads and tails) to infer lying as the sample gets large enough (6000 coin flips for each group). Finally, we measure beggars' ability by using a simple numeracy task where they count from 1 to 100 for payment of the number up until they count. Note that all tasks were incentivized, except free-riding. All tasks are contextually validated through several rounds of field testing.

Donors' Perceptions Survey Experiment. The main aim of this survey is to elicit donors' beliefs about beggars' preferences for paid work, free-riding, honesty, and ability (basic numeracy). Each participant is randomly assigned to report beliefs about one of two types of beggars: those with or without items, using a between-subjects design. Participants report the number of beggars (out of 600) who they think chose free-cash, justified free-riding, could count to 100 and the number of heads reported in the coin flipping task (out of a total of 6000 coin flips) (Buccioli and Piovesan, 2011). Beliefs are incentivized and participants are paid INR 100 if their guess is within ten percent of the correct numbers. We use the random lottery payment mechanism to ensure that participants report their beliefs about each task, considering them as separate tasks and that the stakes are not distributed among the different belief elicitation exercises.

Following the belief elicitation task, participants answer questions about their socio-economic and family background and economic values. Additionally, beliefs about the other type of beggar are elicited, allowing for within-subject comparisons. After eliciting beliefs about the preferences and abilities of both kinds of beggars, we measure donors' perceptions about the relative deservingness for charity of beggars (with and without items). Each participant engages in a split-the-pie task, where they distribute INR 100 between two randomly selected beggars (or one, if they choose to allocate the entire amount to only one type), which is implemented as such (hence, incentivized).

The survey lasted approximately 30 minutes and was conducted in participants' homes with adults who had been outside at least once in the past week, ensuring similarity to passers-by. Participants received a flat fee of 400 INR, and about 68%

consented to participate. Conducting the survey at home ensured participants' attention and privacy—both of which are even more challenging in this population than among beggars, as people on the streets are often headed somewhere in a hurry.

For the belief-elicitation exercise, photo collages of real beggars are used with their consent (as approved by the Institutional Review Board at New York University, along with the rest of the design and questionnaire). Each collage features photos of four beggars (one man, one woman, one girl, and one boy), each photographed twice – once with an item and once without – to create identical collages and identify the causal impact of items on beliefs about the beggars' preferences. We use two photo collages of beggars with items and two corresponding collages of the same beggars without items, enabling both between-subjects and within-subjects designs, with randomization conducted at the individual level. The four photo collages used are provided in appendix figure C.1.

3.2 Field surveys design

Next, we outline our approach to verifying whether donations to beggars with and without items differ in the field. We conduct a real-time survey of successful interactions (where some money is donated) to measure differences at the intensive margin and an observational survey of begging activities to study the extensive margin of signaling.

Successful Interactions Survey - Intensive margin The interaction survey captures charitable interactions between beggars and passers-by to compare the amount of donations to beggars with and without items. Surveyors worked in pairs, and immediately after observing an interaction, one of them approached the beggar, and the other approached the donor, asking them about the amount of money (and item, if any) that was exchanged. This survey was intentionally kept short and took between 5 and 10 minutes to finish. To ensure credible measurement of charitable transfers, both the beggar and the donor were asked about the transfer amount immediately post-interaction. They were also informed that their reported amounts would be matched. Participation was incentivized with a flat participation fee of 100 INR. The survey covered 634 interactions across Delhi, with about 300 each for beggars with and without items.

As the difference in the donation amounts to beggars with and without items may be due to a difference in the relevant underlying characteristics of the donors to beggars with items and beggars without items, such as innate altruism, income, gullibility, religiosity and other demographic characteristics. We include these measures in our

survey to control for such sources of selection bias and get as close as we can to the effect of begging with an item on donation amounts.⁶ Further, we collect information on donors to beggars with items' use for the product, reason for buying, whether they kept the item, and whether they are willing to give away the item for free to identify the charitable interactions. To examine further the soliciting and donation choices of both beggars and donors, we ask them about their counterfactual beliefs regarding the amount of donation if the begging style had been reversed.

Observational Survey - Extensive margin In this survey, we collect data on the success rates of beggar-donor interactions, specifically, the proportion of interactions resulting in a donation for beggars with and without items. This allows us to compare the charitable behavior of donors toward the two types of beggars on an extensive margin—whether or not a donation is made. We record the total number of beggars, categorized by type (with or without items), observed over a 3-hour window across 83 streets in Delhi. Surveyors worked in pairs: one documented observable demographic characteristics (such as gender, approximate age, whether in a group, or with a child) for beggars with items, while the other did the same for beggars without items. Each surveyor observed up to six beggars of their assigned type for 20 minutes each, documenting details of each passer-by the beggar approached and whether the interaction resulted in a donation.⁷

4 Data

In this section, we first describe our sampling design for the surveys conducted on the streets and the household survey. Next, we discuss the key summary statistics of the participants from each of the four surveys.

4.1 Sampling

Our field data on begging is collected across 83 crowded streets in Delhi, India. We collect information on the backgrounds, preferences and experiences of beggars by conducting incentivized surveys of 1219 beggars (607 with items and 612 without items) across the streets of Delhi. Further, we conduct the donors' perception survey

⁶Note that we do not exogenously vary the type of the beggar, i.e., randomly assign beggars to solicit charity with and without items due to ethical concerns with such an approach, especially as begging is an illegal activity.

⁷Surveyors documented interactions of all the beggars of their assigned type on that street if fewer than six were present within the 3-hour window.

experiment with an income-representative sample of 1204 potential donors, i.e., people from the general population of Delhi in their households. Below, we describe the sampling strategy for the surveys done on streets and in households.

Street Sampling Our sample size for the observational survey of interactions is 4619 interactions between beggars and donors across 83 areas, spanning 461 unique beggars and 1627 unique passers-by or potential donors. The successful interactions survey has a sample size of 634 interactions, implying 634 unique beggars and 634 unique donors. The beggars’ perceptions survey includes evidence from 1204 beggars. Each of these three surveys was conducted across 83 crowded streets in Delhi, where begging is most prominently observed. To select the sample of streets, we gathered data on prominent temples, shopping centers, and metro stations in Delhi using available online information. We used the live traffic data (obtained using a third-party service provider) and merged it with each site. We provide comprehensive details about sampling and use of live traffic data along with the final list of locations in appendix A.

Households Sampling For the potential donors’ survey, our sampling strategy uses information from two main sources: Municipal Corporation of Delhi (MCD) and the Chief Electoral Officer (CEO) Delhi. All information is publicly available. Specifically, the MCD dataset that categorizes colonies by income is merged with the Geo IQ data that provides the population details by locality and the polling booths’ data, which contains information on the nearest polling booth for assembly constituencies in Delhi. We provide further details about household sample selection in appendix A.

Table 1 summarizes our sample sizes.

Table 1: Sample Size of Surveys

Survey Type	N	Beggars		Donors	
		With	Without	With	Without
Beggars Preferences Survey	1219	607	612	-	-
Donors Perceptions Survey ^a	1204	-	-	597	607
Successful Interactions Survey	634	316	318	316	318
Observational Survey of Interactions ^b	4619	221	240	812	815

Notes: This tables reports the total number of observations corresponding to each survey. a. The donors perceptions survey experiment involved eliciting beliefs about either beggars with items or beggars without items for a between subjects comparison. b. The observational survey of all begging activity includes multiple interactions of same beggars with different passers-by and multiple interactions of same passers-by with different beggars. We report the number of unique interactions, unique beggars and unique donors or passers-by.

4.2 Summary Statistics

In this section, we provide summary statistics about the characteristics of beggars and donors included in our samples from donors, beggars, and field surveys. Since the field surveys involve information on both donors and beggars, we organize this section based on the surveys.

Donors' Perceptions Survey In this subsection, we verify and confirm that our sample is balanced across treatments as shown in Appendix Table B.1. Specifically, we check that the demographic and socio-economic characteristics of participants randomly assigned to report beliefs about beggars with items are not significantly different from those assigned to report on beggars without items. Among the experiment participants assigned to report beliefs about beggars with items, 45% are women, 52% belong to forward castes, 63% are married, out of which 93% have children and 31% are migrants from other parts of India. The participants assigned to report beliefs about the beggars without items are similar in all of these characteristics. In Appendix Table B.2, we also show that the participants are broadly similar to the actual donors found in our interactions survey.

The sample is stratified based on income such that surveys are conducted in households across Municipal Corporation of Delhi's (MCD) Neighborhood Income Categories D, E, F and G, which cover 80% of Delhi's population.⁸

Beggars' Perceptions Survey Out of the 1219 beggars with whom we conducted our extensive preferences surveys, 607 beggars are beggars with items and 612 are beggars without items. For beggars with items, Appendix Table B.3 shows that among the population of beggars, there are about 63% women, 58% migrants from rural India, 74% living in temporary houses or shacks, and about 92% belonging to backward castes, with no significant differences in these characteristics among beggars without items. However, the sampled beggars differ in age distribution, education, and labor market experience. 43% of the beggars with items are children compared with 35% of the beggars without items. Beggars with item are more likely to have greater than primary education and less likely to have no education compared with beggars without items.

Observational Survey - Extensive Margin Our sample of 83 crowded streets includes 36 religious areas (near temples), 26 commuting zones (around metro stations), and 21 marketplaces. Appendix Table B.4 presents detailed information on the beggars

⁸These categories span from A to H, going from the richest to poorest neighborhoods (see more details in appendix A).

observed in these areas. Overall, there are, on average, 8 beggars per street, and on average, the beggar population comprises approximately 31% who offer items and 69% who do not. While most beggars are mobile, a significant proportion (around 35%) is stationary. Gender composition is roughly balanced, and age distribution shows that a majority of the beggars are adults (62%), while the rest are either children under 19 or seniors over 60. The majority (approx. 72%) of beggars are alone, and only 16% are observed with a child, either alone or in a group. A small proportion of beggars displays extreme vulnerabilities such as disabilities, lack of footwear, or partial clothing (4%, 20%, and 11%, respectively).

The table also presents disaggregated information by beggars with items and without items. Roughly 71% of the beggars with items, as opposed to 61% of the beggars without items, are mobile. The gender composition of beggars differs between those with and without items. A higher percentage of beggars with items are men (57% men, 43% women), while a higher percentage of beggars without items are women (45% men, 54% women). Both groups have a majority of teenagers and adult beggars (around 81% and 73%, respectively). These demographic patterns – mobile beggars, more men and younger beggars offering items while begging, and stationary, more women and older beggars not offering items – align with our theory that signals of labor market misfortune and willingness to work are more relevant for groups who can work than for those who have fewer work opportunities and are more likely to beg out of necessity.

We also find interesting patterns among the sample of passers-by or potential donors whom the beggars reached out to solicit charity, as shown in Panel B of Appendix Table B.5. Beggars without items are equally likely to solicit charity from men and women, while those with items are more likely to approach men. This suggests that beggars may perceive men to be more responsive to signals of deservingness than women. Beggars with items also tend to approach groups, while beggars without items are more likely to approach individuals. This difference in soliciting behavior may suggest that supporting beggars with items is considered socially desirable.

Overall, beggars with and without items approach a similar number of people for charity – about per hour. Of these interactions, around 35 result in receiving a donation, regardless of whether the beggar has an item or not. The above findings on significant differences in key demographic differences of beggars with and without items underscore the importance of our extensive data collection on relevant controls to analyze donation differences on both the extensive and the intensive margin. While informative of the market for begging, these field differences also suggest that the findings from the experimental approach are more reliable when studying the effect of deservingness signals while begging.

Interactions Survey - Intensive Margin Below, we describe the demographic characteristics of the beggars and passers-by included in the successful interaction survey, where we document the amounts of money donated in successful interactions. This survey was also conducted in the same 83 areas as the passive observational survey, with about 8 successful interactions documented per area (4 with items and 4 without items).

Columns (1) and (2) in Table B.3 report the demographic and socio-economic characteristics of the beggars with and without items who are included in the sample of successful interactions. There is no significant difference in the gender composition by begging style. However, a majority of the beggars without items are adults (60%) while the beggars with items are evenly split between children and adults (44% and 48%, respectively). Most beggars of both kinds have no formal education but beggars with items are more likely to have primary education than the beggars without items. Only about 20% of the beggars have ever had a job and about 40% are migrants from rural parts of India, with no significant differences by begging style. Interestingly, among the beggars with items, only about half of them even mentioned the item, the rest solicited charity and invoked passers-bys generosity by mentioning faith or God or hunger or both.

The sample of donors who made transfers and participated in the successful interactions survey is detailed in Table B.2. Approximately 48% of the donors, both donating to beggars with and without items, are women. Donors to both categories exhibit similar demographic characteristics, including gender, age, education, migrant status, and income. Donors report similar soliciting words used by beggars as reported in Table B.3 where charity is most frequently solicited in the name of God and hunger, with roughly 50% of beggars with items mentioning the specific item. Most donors report charity as the primary reason for their giving, while a small percentage cite wanting to get rid of the beggar (9%) or the need for the item (28% of donors to beggars with items). While 82% of the donors to beggars with items accepted the item from the beggar, 66% of them were willing to give it away for free.

5 Empirical Analyses and Findings

In what follows, we provide causal evidence that begging with items improves donors' perceptions of beggars' preferences for paid work, numeracy, and free-riding. On average, donors allocate larger sums from a charitable pool to beggars with items than without, suggesting that improved perceptions have financial implications for their deservingness of charity.

5.1 Experimental Evidence

Below we show comparisons of donors' perceptions about preferences and abilities of beggars with and without items.

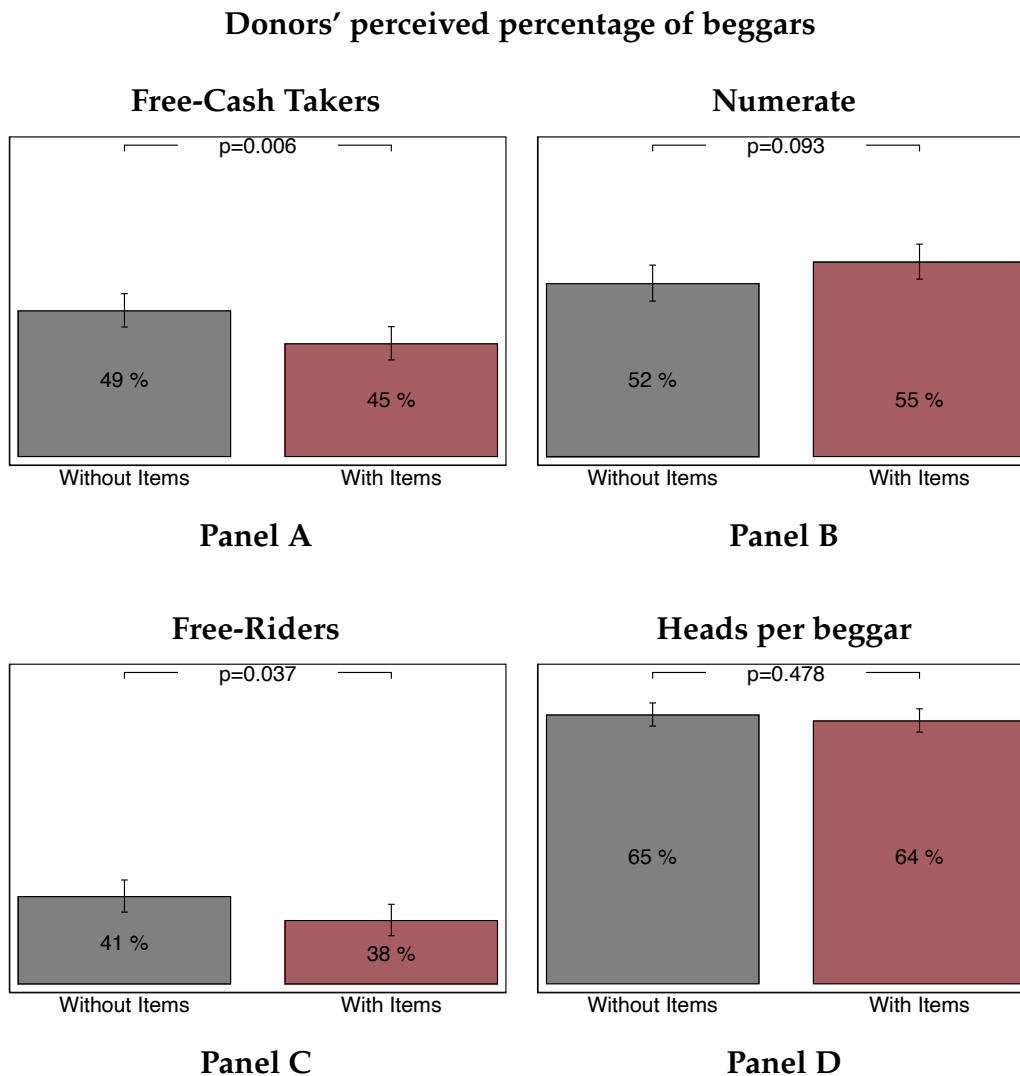


Figure 2: This figure illustrates donors' average perceptions of beggars across various metrics: **Panel A** shows the perceived percentage of beggars who chose free cash, **Panel B** shows the perceived percentage of beggars who could count to 100, **Panel C** shows the perceived percentage of beggars who agree with free-riding, and **Panel D** displays the perceived percentage private coin flips for which heads was reported per beggar (with values above 50 reflecting perceptions of dishonesty).

Perceptions of beggars' preferences and abilities We find that begging with items signals preference for work and ability, indicating that such beggars are perceived to be begging by misfortune rather than choice as predicted by our theoretical model. As shown in Figure 2 and Table 2, donors perceive the beggars with items to be significantly less likely to choose free-cash (0.15 standard deviations). On average, respondents

believe that 49% of the beggars with item chose free cash compared with 45% of the beggars without items (p-value = 0.009). Respondents also believe that beggars with items are more likely to be numerate, a difference of 0.1 standard deviations (p-value = 0.093). Since people with higher abilities have higher payoffs in the labor market, they are expected to be more likely begging by misfortune and not by choice.

Table 2: Donors' perceptions (between-subjects differences)

	Perceived percentage			
	Freecash takers	Numerate	Free-riders	Heads per beggar
Effect of begging WithItems	-4.017 (1.537) [0.009]	2.940 (1.636) [0.073]	-3.130 (1.450) [0.031]	-0.693 (1.073) [0.519]
Mean [of beggar w/o items]	48.82	52.31	41.33	64.61
Effect Size [SD]	-0.15	0.10	-0.12	-0.04
Controls	Yes	Yes	Yes	Yes
No. of Observations	1204	1204	1204	1204

Notes: Coefficients are based on OLS regressions. Standard errors are clustered at the neighborhood level and reported in parentheses and p-values are reported in square brackets. Controls include respondents characteristics such as age, gender, caste, migration status, education, marital status, children, the ratio of non-earning members to household size. We include neighborhood income strata fixed effects. Numerate refers to the percentage of beggars who could correctly count to 100.

We also find significant differences in donors' perceptions about beggars' free-riding preferences, similar to preference for work versus leisure. Despite being an unincentivized task for the beggars where they merely had to report whether they agree with free-riding or not, donors have differential perceptions of free-riding for beggars with and without items. Donors think that 41% of the beggars without items would have supported free-riding choice in a hypothetical vignette relative to 38% of beggars with items (p-value = 0.037).⁹ In general, donors have a pessimistic view about beggars' free-riding preferences. This is strong evidence of donors' perception that about half of the people begging are lazy and prefer to live off of others' hard-earned money. We further show that begging with items does not signal other moral virtues such as honesty. Both groups of beggars are predicted by donors to report 65% of their ten private coin flips as heads.¹⁰

⁹Donors' beliefs about free-riding were also incentivized but the task itself was unincentivized for beggars.

¹⁰The perceived and actual dishonesty rate of beggars matches the average dishonesty rate found in global studies. A meta-analysis shows that, on average, 65% of coin flips in similar experiments are reported as the winning side (Gerlach et al., 2019). This suggests that people do not perceive beggars as more dishonest than the general population, nor do beggars exhibit distinct levels of dishonesty.

As expected due to randomization, our findings remain the same regardless of whether we include control variables or not. We observe similar differences in perceptions of beggars in Figure 2 (without controls) and Table 2 (with controls). The control variables include donor characteristics (gender, age, marital status, migrant status, education, caste, parenthood), household characteristics (ratio of non-earning members), and neighborhood income-level fixed effects. Our results are robust to alternative empirical methods, such as distributional comparisons and non-parametric tests, including the Kolmogorov-Smirnov and Somer’s D statistics, as shown in Appendix Figure C.2. We find similar within-subjects differences as shown in Appendix Table B.7.

Deservingness for Charity Next, we present results from our allocation game, where respondents split 100 INR between a randomly selected beggar with an item and one without, knowing that the allocation is implemented with real beggars and not hypothetical. 43% of the respondents choose higher charitable transfers to beggars with items, while only 15% choose higher transfers to beggars without items. Overall, on average, respondents allocate 58 out of the 100 INR to a beggar with items (as shown in Figure 3). The average split is statistically different from 50-50, favoring beggars with items over without (p-value = 0.001).

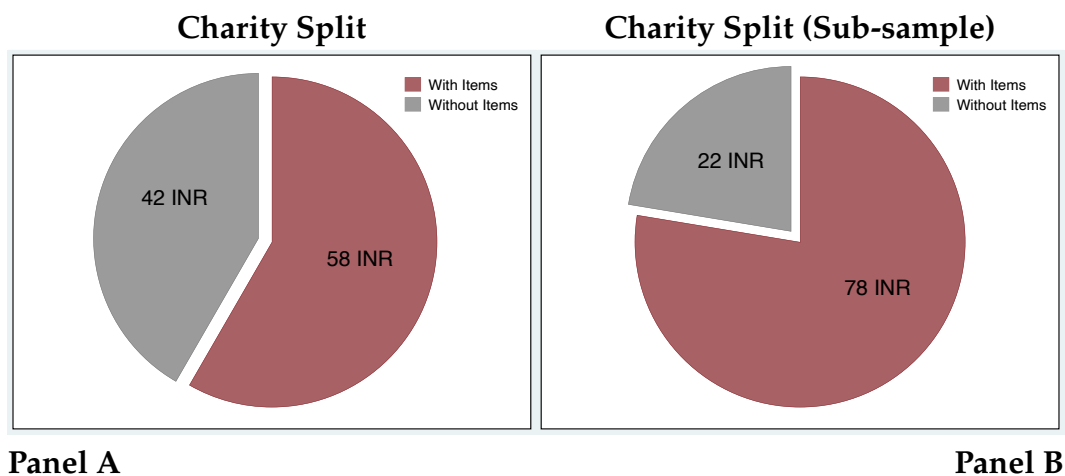


Figure 3: This figure shows the average split of 100 INR to randomly selected beggars with and without items for the full sample in **Panel A** and for the subsample of respondents who allocated more to beggars with items in **Panel B**.

Biased Perceptions Our design allows us to evaluate if donors’ perceptions about beggars’ preferences and response to the signal match the underlying preferences of beggars by begging style. Figure 4 shows that most beggars prefer paid work over free cash, and few have even basic numeracy skills or the ability to count to 100. Most

disagree with free-riding behavior and have a dishonesty rate similar to the general population worldwide (Gerlach et al., 2019). Comparing the actual preferences and abilities of beggars with donors’ perceptions (Figures 2 and 4) reveals that donors think of beggars to have much lower preferences for paid work and much higher abilities than they actually do, on average. This suggests that while beggars may be begging by necessity, donors perceive them to be begging by choice.

In Table 3, we present the level of bias in perceptions and whether the signal (begging with items) influences it. We construct the variable Bias for each participant of the donors perceptions survey experiment for each respondent for each preference and ability category, $\text{Bias} = \text{Donor's perceived percentage of beggars} - \text{Mean actual percentage of beggars}$. As there are no significant differences in actual preferences for paid work of beggars with and without items, while donors perceive them to be statistically different, we also find higher bias in perceptions of beggars without items than beggars with items. While there exists a statistically significant bias, the rate of bias is similar for beggars with and without items for numeracy, free-riding and dishonesty preferences of the beggars.

Table 3: **Bias in donors’ perceptions (between-subjects differences)**

	Perceived minus actual percentage			
	Freecash takers	Numerate	Free-riders	Heads per beggar
Begging with items	-2.917 (1.537) [0.058]	0.040 (1.636) [0.980]	-0.430 (1.450) [0.767]	-0.693 (1.073) [0.519]
Mean [of beggar w/o items]	34.62	27.71	14.13	0.81
Effect Size [SD]	-0.11	0.00	-0.02	-0.04
Controls	Yes	Yes	Yes	Yes
No. of Observations	1204	1204	1204	1204

Notes: Coefficients are based on OLS regressions. Standard errors are clustered at the neighborhood level and reported in parentheses, and p-values are in square brackets. Controls include respondent characteristics such as age, gender, caste, migration status, education, marital status, and household size. Neighborhood income strata fixed effects are included.

5.2 Field Evidence

Above, we showed causal evidence that begging with items impacts donors’ perceptions about beggars’ preferences and abilities, and overall deservingness for charity. Next, we present complimentary evidence from the field showing that the beggars with items indeed receive significantly higher amounts in charity but the rates of soliciting and

Actual percentage of beggars

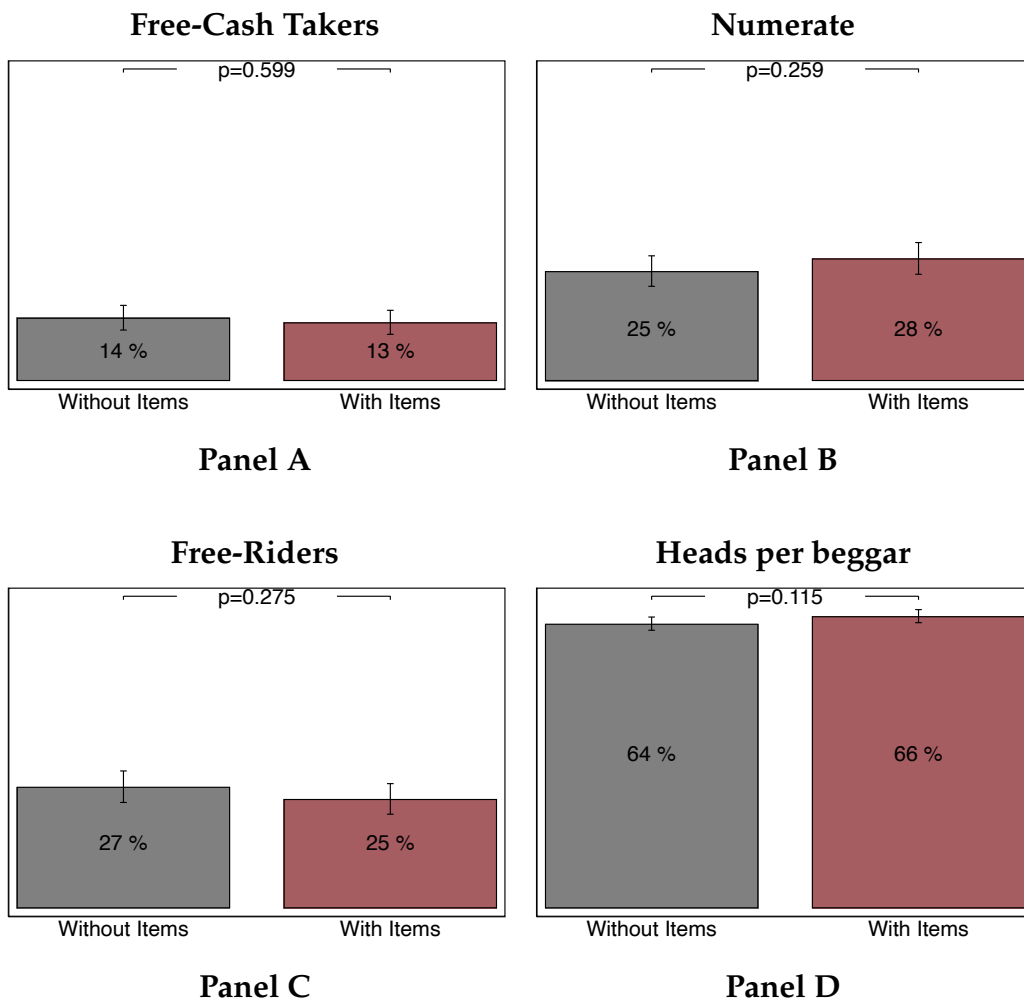


Figure 4: This figure illustrates beggars' actual economic preferences and abilities **Panel A** shows the actual percentage of beggars who chose free cash, **Panel B** shows the actual percentage of beggars who could count to 100, **Panel C** shows the actual percentage of beggars who agree with free-riding, and **Panel D** displays the actual percentage private coin flips for which heads was reported per beggar (with values above 50 reflecting dishonesty).

receiving something in charity are statistically indistinguishable across beggars with and without items. Finally, we also show that givers' characteristics and begging with items explain a larger share of the variation in donation amounts to beggars.

Table 4: Extensive Margin: Donations rates comparison by begging style

	OLS		Poisson	
	Interaction Rate	Donation Rate	Interaction Rate	Donation Rate
Beggar with Items	0.442 (0.604) [0.467]	-0.009 (0.064) [0.891]	0.043 (0.060) [0.476]	-0.023 (0.142) [0.873]
Mean [of beggar w/o item]	9.88	0.45	9.88	0.45
Effect size [SD]	0.10	-0.02	0.01	-0.05
Controls	Yes	Yes	Yes	Yes
No. of Observations	4619	4619	4619	4619

Notes: Coefficients in columns (1) is based on an OLS model and (2) is based on Linear Probability model and columns (3) and (4) are based on Poisson model. Interaction rate is the number of interactions per beggar within a 20 minute time frame. Donation rate is the probability that an interaction between a beggar and a passer-by results in a donation. Robust standard errors, clustered at the street level are reported in parentheses and p-values are reported in square brackets. Controls include beggars' and non-beggars' characteristics: age group, gender, whether in group, whether with child, whether wearing footwear (only for beggar), whether fully clothed (only for beggar), day of the week, and street type (religious, commuting or marketplace) fixed effects.

Extensive Margin Next, we test whether beggars with and without items differ in their rates of soliciting and receiving charity, measured by our observational survey. Based on a sample of 4619 interactions across 83 streets spanning 427 beggars, we find that, on average, beggars solicit charity from 10 passersby per 20 minute period of observation. Of these soliciting interactions, 45% result in some charitable transfer, with no statistical difference in rate of soliciting or success, by begging style. The finding of similar rates of soliciting and receiving charity is robust to alternative model specifications including the Linear Probability Model or Poisson Model, reported in table 4 or the Negative Binomial Model as shown in appendix table B.6.

Using the above analysis, we conclude that begging with items decreases the perceived probability that begging is by choice and improves perceptions of beggars' deservingness for charity along with actual donation amounts, but does not make them more or less likely to receive something in charity per solicit. Overall, our experimental and field evidence suggests that fairness concerns and signals of deservingness influence charitable behavior towards beggars.

Table 5: **Intensive Margin: Donations comparison by begging style**

	Donations	Donations (sub-sample)	Donations Net Cost
Beggar with Items	5.802 (0.984) [0.000]	3.494 (0.920) [0.000]	1.782 (0.878) [0.046]
Mean [of beggar w/o item]	10.05	10.05	10.05
Effect size [SD]	0.72	0.43	0.22
Controls	Yes	Yes	Yes
No. of Observations	638	540	638

Notes: Robust standard errors, clustered at the street level are reported in parentheses and p-values are reported in square brackets. Controls include beggars' characteristics (age, gender, persuasiveness, education, disability, migration status, whether in group, whether with a child, religion) , donors' characteristics (age, gender, education, disability, migration status, whether in group, whether with a child, religion, gullibility, monthly income, religiosity, and altruism) and area characteristics.

Intensive Margin We document randomly selected successful interactions between beggars and passersby on crowded streets where an interaction is successful when some money is transferred. Immediately after the interaction, one surveyor approaches the beggar and the other approaches the giver to measure and match the charitable transfers. On every street, we conduct this successful interactions survey with 6-8 beggars with and without items, to ultimately compare donations by begging style. As this is non-experimental evidence, we measure a long list of relevant beggar and donor characteristics both observable and unobservable (age, gender, religion, education, monthly expenditure, disability, whether on the street in a group and/or with a small infant, beggars' persuasiveness, and donors' gullibility and innate altruism), begging area type (religious areas with a prominent temple, marketplaces and popular areas of commute with major metro stations), and day of the week. Controlling for all these potential confounders, we estimate that beggars with items receive 6 INR more than beggars without items, per successful interaction, as shown in column 1 of Table 5, a statistically significant difference (p-value = 0.000).

Note that of all the donors to beggars with items, 18% did not take the item and 66% of those who took it were willing to give it away to us for free. In column 2, we restrict the sample to the donors who either did not take or wanted to dispose of the item and those who donated to beggars without items, and show that the higher transfers to beggars with items do not reflect the value of the item to the donor. Further, we also find that donations to beggars with items remain significantly higher than beggars without items even after deducting the beggars' self-reported cost of the item (which is likely inflated making this an underestimate), as shown in column 3 of Table 5.

Shapley Decomposition Table 6 illustrates the Shapley decomposition of charitable giving to beggars, shedding light on the various factors influencing donation behaviors (Shapley, 1953; Shorrocks et al., 1999). The results indicate that begging with items explains 21% of the variance in donations, while all other beggar characteristics taken together such as age, gender, migration status, and disability account for 28.18% of the variation. The most substantial contribution comes from donor characteristics, such as age, gender, education, and innate altruism, which explain 49.24% of the variance in donations. Interestingly, area type contributes a mere 1.35%, indicating that the context of begging has a relatively minor influence on donation decisions compared to the characteristics of both beggars and donors.

Our key takeaway from this exercise is that whether beggars carry items or not explains over 20% of the variation in donation behavior, making it as significant a factor as the beggars’ own characteristics. This highlights that carrying an item plays a crucial role – particularly in our context – by signaling deservingness to potential donors.

Table 6: Shapley Decomposition of Charitable Giving to Beggars

Group	Shapley Value	Relative Contribution (%)
Begging With Items	0.033	21.230%
Beggar Characteristics	0.044	28.179%
Donor Characteristics	0.077	49.237%
Area Type	0.002	1.353%

Notes: This table shows the Shapley decomposition of charitable donations to beggars. Beggars’ characteristics include age, gender, migration status, education, group status (with/without an infant), disability, and self-reported persuasiveness. Donor characteristics include age, gender, innate altruism, self-reported gullibility, family size, education, income, religion, group status (with/without an infant), disability, and sitting during interaction.

5.3 Broader political implications

We have shown above that donors’ perceptions regarding preferences for paid work and merit or deservingness differ for beggars with and without items. However, we expect that these perceptions are more relevant for donors who care about meritocracy in the first place. To test this hypothesis, we compare the premium that meritocratic donors assign to beggars with items against the premium given by non-meritocratic donors in the allocation game. To measure donors’ meritocracy, our donors’ perceptions survey includes a module on economic values adapted from the world values survey. We ask the following 6 questions that measure high (low) meritocracy: (1) difference

between rich and poor attributed to hardwork (luck); (2) control (no control) over one’s circumstances; (3) hardwork (luck) leads to better life; (4) giving money promotes (helps) beggary (poor); (5) beg because lazy (no other means); (6) government should provide workfare programs (basic income).

In Table 7, we outline our results for each of the 6 questions separately for donors with meritocratic opinions versus donors who do not possess such opinions, illustrating the respective *additional* charitable behavior towards beggars with items. A 50-50 split between the two categories of beggars would indicate no differentiation between beggars by donors. Positive coefficients indicate asymmetric distribution with a larger percentage allocated to beggars with items.

In all the results, we consistently find that donors with meritocratic opinions positively differentiate between beggars with items and those without. In particular, we find between 2.7 INR ($p = 0.029$) to 6.7 INR ($p < 0.001$) additional distribution of charity for beggars with item than without.

Table 7: Meritocracy and Donation Behavior

	Inequality due to Hardwork	Circumstances Control	Life Better by Hardwork	Giving Money Beggary	Begging because Lazy	Poverty Solution Workfare
Meritocratic	0.910 (1.359) [0.503]	5.927 (1.297) [0.000]	2.715 (1.239) [0.029]	6.692 (1.286) [0.000]	2.030 (1.296) [0.118]	4.024 (1.744) [0.021]
Mean [of Non Meritocratic]	7.72	4.30	6.53	5.14	6.54	4.86
Effect size [SD]	0.04	0.31	0.13	0.32	0.11	0.21
Controls	Yes	Yes	Yes	Yes	Yes	Yes
No. of Observations	1204	1204	1204	1204	1204	1204

Notes: Coefficients are based on OLS regressions. Robust standard errors are reported in parentheses and p-values are reported in square brackets. Controls include potential donors’ covariates and include age, gender, caste, first-generation migrant to Delhi, education, marital status, children, the ratio of non-earning member to household size. Fixed effects for income-strata by colonies are included.

While these results imply that meritocracy is integral in driving donors’ differential charitable behavior across beggars with and without items, the analysis treats each statement of opinion separately. We conduct an additional analysis where we construct a dummy taking a value of 1 for donors who respond yes to meritocratic opinions more often than non-meritocratic opinions. Using this categorization of donors, we illustrate in Panel A of Figure 5 a donation of 10 INR allocated to beggars with items by the meritocratic donor relative to 3 INR by the non-meritocratic donor types. The asymmetric split of donations for beggars with items versus without corroborates our previous results.

Furthermore, our analysis reveals that donors’ perceptions of the relative deservingness of beggars with items, compared to those without, are correlated with their policy preferences aimed at reducing begging. We asked respondents to rate their support for two policy options on a scale of 1 to 10, where 1 indicates full support for the first idea

Fairness preferences and returns to signaling

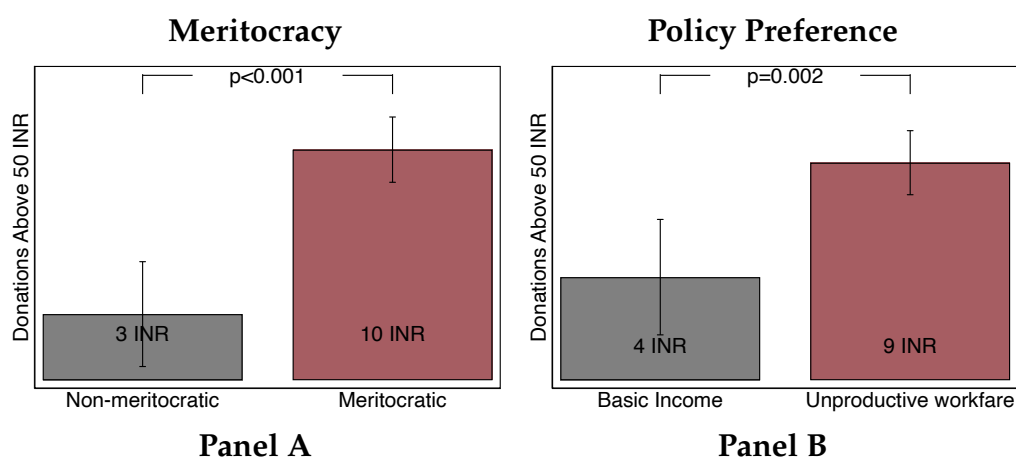


Figure 5: This figure illustrates the relation of returns to signaling with meritocratic beliefs and policy preferences regarding charity. **Panel A** depicts the differential returns to signaling for meritocratic and non-meritocratic donors, while **Panel B** shows the respondents' preferences for policy solutions to address begging.

(workfare) and 10 indicates full support for the second (basic income).

If there is no source of employment, the government should provide a basic income to every individual, regardless of available work. If there is no source of employment, the government should pay individuals by assigning them tasks that may lack utility or value. As shown in Panel B of Figure 5, we find that the premium awarded to beggars with items in the allocation game is significantly correlated with the likelihood that the respondent states a strong support for unproductive workfare policies.

6 Discussion

In this paper, we describe an economic framework to study begging and provide the first set of evidence on the market for begging, focusing on the role of fairness concerns in shaping it. To model begging, we extend the standard theory of labor supply to incorporate two stylized facts in behavioral development economics. First, we assume that leisure and other non-material sources of utility, such as dignity and social status, do not matter until hunger is satisfied, i.e., a minimum consumption bundle is consumed. Second, we assume that an individual's labor market productivity is dampened until they consume this minimum consumption bundle. This second assumption leads to a range of low enough ability for which an individual has no viable options in the labor market. For the remaining ranges of ability, payoff maximization gives optimal labor leisure choice and corresponding utility from the labor market. This utility is

compared with the utility from begging to determine the choice between labor supply and begging.

Begging by necessity happens when labor income cannot buy the consumption bundle required for survival, even if one spends all their time in labor. Begging by choice happens when labor income can meet survival needs, but begging is preferred due to utility from leisure. Finally, begging by misfortune occurs when individuals prefer to work in the labor market but are forced into begging due to unemployment or other labor market barriers. Next assumption in the model is that donors have fairness preferences and prefer donating to a beggar by necessity or misfortune than a beggar by choice. Thus, donations to a beggar are declining in donors' perceived probability that a beggar is begging by choice, which in turn is a function of beggars' productivity and preference for leisure versus work. Donors' fairness preferences create an incentive for the beggars to signal deservingness or that they are not begging by choice. We posit that begging with items is a signal of beggars' deservingness and collect experimental and field data to test this hypothesis.

Our experimental data reveal that begging with items serves as a signal that begging is not by choice or a dis-preference for paid work, influencing donors to view them as more deserving of charity. While donors tend to overestimate the proportion of beggars who prefer free-cash over paid work in both groups, this overestimation is less pronounced among beggars with items. This suggests that donations may be too low for beggars to be choosing to beg out of a preference for leisure. Most beggars exhibit very low numeracy skills, our proxy for ability, further indicating that they may lack viable options in the labor market. In fact, the signal provided by items is not informative of beggars' preferences as there are no significant differences between beggars with and without items.

We derive the theoretical conditions on preference for leisure and ability under which people beg by necessity, choice or misfortune. If donors underestimate the proportion of beggars by misfortune, then they donate less than optimal. In such a case, policies such as banning or criminalizing begging are not effective as returns to begging are already too low, and a high proportion of beggars are begging by misfortune. Welfare policies such as cash transfers and upskilling would be more effective in reducing begging in such a case. However, if donors do not have fairness concerns or underestimate the proportion of beggars by choice, then banning begging would be more effective. Thus, optimal policy to reduce begging can be ascertained by understanding the true causes (choice versus misfortune) and donors' perceptions about the deservingness of beggars and whether any signals of deservingness matter for donations.

Overall, our findings suggest that policies such as banning or criminalizing begging,

which increase the cost of begging by posing the risk of getting caught or police harassment, are not effective. The returns to begging are already too low, and a high proportion of beggars are begging by misfortune. Welfare policies such as cash transfers and upskilling or workfare policies which pay beggars in return for work would be more effective than legal regulations in reducing begging in such a case. Between welfare and workfare, though, workfare policies are more likely to receive support from the general population than welfare policies in societies where people care a lot about the notions of deservingness for charity tied to willingness and ability to work. Indeed, 80% of our respondents prefer unproductive workfare to unconditional cash transfers.

Finally, we conclude by discussing directions for future research on the economics of begging and ways to mitigate its incidence. While this paper explores the trade-offs between formal labor and begging, as well as public perceptions of these trade-offs, a more detailed examination of the labor supply schedules of beggars would provide valuable insights for designing effective workfare or employment programs targeted at this population. Additionally, our findings reveal significant negative perceptions of beggars' work preferences among the general public, as well as the public's responsiveness to signals of effort, contributing to a lack of support for welfare policies addressing begging. This suggests the need for informational interventions to investigate whether correcting public beliefs can enhance support for welfare policies or whether people inherently prefer rewarding effort—even when it is unproductive and reveals no meaningful information about beggars' actual work preferences. Finally, further research on child begging is crucial, given its complex relationship with child labor and the risk of perpetuating a "begging trap." Understanding these dynamics is essential for developing strategies to address this deep-rooted issue.

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A Appendix Survey Locations

A.1 Streets Sample

The following are details about the street sample selection for an observational survey of begging activity, a successful interaction survey of donated amounts, and a survey of beggars' backgrounds and preferences.

1. Temples: We compile the data on temples in Delhi by using travel- and tourism-related sites with the Government of India's website about Delhi Tourism (<https://delhitourism.gov.in/>) as our primary source.¹¹ We conduct manual searches for temples, their official websites, Google Business profiles and other available directories to gather complete address of each temple.
2. Shopping Centers and marketplaces: Similar to the process we follow for temples, we collect information about the most popular shopping centers in Delhi using the relevant travel- and tourism-websites where the Government of India's website about Delhi Tourism (<https://delhitourism.gov.in/>) remains our primary source.¹² After compiling the list, we use the shopping center's Google Business profile or other available directories to get complete addresses.
3. Metro Stations: Delhi metro website <https://delhimetrorail.info/> provides a comprehensive list and network of metro stations in Delhi.
4. Live Traffic Data: We append their corresponding GPS coordinates for each site. Using the latitude and longitude information corresponding to each location, we obtain live traffic information within a 100-meter radius of the geographic coordinates. For each road segment within the 100-meter radius of the geo-coordinate, we use "HERE" <https://www.here.com/> which provides traffic-related information such as speed (the expected speed in meters per second along the roadway), jamFactor (a value indicating the amount of traffic on the roadway), traversability (whether the road is open or closed), among other statistics.

Based on the information retrieved from the HERE service, we construct a "Jam Score" for each location, reflecting the degree of congestion in the neighborhood within the 100-meter radius. Using local contextual knowledge, we further review the locations

¹¹Additional websites used to compile the list of temples in Delhi include Travelogy India (<https://www.travelogyindia.com/>), Tour My India (<https://www.tourmyindia.com/>), and Lonely Planet (<https://www.lonelyplanet.com/>).

¹²Additional websites used for compiling the list included Trip Advisor (<https://www.tripadvisor.in/>), Trip Savvy (<https://www.tripsavvy.com/>), among others.

(temples, shopping centers, and metro stations) and shortlist them. When finalizing the selection of sample locations, we prioritize locations with a higher "Jam Score" as a proxy for busy spots, indicating a higher probability of location our respondents would visit/ individuals soliciting charity with or without items would be found.

A.2 Households Sample

Following are the details of the sample selection of households for the perceptions survey experiment with potential donors or the general population of Delhi.

1. MCD Dataset: The Municipal Corporation of Delhi (MCD) provides a dataset containing various colonies under its jurisdiction. These colonies are categorized into A, B, C, D, E, F, G, and H based on the property circle rate in each colony. Category A comprises colonies with the highest property circle rate, while Category H includes colonies with the lowest property circle rate, mostly comprising slums. We use the property circle rate as a proxy for the income level of the residents of the colony.

The dataset comprises 2311 observations, with details such as the colony name, colony category (A-H), ward name, and ward zone.¹³ Using publicly available GEO IQ data on population and area by locality, we merged this data with MCD dataset. The resulting dataset contains income categories (A, B, C, D, E, F, G, or H), population, and the area (in square km) of each locality.

We calculate the population density of each locality i . We create a dummy taking a value of 1 if the population density of locality i is within 1 standard deviation of Delhi's average population density. We keep all the localities that have a dummy of 1 and belong to income categories D, E, F, or G (removing the extreme tails and retaining upper and lower middle income localities). We conduct 30 surveys in 10 colonies for a total of 300 surveys within each category. We randomize the order of colonies within each income category and conduct the surveys in that order, moving to the next colony if any colony from the random order fails to be included for logistical reasons.

2. Polling Stations Data: The website of Chief Electoral Officer (CEO), Delhi, provides district- and assembly-constituency-wise data for the polling booths in Delhi. Separate files, one for each assembly constituency, are used from this source to create a comprehensive list of polling booths in Delhi. The dataset contains

¹³The full dataset is available here: <https://app.mapmyindia.com/mcdApp/colonyList.jsp>.

information such as the district name, assembly constituency name, locality, polling area coverage, and the address of each polling station.¹⁴

For each selected colony from our merged MCD and GEO IQ dataset, our team identifies the nearest polling stations using the polling data and communicates this information to the field team. The polling stations serve as the starting point for the field team, from which they initiate the data collection process. In cases where a colony has multiple associated polling stations, we randomly select one station as the primary polling station, designating the others as backups in case the primary option is inaccessible for any logistical reasons. Surveyors knocked on every fifth household starting from the polling station to conduct the survey, and the surveys within a colony are completed within a day to avoid selection and spillover concerns.

¹⁴The full dataset is available here: https://ceodelhi.gov.in/PS_List0n15th0ctn.aspx.

B Appendix Tables

Table B.1: Balance Table (Donors perceptions survey experiment)

Variable		With Item (1)	Without Item (2)	p-value (3)
Female		0.449	0.473	0.405
Age (Years)		34.482	34.046	0.530
Caste				
	<i>General</i>	0.519	0.494	0.385
	<i>SC</i>	0.214	0.208	0.772
	<i>ST</i>	0.008	0.018	0.140
	<i>OBC</i>	0.204	0.236	0.191
Education (Years)		12.22	12.21	0.939
Married		0.632	0.621	0.709
Have Children (Sample: Married Respondents)		0.928	0.947	0.292
Migrant		0.310	0.290	0.450
Monthly Expenditure (INR)		13960	13297	0.530
MCD Category				
	<i>D</i>	0.235	0.260	0.300
	<i>E</i>	0.253	0.244	0.715
	<i>F</i>	0.248	0.249	0.973
	<i>G</i>	0.265	0.247	0.486
Dependency Ratio		0.584	0.598	0.182
Observations		597	607	0.779

Notes: This table presents the summary statistics for the donor's covariates by their random assignment to two groups: beggars with items and without.

Table B.2: Donors Descriptive Statistics

	Variable	Interaction			Active Donors
		With Item (1)	Without item (2)	p-value (3)	Value (4)
Female		0.472	0.481	0.809	0.461
Age Category					
	<i>Child</i>	0.066	0.060	0.728	0.000
	<i>Adult</i>	0.930	0.931	0.983	0.954
	<i>Senior</i>	0.003	0.009	0.319	0.046
Education					
	<i>None</i>	0.028	0.050	0.158	0.014
	<i>Less than Primary</i>	0.022	0.016	0.553	0.055
	<i>Greater than Primary</i>	0.949	0.934	0.408	0.931
Religion					
	<i>Hinduism</i>	0.807	0.723	0.013	0.886
	<i>Islam</i>	0.108	0.182	0.008	0.093
	<i>Christianity</i>	0.025	0.022	0.784	0.005
	<i>Sikhism</i>	0.028	0.047	0.218	0.007
Migrant		0.364	0.399	0.358	0.300
Dependency		0.270	0.269	0.891	0.591
Do you give money to this person regularly? What they said		0.256	0.233	0.489	
	<i>Product related</i>	0.491			
	<i>God related</i>	0.449	0.623	0.000	
	<i>Hunger related</i>	0.522	0.645	0.002	
	<i>Children related</i>	0.070	0.091	0.318	
	<i>Nothing</i>	0.066	0.075	0.658	
Why donated					
	<i>I had a need for the product</i>	0.282			
	<i>For charity/help/need</i>	0.630	0.896	0.000	
	<i>To get rid of the person</i>	0.089	0.094	0.802	
Beggar received money		0.927	0.984	0.000	
Are you willing to give this item away for free?		0.658			
Giver accepted item		0.823			
Amount (Rs.) just donated		15.839	9.802	0.000	
Amount (out of Rs. 10K) that the giver will donate (hyp.)		5032.595	4410.535	0.011	
Expected monthly income (in Rs.)		32491.200	31647.940	0.672	
Expected monthly expenditure (in Rs.)					13625.940
Caste					
	<i>General</i>				0.507
	<i>SC</i>				0.211
	<i>ST</i>				0.013
	<i>OBC</i>				0.220
MCD Code					
	<i>D</i>				0.248
	<i>E</i>				0.248
	<i>F</i>				0.248
	<i>G</i>				0.256
Observations		316	318		1204

Notes: This Table presents the summary statistics for the donors in our **Interaction** and **Active Donors** Surveys.

Table B.3: Beggars Descriptive Statistics

Variable	Interaction			Active Beggars			
	With Item (1)	Without Item (2)	p-value (3)	With Item (4)	Without item (5)	p-value (6)	
Female	0.680	0.664	0.651	0.628	0.631	0.912	
Age Category							
	<i>Child</i>	0.440	0.277	0.000	0.427	0.345	0.003
	<i>Adult</i>	0.478	0.591	0.004	0.506	0.528	0.442
	<i>Senior</i>	0.082	0.132	0.043	0.068	0.127	0.000
Education							
	<i>None</i>	0.604	0.708	0.006	0.410	0.461	0.075
	<i>Less than Primary</i>	0.345	0.211	0.000	0.423	0.412	0.681
	<i>Greater than Primary</i>	0.051	0.079	0.152	0.157	0.123	0.087
Migrant		0.364	0.399	0.358	0.581	0.558	0.528
House Type							
	<i>None</i>	0.339	0.418	0.039	0.053	0.042	0.401
	<i>Kuccha</i>	0.595	0.519	0.054	0.740	0.752	0.632
	<i>Pucca</i>	0.066	0.060	0.728	0.203	0.206	0.888
Ever had a job		0.231	0.195	0.268	0.275	0.330	0.037
Soliciting words							
	<i>Product related</i>	0.532					
	<i>God related</i>	0.475	0.610	0.001			
	<i>Hunger related</i>	0.503	0.692	0.000			
	<i>Children related</i>	0.117	0.107	0.685			
	<i>Nothing</i>	0.054	0.082	0.161			
Amount received (in Rs.)		15.981	9.934	0.000			
Caste							
	<i>General</i>			0.077	0.101	0.144	
	<i>SC</i>			0.208	0.201	0.775	
	<i>ST</i>			0.035	0.031	0.728	
	<i>OBC</i>			0.241	0.193	0.043	
Want to do a job				0.840	0.801	0.072	
Police Misbehavior				0.264	0.194	0.004	
Have an ID Card				0.858	0.830	0.174	
Treatment in Hospital				0.654	0.691	0.167	
Married				0.381	0.400	0.479	
Have Children				0.926	0.930	0.878	
Want to study				0.555	0.573	0.580	
Want to educate children				0.744	0.735	0.871	
Monthly Expenditure (in Rs.)				7050.878	7044.977	0.985	
Money (in Rs.) collected in a day (exp)				238.797	200.163	0.000	
Observations		316	318		607	612	

Notes: This Table presents the summary statistics for the beggars in our **Interaction** and **Active Beggars** Surveys.

Table B.4: Descriptive Statistics - Beggars With and Without Items

Type	All			With Item			Without Item		
	Mean	SD	%	Mean	SD	%	Mean	SD	%
Total Beggars	7.78	9.16	100	2.41	3.39	100	5.37	8.11	100
Mobility									
<i>Moving</i>	5.01	5.92	64.42	1.72	2.98	71.21	3.29	4.98	61.36
<i>Stationary</i>	2.76	4.78	35.42	0.70	1.39	28.79	2.06	4.29	38.41
Gender									
<i>Male</i>	3.79	5.42	48.75	1.37	1.89	56.57	2.43	4.86	45.23
<i>Female</i>	3.95	5.07	50.78	1.05	1.74	43.43	2.90	4.69	54.09
<i>Other</i>	0.10	0.51	1.25	0	0	0	0.10	0.51	1.82
Age									
<i>Kids</i>	0.93	1.86	11.91	0.27	0.75	11.11	0.66	1.64	12.27
<i>Teenagers</i>	1.02	1.59	13.17	0.60	1.17	24.75	0.43	1.12	7.95
<i>Adults</i>	4.83	6.14	62.07	1.37	1.91	56.57	3.46	5.58	64.55
<i>Seniors</i>	1	2.65	12.85	0.18	0.52	7.58	0.82	2.54	15.23
Grouping Status									
<i>Alone</i>	5.56	6.70	71.47	2.02	2.92	83.84	3.54	5.71	65.91
<i>In-Group</i>	2.11	4.01	27.12	0.39	0.97	16.16	1.72	3.93	32.05
Child Present									
<i>In-Group w. Child</i>	0.56	1.13	7.21	0.07	0.31	3.03	0.49	1.11	9.09
<i>Alone w. Child</i>	0.68	1.60	8.78	0.11	0.42	4.55	0.57	1.56	10.68
<i>Without Child</i>	6.48	7.98	83.23	2.18	3.22	90.40	4.29	7.01	80
Disability									
<i>Disabled</i>	0.33	0.82	4.23	0.02	0.16	1.01	0.30	0.75	5.68
<i>Abled</i>	7.44	8.79	95.61	2.39	3.39	98.99	5.05	7.74	94.09
Footwear									
<i>With Footwear</i>	6.26	7.68	80.41	1.94	2.96	80.30	4.32	6.68	80.45
<i>Without Footwear</i>	1.51	2.62	19.44	0.48	0.88	19.70	1.04	2.50	19.32
Clothing									
<i>Fully Clothed</i>	6.56	8.12	84.33	2.02	2.89	83.84	4.54	7.21	84.55
<i>Partially Clothed</i>	0.83	1.76	10.66	0.28	0.69	11.62	0.55	1.60	10.23
<i>Religiously Clothed</i>	0.38	1.04	4.86	0.11	0.57	4.55	0.27	0.86	5

Notes: The table reports descriptive statistics of the beggars in the marketplace, commuting zone and religious places.

Table B.5: Field Surveys

Variable	With Item (1)	Without item (2)	p-value (3)
Panel A: Beggars' Characteristics			
Female	0.380	0.569	0.000
Age Category			
<i>Child</i>	0.315	0.214	0.002
<i>Adult</i>	0.608	0.643	0.341
<i>Senior</i>	0.048	0.133	0.000
With Child	0.154	0.163	0.762
Observations	314	406	
Panel B: Donors' Characteristics			
Female	0.400	0.486	0.000
Senior	0.233	0.178	0.000
In Group	0.556	0.362	0.000
With Child	0.342	0.139	0.000
Observations	2695	2378	
Panel C: Interaction Characteristics			
Total Interactions (per beggar in 20 mins)	27.084	28.723	0.619
Successful Interactions (per beggar in 20 mins)	11.783	12.012	0.881
Observations	83	83	

Notes: This Table presents the summary statistics for the beggars' and donors' characteristics and the interaction rates in our **observational surveys**.

Table B.6: Extensive Margin: Negative Binomial

	Interaction Rate	Donation Rate
Beggar with item	0.052 (0.038) [0.170]	0.005 (0.041) [0.893]
Mean [of beggar w/o item]	11.27	0.45
Effect size [SD]	0.01	0.01
Controls	Yes	Yes
No. of Observations	2970	2962

Notes: Coefficients in columns (1) and (2) are based on Negative Binomial model. Interaction rate is the number of interactions per beggar within a 20 minute time frame. Donation rate is the probability that an interaction between a beggar and a passer-by results in a donation. Robust standard errors, clustered at the the beggar-giver pair level are reported in parentheses and p-values are reported in square brackets. Controls include beggars' and non-beggars' characteristics: age group, gender, whether in group, whether with child, whether wearing footwear (only for beggar), whether fully clothed (only for beggar), day of the week, and street type (religious, commuting or marketplace) fixed effects.

Table B.7: Within Design: Potential Donors' Perception

	Free-cash takers	Free-riders	Heads per beggar	Low Numeracy	Gang Affiliation
Beggar with item	-6.532 (0.793) [0.000]	-4.619 (0.812) [0.000]	-1.781 (0.576) [0.002]	-5.800 (0.780) [0.000]	-4.610 (0.675) [0.000]
Mean [of beggar w/o item]	50.34	43.16	65.37	48.61	42.39
Effect size [SD]	-0.24	-0.17	-0.10	-0.20	-0.17
Controls	Yes	Yes	Yes	Yes	Yes
No. of Observations	2408	2408	2408	2408	2408

Notes: Coefficients are based on OLS regressions. Robust standard errors are reported in parentheses and p-values are reported in square brackets. Controls include potential donors' covariates and include age, gender, caste, first-generation migrant to Delhi, education, marital status, children, the ratio of non-earning member to household size. Fixed effects for income-strata by colonies are included.

C Appendix Figures

C.1 Photo collages used for the belief elicitation experiment



Figure C.1: This figure illustrates the two sets of collages that we used in the belief elicitation survey experiment with the general population of potential donors at their households. The pictures are of actual beggars, photographed with their consent for research purposes.

C.2 Distribution of donors' perceptions of beggars (between-subjects differences)

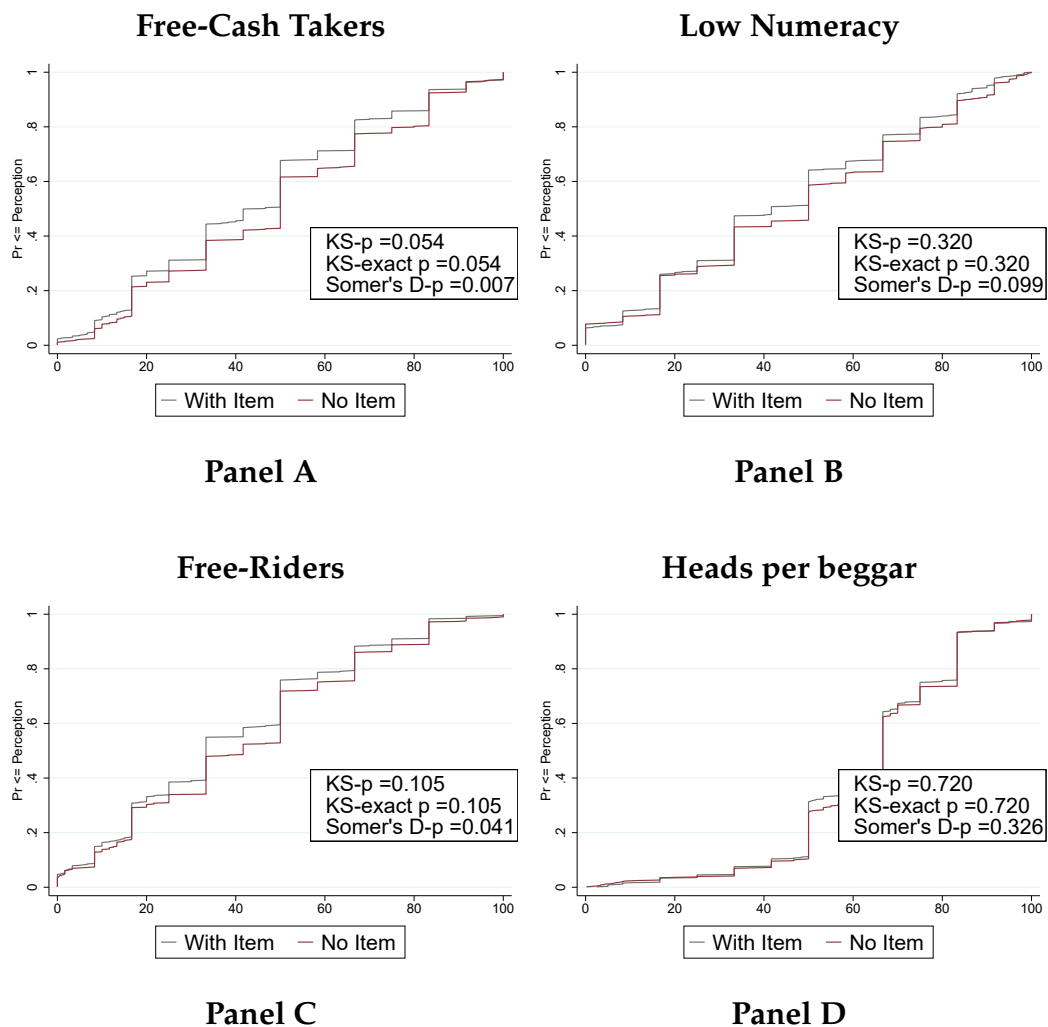


Figure C.2: This figure illustrates the distribution of potential donors' perceptions of beggars across various metrics using the between-subject analysis: **Panel A** shows the percentage opting for free cash, **Panel B** presents the percentage with numeracy levels below 100, **Panel C** indicates the percentage perceived as free-riding, and **Panel D** displays the number of times heads is reported per beggar (with values above 50 reflecting perceptions of dishonesty).

C.3 Distribution of donors' perceptions of beggars (within-subjects differences)

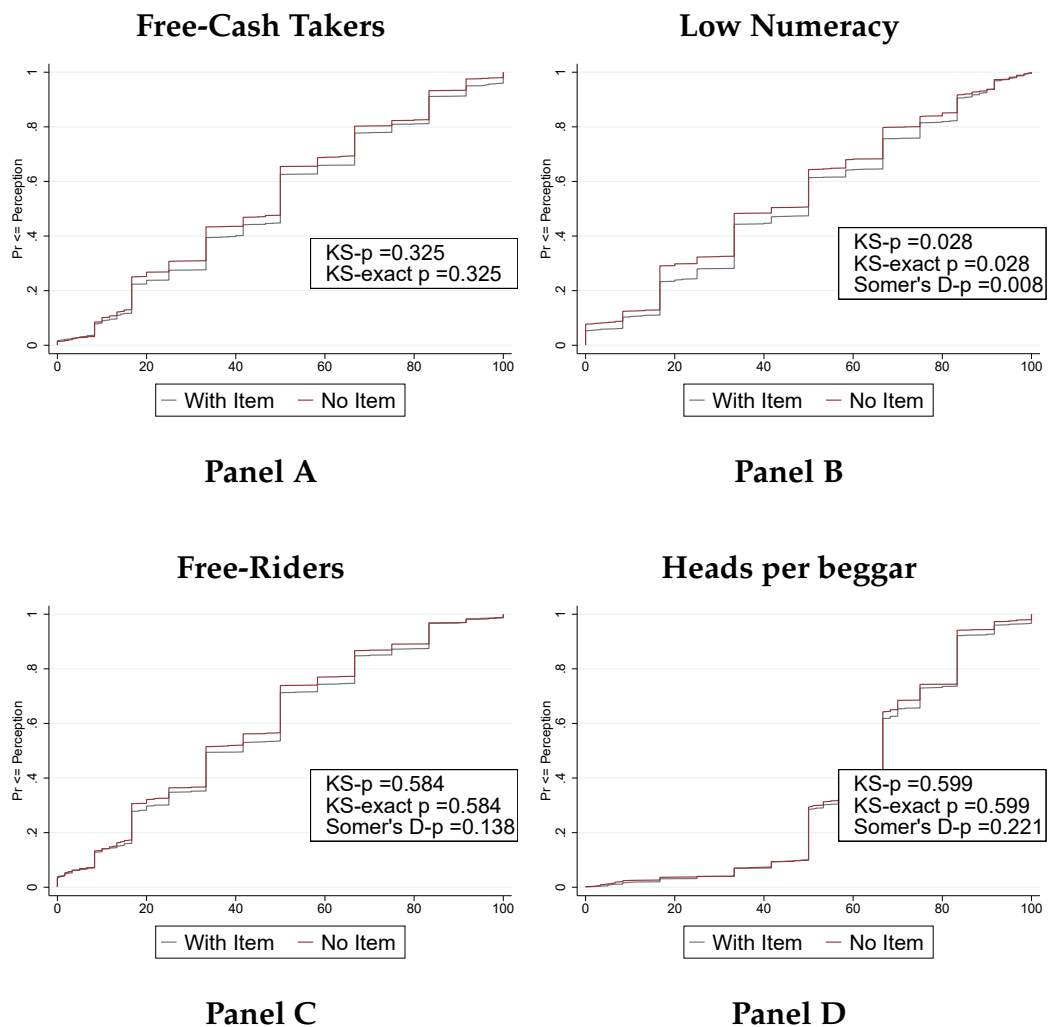


Figure C.3: This figure illustrates the distribution of donors' perception of beggars across various metrics using the within analysis: **Panel A** shows the perceived percentage opting for free cash, **Panel B** presents the perceived percentage with numeracy levels below 100, **Panel C** indicates the percentage perceived as free-riding, and **Panel D** displays the predicted number of times heads is reported per beggar (with values above 50 reflecting perceptions of dishonesty).