

Panhandling in Downtown Manhattan: A Preliminary Analysis

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PRELIMINARY AND INCOMPLETE—NOT FOR QUOTATION

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Abstract:

Panhandling is a very visible industry, yet mysterious to outsiders. How does it work? How do panhandlers allocate locations? Is there a market? Do they fight? Is there a mafia? How do panhandlers get donors to give, when many potential donors think most panhandlers are frauds? What are good policies toward panhandling? Should it be banned? Should generosity diversion programs be set up to divert donations to formal charities? Should it be encouraged? Our tentative answers are that there are more good locations than willing panhandlers, and so location is not contentious or a big source of efficiency losses. On information, a pooling equilibrium is far from first-best, and policy might concentrate on improving credibility.

Acknowledgments:

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“If I’m going to panhandle, I’m going to do it on the richest street in the world.”

---[Eugene], who works on Wall Street.

On an average day, only a few dozen people panhandle in downtown Manhattan. Many more work as store clerks, truck drivers, or economic analysts. But the work of panhandlers generates far more attention and concern than the work that goes on in these more numerous occupations.

Part of the reason that panhandling gets more attention is that panhandlers call attention to themselves; good business strategy recommends that a panhandler be noticed by large numbers of people. On several sidewalks of downtown Manhattan, more than 3000 people pass in a busy hour; pedestrian flows over 1000 an hour are common. In his or her professional capacity, the average downtown panhandler encounters more people in an afternoon than the average CCNY or Columbia professor encounters in a year.

Panhandlers try to call attention to their poverty. Other people who work in downtown Manhattan are also poor (canners, for instance), but tourists and office workers do not necessarily notice them. Working as they do at the center of American financial markets, downtown panhandlers may be the only obviously poor people that many New Yorkers and tourists see in a normal week. They are the visible face of poverty—and they also extend a cup that forces wealthier people to confront what they learned in a church, temple, or mosque.

Thus it is no surprise that almost everyone in New York has a few stories about panhandlers, and most have strongly held opinions, too. But almost all of these beliefs are based on anecdotes, or media reports about anecdotes. Our goal in this paper is to begin to move beyond these anecdotes to an analytical understanding of what the panhandling industry is like and how it operates. We hope this

understanding will be the basis for sound policies, and for sound advice to individuals about how they react to panhandling.

We do not claim that panhandling is the same everywhere as it is in downtown Manhattan. The industry is likely to be different in many ways in poor societies, for instance, or in more residential and less heavily trafficked neighborhoods, or on subways.

Two paradoxes set panhandling apart from most other industries, and most of the paper will explore these paradoxes.

The first paradox is the use of space. Downtown Manhattan panhandlers use some of the most valuable land in the US, but they pay nothing for using it, and they have no legal right to exclude anyone else from using it. Economists understand how land is allocated among other businesses in downtown Manhattan—they outbid other potential users for it, and pay the incumbent owner whatever they bid—and how they can exclude others from using it—they go to court, as Goldman Sachs, for instance, would do if Century 21 started selling shoes in its board room. But how panhandlers solve the land allocation problem is an open question. One goal of this paper will be to describe how spots are allocated, assess the efficiency of this process, and discuss the policy implications.

The second paradox is the use of credibility. In general, panhandlers have a credibility problem. Many potential donors think that many panhandlers are frauds. Entry into panhandling is open, and anyone can become a panhandler, no matter how deserving he or she is of others' charity. The paradox is that while panhandlers in general have low credibility, their livelihoods depend on having high credibility, since donors have no obvious way of learning, even ex post, whether their donations accomplished the intended purpose. Panhandlers are like used car salesmen whose customers never get to take possession of the cars they buy; they just get reports from the salesmen about how well the cars are supposed to be running. It's amazing that panhandlers can make any money at all.

Yet they do. One of the goals of this paper is beginning to describe how this happens.

In this paper we try to unravel these paradoxes. One of us (GD) has completed many months of ethnographic research in downtown Manhattan; walking and mapping a number of unspecified routes, often more than once; , observing the social and physical landscapes, and when possible, talking briefly over a number of weeks to panhandlers who occupied locations along these routes. These conversations ranged in duration from a few minutes to half an hour. Though brief, the repeated visits over the course of our research allowed us to piece together preliminary answers to our questions. Equally noted were locations that we assumed would be occupied but were not. For example, a well-travelled path situated in front of a news stand and popular lunch place was only sporadically occupied by a small number of different panhandlers over the course of our research. The tentative answers we give are based on this research.

We begin with portraits of several panhandlers who have been working in downtown Manhattan for several years, and seem to be among the more successful in the business. Readers should begin with some understanding of the people who form this industry. Some panhandlers have many years of experience, while others pop up for a few days and then disappear. Because ethnography takes time, we know more about the former group than the latter.

Section 2 is about the location paradox in its simplest and cleanest form. We develop a model of location allocation when both potential panhandlers and potential locations are heterogeneous, and explore its implications, both positive and normative. The model will tell us what parameters matter in assessing exogenous changes and policy changes.

Section 3 compares the formal model of section 2 with our observations of downtown Manhattan and what panhandlers themselves tell us. It describes how locations are actually allocated, what panhandlers know about their peers and how much they communicate, and what the policy

implications of these arrangements are. Our tentative conclusion is that locations are allocated like seats on a half-empty bus: at any moment many locations almost as desirable as those occupied will be unoccupied, and so location is usually neither contentious nor a source of large efficiency losses (although there are some efficiency losses). There may be some exceptions to this general condition, however.

Section 4 turns to the paradox of credibility. We develop a non-spatial model of informational equilibrium in the panhandling market, and assess its efficiency. Major efficiency gains could be achieved if some panhandlers (or donors) could differentiate themselves from the others.

Section 5 then looks at the ways that downtown Manhattan panhandlers approach the credibility issue. We examine the experiences of the United Homeless Organization, *Street News*, and Occupy Wall Street, and look at the phenomenon of “regular customers.” The issue of differentiation appears in all of these experiences.

Section 6 describes the policy implications of our findings so far.

Throughout this paper, we have replaced the names of the panhandlers with pseudonyms. Where possible, we have also changed the names of streets. Downtown Manhattan, however, includes place like Ground Zero, Wall Street, and Zuccotti Park that are iconic locations, and we have not tried to disguise them. The opening in the near future of the Freedom Tower and Fulton Transportation Center will cause major changes in pedestrian flow in downtown Manhattan, and so for the panhandling industry will be a major exogenous shock. We hope to observe how the industry responds.

Our working definition of panhandling is asking passersby for money for oneself in a public place without offering anything of ostensible value in return. We therefore exclude musicians (however

awful), trinket vendors, mendicant nuns and friars, solicitors for recognized charities, and the costumed characters like the Naked Cowboy and Weedman who pose with tourists for a fee.

1. People who panhandle

Eli is severely disabled and confined to a wheelchair. He is a slight African-American man in his mid to late forties. He is unable to speak clearly. His uncontrollable twisting movements undermine his ability to maintain eye, but they do little to stop him from trying to let people see his somewhat toothless smile.

Eli is not homeless; he rents a small place uptown. Eli collects Supplemental Security Income (SSI) and Medicaid. Rent, food, utilities and transportation leave him little money for anything else, such as helping out his daughters every now and then, and making monthly payments for his cell phone¹. Eli held regular employment in the past; he worked in a mailroom for two hours a day, but his hours are constrained by government regulated income limits. The more income Eli has, the less his SSI benefit will be. Furthermore, if his "countable" income exceeds the allowable limit, he will lose his SSI benefits.²

We learned about Eli from Freddy, another wheelchair-bound panhandler. Eli used to panhandle at Freddy's current location. According to Eli, he moved to his present location because "there are more people here." An understatement; Eli's 4:00PM – 9:00PM, Monday through Friday shift brings in many potential customers, a fact that Eli sums up when he says, "same people, same time." Over time we

¹Eli bragged that since he switched carriers that he chopped close to \$90.00 off his monthly bill.

²Countable income includes earned income from wages, from self-employment; unearned income, such as Social Security benefits, pensions, State disability payments, unemployment benefits, interest income, and cash from friends and relatives; in-kind income, for food or shelter; and deemed income from a relative (<http://www.ssa.gov/ssi/text-report-ussi.htm>).

learned that Eli did have “regulars,” people whom he sees everyday who drop change or a bill into his cup. With a quick “hello buddy” and a pat on the shoulder they move on. Both men and women give “equally,” according to Eli. For Eli and Freddy’s, their broken bodies gave them a certain amount of credibility. But this is clearly not the norm for this downtown area.

Jesse is an overly tanned and tattooed white man from upstate New York. Jesse is currently enrolled in a nine-month program for people with disabilities. Jesse was quick to volunteer his background. “My father died when I was eight. I was a real handful, a heroin addict. When I went to jail in 1998 I got cleaned up.” And without prompting, he continued, “I used to be homeless, lived on the streets. Now I stay at cheap hotels. I like to get cleaned up and hang out, but not the way I used to. It’s different hanging out when you’re not an addict. The streets look different when you’re high.”

Unlike Eli, he does not receive SSI or Medicaid. His disability – recovering addict – meets the criteria for a handful of programs designed for homeless single adults with alcohol and drug problems. Once he completes the program he will get an internship to live and work with people, preferably kids in an in-patient setting, for a moderate stipend and a “conventional” place to live. Jesse’s lived experience, unlike Eli, qualifies him for employment.

Jesse told me that he usually works the 6:00AM – 9:00AM shift Monday through Friday. But today we encountered him in the afternoon, around 2:30. According to Jesse, it was a “slow day,” only \$5.00 collected so far, which is not enough for a cheap hotel and some food.

Jesse panhandles on a wide, well-travelled sidewalk on a busy avenue. Unlike Eli, he also panhandles in other locations throughout the city. Much like Eli, he used to panhandle in another nearby downtown location. All three, Eli, Jesse and Freddy, panhandle only a few blocks apart from one

another. Their schedules cover morning, afternoon and evening³. Our encounters with Jesse were always after the morning shift he claimed to work⁴. While his cup and customer base never measured up to Eli's, his four years downtown and various locations, provided him the opportunity to form positive and antagonistic relationships with other panhandlers in the area.,

Eli, Freddy, and Jesse begin to reveal the paradoxes of location and credibility.

2. An ex ante location model

Seats on an uncrowded bus or subway car are allocated on a first-come-first-served basis, even though some seats are better than others for most people. The differences in seats are not large enough, relative to the discomfort of reallocation, to be worth fighting over. Even on a crowded bus or train, first-come-first-served still prevails, except for norms of courtesy (giving seats to disabled or pregnant passengers), and fights over seats rarely break out, despite the significant heterogeneity in discomfort. No one pays any other passenger for a seat.

On the other hand, most real estate in the US is allocated by market processes. Each parcel has an owner whose identity is recorded on government documents, and with that ownership come certain rights that the government will enforce at no cost to the owner. Among those ownership rights is the right to exclude (without giving any reason whatsoever) most others from occupying or using the property.

³ We will explore why the lucrative locations we observed are not occupied by panhandlers at other times of the day.

⁴ The only reason we encountered him in the afternoon was that we have not yet visited the location in the early morning.

Are panhandling locations more like seats on a bus or parcels of real property? How can an outside observer tell which allocation system is being used? What makes bus seats different from real property parcels? What are efficient allocations? Are bus seats allocated efficiently? How can an outside observer tell whether panhandling locations are being used efficiently?

In this section we will try to answer these questions in order to understand how panhandling locations are allocated. We will also develop comparative statics, both in order to assess proposed policies and to predict what will happen when the Fulton Transportation Center and Freedom Tower open.

The models in this section have two important limitations. First, we do not try to consider donor motivation and utility. When donors encounter panhandlers, a certain proportion give, for reasons we do not yet try to understand. For welfare analysis, a donor who gives a dollar gains a dollar in utility, and so potential donor utility cannot be affected by panhandler behavior. Second, among potential panhandlers we consider only ex ante location payoffs. That is, we exclude the possibility that a particular location will become more valuable over time to a panhandler who has been occupying it. Both restrictions will be relaxed later.

a. The set up

Consider a set of locations $\Lambda = \{1, 2, \dots, L, \dots, L\}$ and a set of potential panhandlers $\Pi = \{1, 2, \dots, j, \dots, J\}$. Location is defined by both a spot and a location (four dimensions, in other words): for instance, the northeast corner of Wall Street and Broadway from noon to one p.m. on July 29, 2014. A *matching* M is a subset of $\Lambda \times \Pi$ that assigns no more than one panhandler to any location and no more than one location to any panhandler. We define M_Λ as the subset of Λ of assigned locations under M :

$$M_\Lambda = \{l \in \Lambda | (\exists j) (l, j) \in M\}.$$

Similarly we define M_Π as the subset of Π of assigned people under M :

$$M_\Pi = \{j \in \Pi | (\exists l) (l, j) \in M\}.$$

A matching M is *congruent* to a matching M' if and only if $M_\Lambda = M'_\Lambda$ and $M_\Pi = M'_\Pi$. The *size* of a matching M is the number of elements in M : $|M| = |M_\Pi| = |M_\Lambda|$. Let $\mu(n)$ denote the set of all matchings of size n .

For each location l , let x_l denote the minimum revenue a panhandler would earn at that location for that period of time (more precisely, the ex ante expected value of this amount). For each person j , let c_{1j} denote opportunity cost of panhandling for a unit of time (including stigma and exertion), and let c_{2j} denote the excess revenue that person j would make at any location—which is implicitly assumed to be the same at all locations. Let

$$c_j = c_{1j} - c_{2j}.$$

For ease of exposition we index locations in decreasing order of x_l and people in increasing order of c_j :

$$x_1 \geq x_2 \geq \dots \geq x_l \geq x_{l+1} \geq \dots \geq x_L$$

$$c_1 \leq c_2 \leq \dots \leq c_j \leq c_{j+1} \leq \dots \leq c_J$$

Then we assume that for any pair (l, j) , the net gain that person j would realize if he or she were matched to location l is

$$(1) \quad r(l, j) = x_l - c_j.$$

Notice that (1) implicitly assumes independence: there is no idiosyncratic component of net gain specific to the pair (l, j) .

Define *aggregate net gain* from matching M as

$$R(M) = \sum_{(l,j) \in M} r(l,j).$$

b. Efficiency

A matching M is *efficient* if there is no M' such that $R(M') > R(M)$.

A matching M is *location-convex* if M_Λ consists of all locations with indices less than or equal to some integer n , and only those locations. A matching M is *person-convex* if M_Π consists of all people with indices less than or equal to some integer n , and only those locations. A matching M is *convex* if it is both location-convex and person-convex.

A matching M is *diagonal* if every location in it is matched with the person with the same index (and vice versa): $(l,j) \in M$ implies $l=j$.

Define n as an *intersection* if (1) n is the largest positive number i for which $x_i \geq c_i$; or (2) $n=0$ if no positive number satisfies part (1). See figure 1. An intersection n is *unique* if $x_{n+1} < c_{n+1}$. For ease of exposition, we will assume that all intersections are unique.

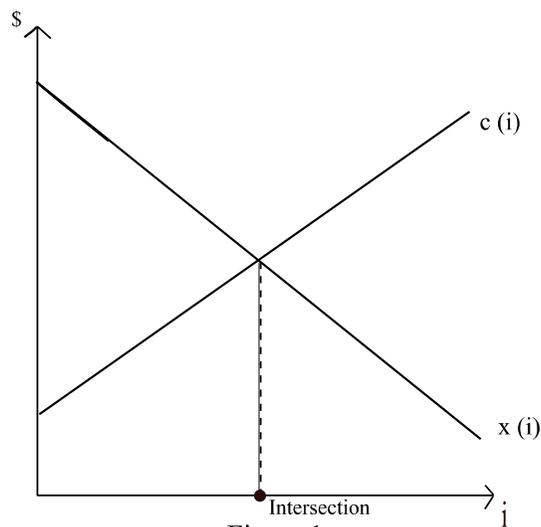


Figure 1

Our basic result on efficiency is:

Proposition 1: A matching M is efficient if and only if it is diagonal, convex, and of size n^* , where n^* is an intersection; or if it is congruent to such a matching.

Proofs are gathered in the appendix.

Thus as long as the intersection is greater than one, there are many efficient matchings, but in general the sets of occupied locations and active panhandlers are the same at all efficient matchings (the latter property would not hold if intersections were not unique).

Figure 2 shows an efficient matching size n^* , and the associated aggregate net gain. This is a familiar picture: the opportunity cost curve is like a supply curve, the revenue curve is like a demand curve, and the intersection is like a market equilibrium. Aggregate net gain is like social surplus.

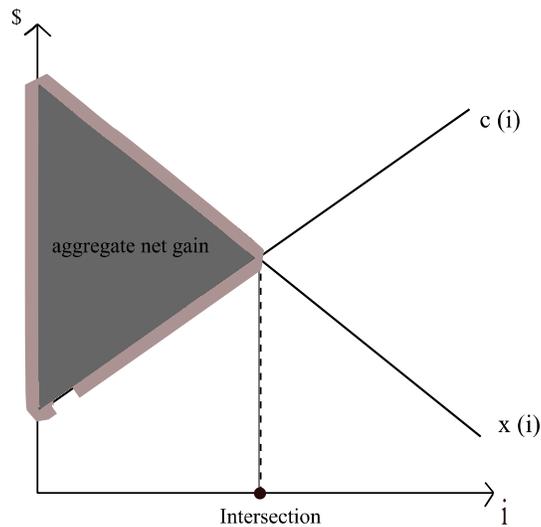


Figure 2

Figure 3 shows what would happen if panhandling locations were owned by absentee landlords and were rented out in a competitive market. At equilibrium, of course, social surplus would be maximized and so the induced matching would be an efficient one. Aggregate land rent would be area A, and producer surplus would be area B.

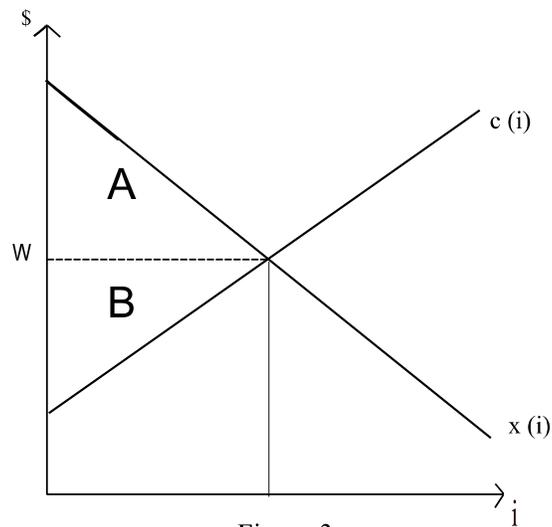


Figure 3

Alternatively, suppose that instead of landlords renting locations to panhandlers, they hired them to work at their locations, paying them a wage and keeping the proceeds. Then in figure 3 OW is the equilibrium wage, area A is profit, and area B is worker surplus. In either case, area A is the rent that land receives, and area B is the rent labor receives.

Thus in figure 2, panhandlers are both landowners and workers. They appropriate a location, and then hire themselves to work there. Part of their rent comes from land, part from labor. Suppose panhandlers were somehow to achieve an efficient matching. If opportunity costs (and stigma and panhandling ability) were fairly homogeneous, as in figure 4, and locations were heterogeneous, then most of the rent panhandlers received would be from land. On the other hand, if locations were

homogeneous (ex post at least), as in figure 5, and panhandling abilities and inclinations were heterogeneous, most panhandler rent would be received from labor.

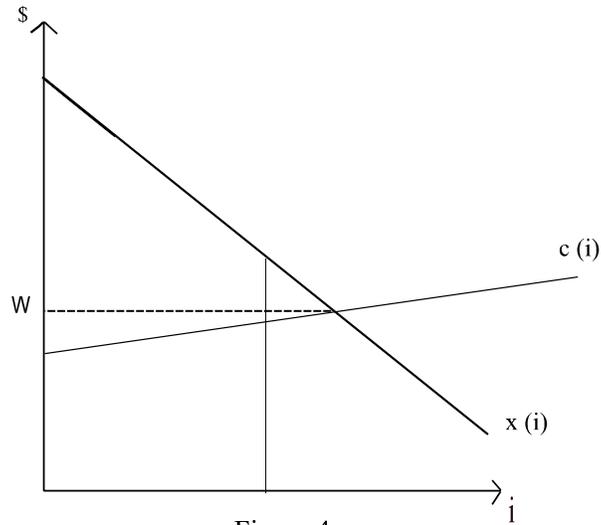


Figure 4

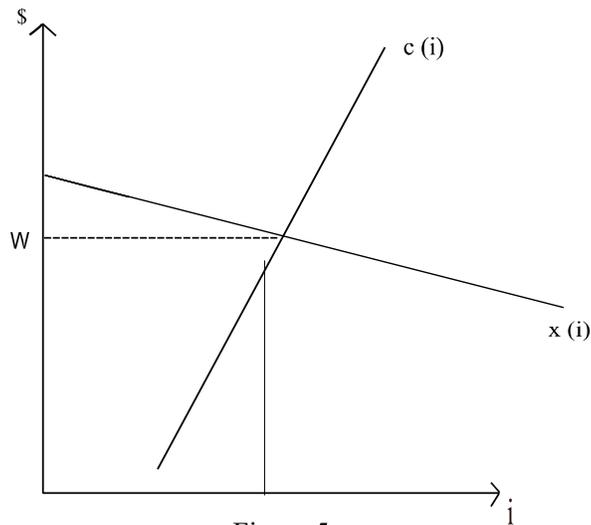


Figure 5

We call figure 4 the inelastic land case, and figure 5 the inelastic labor case. If locations were allocated efficiently, in the inelastic land case an outside observer would notice a stark difference between locations that were occupied and those that were not, but would see little difference between active panhandlers and many people who were not panhandling at the moment. In the inelastic labor

case of figure 5, an outside observer would see many unoccupied locations quite similar to occupied locations.

Figures 4 and 5 also have implications for comparative statics. Because the efficient matchings are the same as market equilibria, exogenous shocks and policies will have the same effects on efficient matchings as they would on market equilibria.

Consider shifts in labor supply—other employment opportunities improve, say, or stigma increases. In the inelastic labor case, panhandling decreases, but the revenue of the marginal panhandler changes very little. In the inelastic land case, the amount of panhandling changes very little, but the revenue of the marginal panhandler increases considerably.

Uniform shifts in the location curve—less generous donors, fewer tourists or office workers—work in the opposite direction. In the inelastic labor case, the amount of panhandling changes very little, but the revenue of the marginal panhandler falls drastically. In the inelastic land case, there may also be only a small effect on the amount of panhandling if the shift is uniform, but there could be a large effect from a non-uniform shift—if, for instance, police cracked down on the most lucrative locations, those locations could not be replaced. (In all of these cases we ignore the split of rent between land and labor since both factors are held by the same person.)

Remember that these are comparative statics exercises of efficient matching and for market equilibrium. Without a visible market, whether an efficient matching or anything like it is actually implemented is an open question.

c. Efficient matchings without a market

Under what conditions could an efficient matching be implemented without a visible market? We can think of three possibilities.

First, an invisible market could exist, in which third parties like security guards or porters control at least some locations, and allow select high-bidding panhandlers to use these locations in return for some sort of payment. Second, panhandlers could be governed by norms that tend to produce efficient matchings. Third, implicit bargaining procedures among potential panhandlers might produce efficient matchings.

We will examine the first two possibilities, implicit ownership and norms, in section 3 where we look more carefully at what actually happens in lower Manhattan. The third possibility, implicit bargaining, will be examined in this section.

d. Implicit bargaining

In this section, we show a set of necessary and sufficient conditions for an efficient matching when nobody owns locations, but potential panhandlers can bargain among themselves. We will write down a series of conditions we would like the outcome of decentralized, no-ownership process to fulfill, and show that the outcome of such a process is an efficient matching if and only if these conditions are fulfilled. In section 3, we will try to discern whether lower Manhattan panhandlers fulfill these conditions.

There are four conditions.

First, a matching M satisfies *non-emptiness* if whenever $(l, j) \notin M$ and $r(l, j) > 0$, either $l \in M_\Lambda$ or $j \in M_\Pi$. A matching satisfies non-emptiness as long as there is no idle person who can profitably panhandle at an empty location. This condition presumes some knowledge of available locations.

Second, a matching M satisfies *no-person-improvement* if whenever $(l, j) \in M$ and $l' \notin M_\Lambda$, $r(l, j) \geq r(l', j)$. No panhandler can improve his payoff by moving to an unoccupied location. This condition again presumes some knowledge of empty locations. Notice that the first two conditions

require at most knowledge of empty locations; they do not require bargaining with other panhandlers. The last two conditions are stronger.

Third a matching M satisfies *no-location-improvement* if whenever $(l, j) \in M$ and $j' \notin M_{\Pi}$, $r(l, j) \geq r(l, j')$. No idle panhandler could earn a greater payoff than the incumbent at any occupied location.

Finally, a matching M satisfies the non-expulsion condition if whenever $(l, j) \in M$ and $(l', j') \in M$ (where (l, j) and (l', j') are not necessarily distinct), then $r(l', j') \geq r(l', j) - r(l, j)$. If this condition is not satisfied, then the gain to panhandler j from moving from location l to location l' and expelling panhandler j' who is there is greater than the loss to j' , who becomes idle.

The non-expulsion and no-location-improvement conditions both presume interaction between panhandlers.

For future reference, the following lemma is useful:

Lemma (non-exclusion): A matching M satisfies the non-exclusion condition if and only if

$$(2) \quad \min_{l \in M_{\Lambda}} x_l \geq \max_{j \in M_{\Pi}} c_j.$$

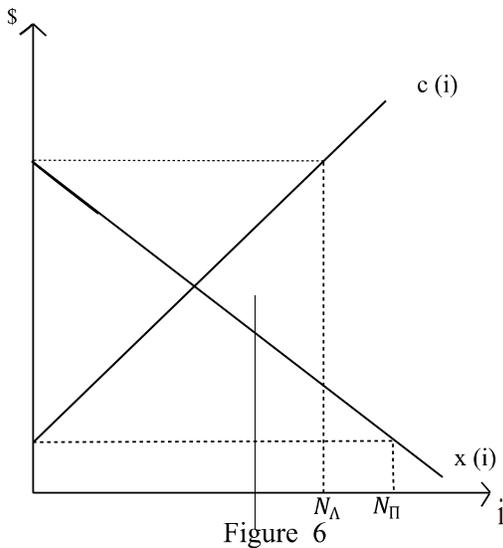
Define a matching M as *individually rational* if $r(l, j) \geq 0$ for all $(l, j) \in M$. Notice that from (2), the non-expulsion condition implies individual rationality.

The major result of this section is:

Proposition 2: A matching M is efficient if and only if it satisfies the four conditions (non-emptiness, no-person-improvement, no-location-improvement, and non-expulsion).

These conditions, especially no-location-improvement and non-expulsion, may be onerous. The next proposition shows the range of outcomes that are possible if these two conditions are dropped, but the individual rationality implication of non-expulsion is retained. Essentially, the question is what matchings are possible if potential panhandlers are well-informed, but do not bargain with each other.

Define N_Λ as the *upper place bound* if it is the largest m such that $c_m \leq x_1$ (if no such m exists, $N_\Lambda = \infty$). Define N_Π as the *upper person bound* if it is the largest m such that $c_1 \leq x_m$ (if no such m exists, $N_\Pi = \infty$). Define the *upper bound* N as the smaller of the upper place bound and upper person bound: $N = \min(N_\Lambda, N_\Pi)$. Figure 6 illustrates. It is easy to prove that an upper bound is always at least as large as an intersection.

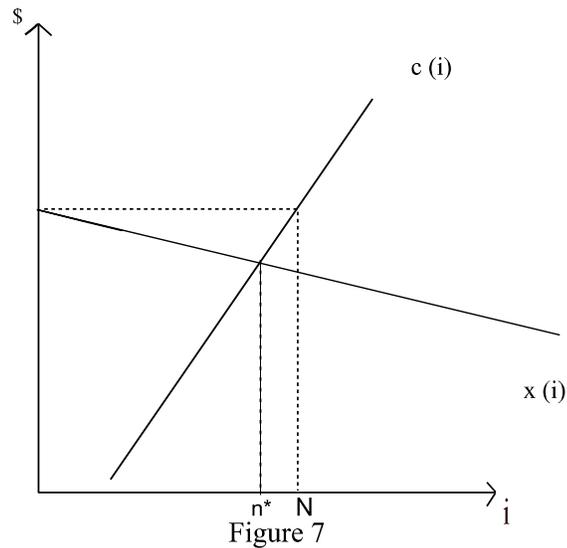


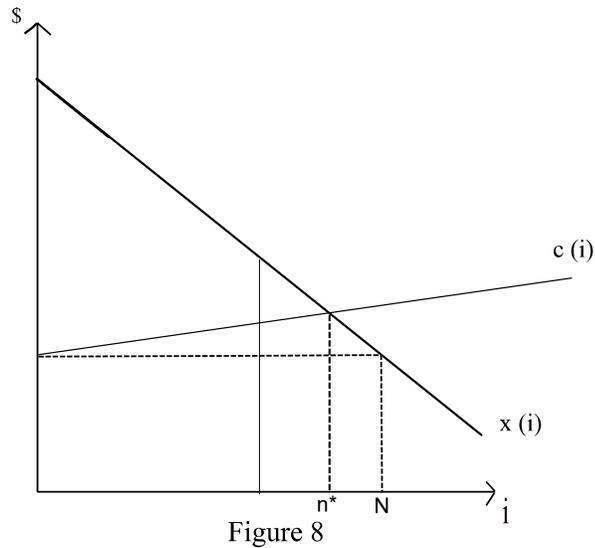
Proposition 3: *If a matching M satisfies individual rationality, non-emptiness, and no-person-improvement, then M is place-convex and $n \leq |M| \leq N$, where n is the intersection and N is the upper bound.*

It is possible to construct examples where the upper bound is attained.

Thus matchings without inter-panhandler bargaining are in general inefficiently large. If fewer people panhandled, the aggregate net gain of panhandlers would be greater.

How close to the efficient matchings is the range of possible matchings without bargaining? It depends on the smaller elasticity. If, say, locations are fairly homogeneous and so the revenue curve is elastic, as in figure 7, then the upper bound is close to the intersection. The size of matchings under proposition 3 is close to the size of the efficient matching, and the comparative statics results we derived hold approximately. The same is true when potential panhandlers are homogeneous, as in figure 8.





3. How do panhandlers allocate locations?

The simple answer is that panhandlers deal with locations in much the same way that passengers on a half-empty bus deal with seats: the good seats get taken first, but there are enough decent seats that nobody fights over them or charges for them. The equilibrium is like that of proposition 3 in the inelastic labor case. The allocation is likely not efficient, but the deadweight loss is probably small.

We will develop this argument in several steps. First, we will show that panhandling locations, with some possible exceptions, are not owned by anyone. There are norms, however, which include some prohibition on physical force; rent is not dissipated in fighting for locations. Panhandlers think about locations, and are somewhat informed about what other panhandlers are doing. But their knowledge is limited. For instance, Freddy and Eli are mutually aware of where the other panhandles but not when; their locations are far from each other. Abel and Jesse, on the other hand, have a better

idea of when Rose panhandles; their proximity necessitates knowing when as well as where.⁵ Thus the conditions for proposition 3 seem to be met.

Next we will show that land is supplied elastically and labor is supplied inelastically. On location, many locations are vacant at times when other locations not noticeably more lucrative are occupied; as outside observers we find it hard to predict what locations will be occupied. Panhandlers do not appear to rank locations strongly either. On labor, we will discuss both intensive and extensive margins. Most panhandlers seem to be target earners, and the number of panhandlers expands little when conditions improve at the end of the summer.

Since little rent accrues to land in this case, an implication is that disputes over location should be rare, and our research is in keeping with this implication.

a. Mechanisms

We found no evidence of anyone paying anyone else either to use or vacate a location. The idea just did not make sense to the panhandlers we talked to. We could not get answers to direct questions about this.

However, in two cases we suspect that some sort of collaboration occurs with representatives of abutting property owners. Both cases involve what appear to be extremely lucrative locations, not ordinary or marginal locations.

Eli works on a pedestrian passageway next to the World Trade Center site. There are no stores or entrances on this passageway, and foot traffic seems to us to be denser than any other place downtown—easily 3,000 people per hour. The passageway is about 100 meters long, and usually Eli is

⁵ Mary panhandles in two locations, while Justin and Johnny have one each. It is not clear whether Mary is aware of the schedules of Justin and Johnny.

the only panhandler. Occasionally we have seen an assortment of random panhandlers there, but they do not persist. Eli says that when more than one panhandler is present, the Port Authority police ask them all to leave. But he comes back and nobody bothers him. Eli works from 4 pm to 9 pm, and the passageway has considerable traffic at other times, too, but we have not seen other panhandlers there when Eli is absent. Similarly, Freddy's daily mid-morning and afternoon presence go largely unnoticed by both Port Authority police and the Downtown Alliance.

Thus it is not impossible that the Port Authority police have a relationship of some sort with Eli and Freddy and effectively grant them a monopoly on these very lucrative locations. But we cannot yet confirm our suspicions.

Rose, at this time the only established female panhandler, in addition to Broadway, works around Wall Street, where there are heavy pedestrian flows, barricades, and much security. The Department of City Planning (DCP)(2006) estimated pedestrian flows over 4000 an hour at mid-day, 2400 an hour in the evening rush hour. Places where a panhandler can stand and be visible are limited, and are mainly near the indented entrances to office buildings. Rose is the only panhandler we have seen using these places. Another panhandler, Jesse, who does not like Rose, accuses her of trading sexual favors for access with building personnel. To date, we have not been able to speak with Rose.

Aside from these suspicions, nothing that looks at all like a market could be found. We have also witnessed no physical altercations or threats, or been told by panhandlers about any. The closest to any physical altercation was mentioned by Jesse, who claimed to have "stuck up" for Rose when she was being harassed by members of Occupy Wall Street (OWS). More on this incident later.

A norm of first-come-first-serve seems to prevail; no panhandler will ask or force another panhandler to leave a location where the second is already working. We met Theo at a corner that did not seem to have a lot of foot traffic and he told us that he was getting donations, but at a slow clip. He

said he usually worked on the other side of the street, but when he arrived today at noon, later than usual, another panhandler was already there. Citing first-come-first-serve, he moved to his present location. He was clearly more skilled and aggressive than the panhandler who had arrived first—that panhandler was asleep and his cup was empty. But Theo was not trying to displace him.

Ellickson (1991) describes similar norms not backed by law among the farmers and ranchers of Shasta County, California. But Ellickson attributes the persistence of these norms to long term relationships in which people expect to be helped by others in the future. It is not clear whether panhandlers in lower Manhattan are either useful enough to each other, or planning to be in lower Manhattan long enough for Ellickson's conditions to be met. The closest evidence we have to Ellickson's condition of reciprocity is that Jesse and Abel]appear to have a good enough understanding of Rose, recognizing that "she does ok, but people don't like her." Freddy is well aware of Charlie, who travels with a cat on his head and accumulates small donations by having tourists take pictures. Further work needs to be done.

An alternative explanation is that physical altercations among panhandlers are unlikely to help whoever initiates them. Some panhandlers, like Eli and Freddy, are not able to start an altercation, and aggressive actions by others, even if successful, are likely to bring police attention and a negative reaction from potential donors.

Many panhandlers seem to be aware of other panhandlers and where they usually work. Although their information was not always flawless, several times we were directed to panhandlers we had not seen before. We did not ask whether panhandlers knew how much money other panhandlers were making, because this information is not needed for proposition 3, but they probably do not know, because panhandlers generally do not share this information. Panhandlers also empty their cups often, so that learning from observation would be hard.

Proposition 3 also requires that panhandlers know about how much revenue they could earn at spots currently unoccupied. The requirement is not knowing a correct point estimate, but having an unbiased prior. We talked with panhandlers about other spots, but could not figure out much about what they knew, partly because we have not developed a way of forecasting how lucrative unoccupied spots would be. Grading an exam is hard when you don't know the correct answers.

b. Elastic land

Our next assertion is that at the margin, and pretty far from the margin in both directions, locations are pretty much the same. A few locations may be excellent, like the ones we discussed in the previous subsection and thought might be privately controlled, and many may be terrible (narrow deserted alleys, for instance), but a large range of locations are fairly homogeneous, and the marginal location is in this range.

Remember that revenue per hour at any location is a stochastic variable, and this variable probably has large variance. Suppose that the rate of pedestrian flow past any spot is constant, that all donations are of the same size, and that the proportion of donors is small. Then revenue per hour is a Poisson variable, with standard error equal to mean. (If the rate of pedestrian flow or the donation size is not constant, then the variance of revenue will be greater than the variance of a Poisson variable.) An econometrician would need a large sample of realized revenue by time of day, day of week, season, and weather condition to develop a tight confidence interval for mean revenue⁶. Most panhandlers are not skilled econometricians, and so one would not expect precise information about the locations at which they were not working. (As outside observers who do not have data on revenue, we know even less.)

⁶ Consider a Poisson variable with mean μ , variance μ^2 . An independent sample of size n has mean $n\mu$ and variance $n\mu^2$. The 95% confidence interval has width approximately 3.92 times the standard error, which is $\mu\sqrt{n}$. For the 95% confidence interval to be less than 10% of the mean requires that $n \geq 39.2$, which is a lot of observations for a panhandler to make and record, even if the environment were perfectly stationary.

We base our assertion on discussions with panhandlers, and on data on locations.

In our discussions with them, panhandlers could not articulate reasons why one location was better than another, or in particular, why the location at which they were working was superior to all other available locations. Theo's example is interesting: one could infer from his unwillingness to roust the sleeping interloper from his usual spot that there was little difference between his usual spot and the one to which he had been exiled.

A typical response came from Freddy, who had two usual locations near a popular store. He moved back and forth between them based on the sun. He said he had tried to panhandle in many locations, but "This spot just seems to work." That statement was made in July 2012. Before the summer of 2013, Freddy had to move to a place much further from downtown, and we did not see him often in summer 2013. The location Freddy occupied almost continuously in summer 2012 was rarely occupied in summer 2013. Whenever we saw Freddy in the summer of 2013, he was in the same spot he occupied in 2012.

The obvious explanation for why Freddy, who is physically disabled, could effectively occupy two locations in summer 2012, and why neither was much occupied in summer 2013, is that, relative to the number of potential panhandlers, locations as good as Freddy's are plentiful.

The other kind of evidence comes from our observations of unoccupied locations and some objective data. For instance, Eli usually starts work around 4 pm, but his passageway is almost always unoccupied when he is not there. Of course, this may be because other potential panhandlers do not have Eli's relationship to the police (and Eli may not have this relationship either).

Pedestrian flow is one important aspect of location for which some independent data are available. The average generosity within a flow matters too, of course, but we have no data on that.

Visibility should affect panhandling revenues, too. Amenities should also make a difference to panhandlers—shade, space, access to public toilets—and we have some information about that. Subway entrances may be desirable, holding pedestrian flow constant, since they provide some extra dead space, they offer visibility, and people may have their hands in their pockets or may be reducing their walking speed as they approach.

The New York Department of City Planning (DCP) published a pedestrian level of service study for lower Manhattan in 2006. As part of that study, they measured pedestrian flows at 62 locations at three times of the day (morning rush hour, midday, and evening rush hour). The unit of observation is a “block-front”: a sidewalk from one corner to the next on one side of the street. Major physical changes have not yet occurred downtown since this study was done, and so we will use it as a reference.

The 62 block-fronts were not randomly selected, but the DCP had some preference for subway entrances. They did not include [Eli’s] passageway. They included only 12 block-fronts on Broadway, although there are 30 block-fronts on Broadway below Chambers Street, and all of them are crowded.

The common wisdom among planners is that for shopping purposes there is an optimal flow of pedestrians: “Crowds attracted to sporting events move efficiently at 33 people per 22-inch lane per minute (2,000 per hour). This rate is too high for sidewalks in front of retail stores, where pedestrian comfort and convenience is vital to businesses... [and] 18 to 27 per minute (1,100 to 1,600 per hour) is considered the desirable maximum” (Evans, 1950, pp. 105-106). For panhandling, the optimal rate might be higher than the optimal rate for stores, since pedestrians do not need to observe panhandlers as closely potential buyers have to observe merchandise, and the proportion of people who patronize panhandlers is almost certainly smaller than the proportion who patronize retail stores.

We divided the 62 DCP block-fronts into three classes based on midday flows: heavy traffic—over 2,000 pedestrians an hour; moderate traffic—between 1,100 and 1,999 pedestrians an hour; and

light traffic—under 1,100 pedestrians an hour. There were 19 heavy traffic block-fronts, 30 moderate, and 13 light. To these we added the remaining 16 block fronts on Broadway below Chambers; these are concentrated between Fulton and Wall Streets. In the DCP data set, all 12 Broadway block-fronts had pedestrian flows over 2,000 an hour, and casual observation suggests no substantial diminution of pedestrian traffic outside the DCP data set. We call these the added block-fronts. Broadway sidewalks are usually wide, and shade is reasonably abundant. Finally, we added block-fronts outside these sets where we had seen panhandlers sometime during the summer; we call these the established block-fronts. Eli’s passageway, for instance, was an established block-front because it was not in the DCP set or on Broadway.

At the end of August 2013, and again at the end of September (after the Jewish holidays), we surveyed the heavy, moderate, and added block fronts to count the number of panhandlers (or panhandler groups) present at midday and during the evening rush hour. (Since SSI and some other government payments are delivered early in the month, we wanted to be in the same point in both months). We looked at 71 block-fronts in all. Results are presented in table 1. Since we are considering block-fronts, the question in table 1 is whether at least one panhandler is observed on a block-front. For this purpose, it does not matter to us whether panhandlers are working in a group or there are two separate panhandlers on the block.

Table 1: Survey Results on Occupied Block Fronts, 2013

	Number of blocks that have at least one panhandler in each month		Total block fronts	
	August	September		
Established	0	1	1	6
Added	3	1	1	16
Heavy foot traffic	0	2	2	19
Moderate foot traffic	0	1	1	30

The most striking result in table 1 is that many locations with heavy or moderate traffic are empty on both occasions. Many spots that seem on the simple pedestrian traffic criterion as similar to occupied spots go unoccupied. This is what you would expect to see if the location supply curve was flat.

Finally, a sufficient condition for there to be little difference in desirability among many locations is that the correlation between August and September occupancies be low. (This is not a necessary condition because habit, familiarity, and ignorance could produce a positive correlation even if all locations were identical.) Here, the relevant variable is the number of panhandlers on a block-front, not the number of groups, because presumably more desirable block-fronts might draw a larger number of panhandlers. The simple correlation between the number of panhandlers on a block-front in August and the number in September is 0.24.

We also ran a linear regression with the number of panhandlers on a block-front in September as the dependent variable. Explanatory variables were the number of panhandlers on that block-front in August, the time of day (mid-day or late afternoon), and a binary indicator for heavy pedestrian traffic (whether the block-front was heavy traffic or added, vs moderate traffic or established). The coefficient on August panhandlers was positive and significant at the 1% level (no other coefficient was significant). One more panhandler in August added a quarter of a panhandler in September.

Thus there is some persistence in panhandler locations. Our survey technique did not allow us to check the identity of September panhandlers against that of August, but we know that Eli was in both samples. Since there are many good reasons to expect persistence even if the locations are perfectly homogeneous, these small but positive correlations do not lead us to reject the idea that locations at the margin are fairly homogeneous. Obviously, more data are needed.

c. Inelastic labor

Finally, the supply of labor to panhandling appears to be inelastic; potential panhandlers are heterogeneous and the amount of panhandling does not increase greatly when the monetary rewards to panhandling increase. Again, we offer both ethnographic and quantitative evidence to support this assertion.

Labor supply can vary on either the intensive or extensive margin. On the intensive margin, most of the panhandlers we have talked to say that they work 5-6 hours a day (Freddy in 2012 was the exception; he said he worked around 10 hours a day). Why didn't they work more? The standard response is that they are target earners with targets in the \$60-\$100 range. If most panhandlers are target earners, then the amount of panhandling will fall, not rise, when revenue per hour increases.

Target earning has been claimed for New York City cab drivers (Camerer et al., 1997), but this claim has been disputed (Farber 2008, Crawford and Meng 2011). An alternative hypothesis for panhandler behavior is that they work only when revenue per hour is sufficiently high, and only for about 5 or 6 hours in the afternoon if it is sufficiently high. If revenue is proportional to pedestrian flow, this hypothesis has some support, but only if very high pedestrian flow is desirable (panhandlers would have to be very different from retail stores). As part of the pedestrian level of service study, DCP (2006) monitored pedestrian flow over 12 hours at a particular downtown block-front (Broadway, west side, between Duane and Reade). Midday flows were the greatest, with the hour starting at 1 pm averaging almost twice the hour starting at 5 pm. A level of 2,000 per hour was attained only at noon, and maintained only until around 5 pm. So for this location a panhandler who wanted a flow of 2,000 per hour would work for only 5 or 6 hours. But the flow was over 1,000 an hour—close to the retail optimum—from 8 am to 7 pm. Thus we are not really sure whether panhandlers are target earners.

(Of course, only changes at the shoulders of the peak would affect hours, and only the shoulders of the peak would be affected if panhandlers were not target earners.)

Safety is another reason why panhandlers might be target earners. The business is strictly cash, and unlike cabbies they are not surrounded by metal. Panhandlers may have no good way of storing excess cash, and they may be afraid of robbery if they regularly had large amounts of money.

Statements by panhandlers cannot tell us much about the extensive margin, since only a few active panhandlers, by definition, are close to that margin, and many of the individuals who are close to that margin are not active panhandlers. But a natural experiment sheds some light on this margin. (We could get more information about the intensive margin by looking at 11 am and 6 pm.)

The natural experiment is the end of summer. Many working potential donors are on vacation in August, and return in September. In general, New York tourism does not rise from August to September, but the World Trade Center site has particular significance in early September. Therefore, we expected that pedestrian flows downtown would be greater in September than in August. We could therefore gauge the elasticity of panhandler labor supply by the change from August to September in the amount of panhandling at peak hours.

Table 2 shows the comparison between panhandling in August and in September. Unlike table 1 where the focus was on occupied blocks, table 2 makes the comparison of number of panhandlers. (Alternatively, since a group of panhandlers obviously working together may not make much more than a single panhandler, groups may be a better indicator than numbers. But the results are not much different.) Table 2 shows that the number of panhandlers increases in September—the labor supply curve is not backward-bending—but the increase is modest. (We do not have data on the rate at which street traffic increases in September.)

Table 2: Survey Results on Occupied Block Front Comparison, 2013

Number of panhandlers in each month		
	August	September
Established	0	2
Added	5	1
Heavy foot traffic	0	2
Moderate foot traffic	0	2

We also ran a linear regression where the dependent variable was the number of panhandlers on a block-front. The main explanatory variable was a dummy for September. Control variables were a time-of-day indicator and the binary variable for heavy pedestrian traffic. None of the variables was significant. Again, we cannot reject the hypothesis that the labor supply is fairly inelastic, but we need more data.

4. Information and credibility

To consider how panhandlers deal with credibility, we need a slightly more sophisticated model of potential donors than we used in section 2. In this section, our model is a-spatial and a-temporal.

a. The set up

We consider a set of potential donors and a set of potential panhandlers, each set normalized to be of measure one. Active panhandlers meet potential donors at a rate of δ per unit time; inactive potential panhandlers do not meet potential donors.

A donor who gives, gives precisely \$1; there is no variation in donations. A donor's utility from giving depends on the opportunity cost of the panhandler who receives the donation. Donors prefer giving to panhandlers with lower opportunity cost, since these panhandlers have worse non-panhandling opportunities. Let $f(c)$ be a decreasing function of c . The value to a typical donor of a donation to a panhandler with opportunity cost c is $f(c)$. Donors are heterogeneous, and the value to donor i is $f(c) + \varepsilon_i$. We assume that the cdf of ε is $D(\cdot)$.

The value to a panhandler of a donation is \$1. Panhandlers are heterogeneous in opportunity cost, and the cdf of c is $P(\cdot)$. The support of P is bounded from below by c_0 , which might be negative infinity.

We also assume that income effects are negligible on both sides of the market. Giving a donation does not impoverish a donor enough that the value of future donations falls, and receiving a donation does not change a panhandler's opportunity cost.

b. Bayesian pooling equilibrium

Donors cannot observe panhandlers' opportunity costs, but they can draw inferences from the fact that they are panhandling. Assume for now that they cannot differentiate among the panhandlers they encounter but that they know how many panhandlers are active. Panhandlers also cannot observe potential donors' generosity ε , and they cannot differentiate among the potential donors they encounter. We assume, however, that both groups are risk-neutral, understand the parameters of the game, and are Bayesians.

Suppose potential panhandlers know the generosity ε of the marginal donor—the least generous donor who gives (they could figure this out from seeing the proportion of potential donors who give).

Then the probability that a donor gives is $(1 - D(\varepsilon))$ and the expected revenue from a unit of time spent panhandling is $\delta(1 - D(\varepsilon))$. Then the people who panhandle are precisely those with

$$c \leq \delta(1 - D(\varepsilon))$$

as shown in figure 9-1. Call

$$c(\varepsilon) = \delta(1 - D(\varepsilon))$$

the panhandling supply curve, and the panhandler who is indifferent between panhandling and not panhandling the marginal panhandler. It is easy to show that $c'(\varepsilon) < 0$ on the supply curve.

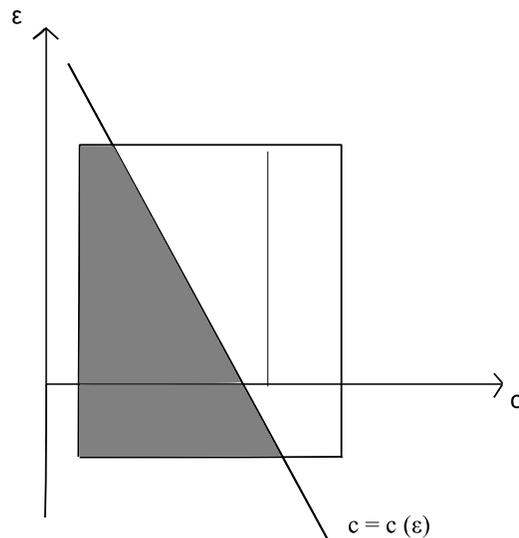


Figure 9.1

Suppose that potential donors know c , the opportunity cost of the marginal panhandler. Then they infer that the expected value of $f(\cdot)$ from donating is

$$F(c) = \int_{c_0}^c f(\gamma) dP(\gamma).$$

It is easy to see that $F(c) \geq f(c)$ and that $F(\cdot)$ is a weakly decreasing function. Then the people who donate are those with

$$F(c) + \varepsilon \geq 1$$

or

$$\varepsilon \geq 1 - F(c),$$

as shown in figure 9-2. Call

$$\varepsilon(c) = 1 - F(c)$$

the donor demand curve, and the donor who is indifferent between giving and not the marginal donor.

It is easy to see that the donor demand curve is upward sloping.

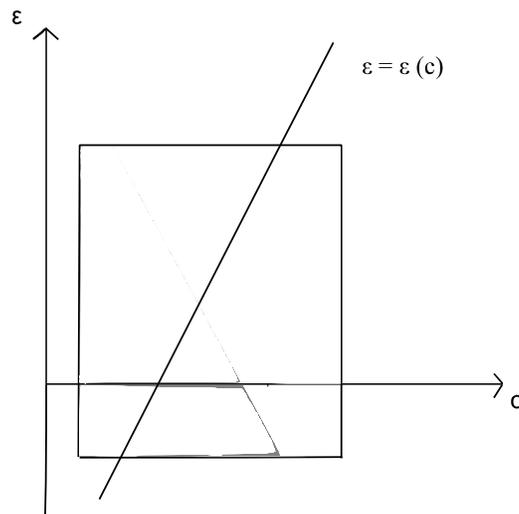


Figure 9.2

Equilibrium occurs where the supply and demand curves intersect. The equilibrium marginal generosity ε^* and the equilibrium marginal opportunity cost confirm each other:

$$c^* = c(\varepsilon(c^*)), \quad \varepsilon^* = \varepsilon(c(\varepsilon^*)).$$

Potential donors with $\varepsilon \geq \varepsilon^*$ give, and only those potential donors; potential panhandlers with $c \leq c^*$ are active, and only those potential panhandlers. The equilibrium is unique.

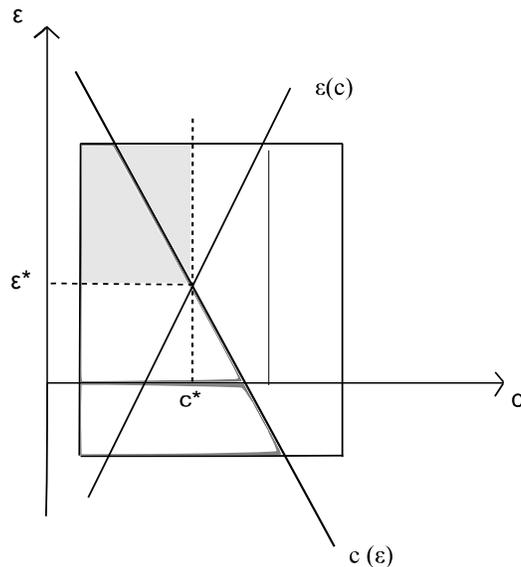


Figure 9.3

c. Comparative statics

This apparatus allows us to study the effects of exogenous changes and of policies.

Consider first an increase in δ , the rate at which potential donors meet active panhandlers. For each ε , this increases $c(\varepsilon)$, with larger increases for small ε . Figure 10 illustrates. This shifts the supply curve out. The new equilibrium has more panhandlers and a smaller share of donors. Panhandling becomes more attractive, and so more panhandlers enter; this reduces how needy the average panhandler is, and so a smaller fraction of potential donors give. Inframarginal panhandlers become better off; inframarginal donors become worse off. Whether the total volume of giving per unit time increases or decreases is ambiguous. Thus areas with more pedestrian traffic should see more panhandlers, but fewer donations per pedestrian. The opening of the Freedom Tower should raise the

number of panhandlers in downtown Manhattan, but make pedestrians appear on average less generous.

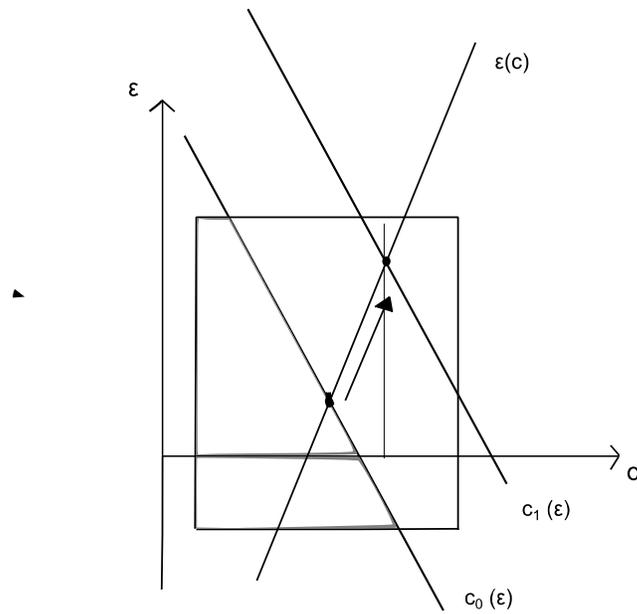


Figure 10

Next, suppose potential donors become actually more generous: the distribution of ϵ shifts to the right. For each ϵ , $D(\epsilon)$ falls; hence $c(\epsilon)$ rises, just as it does when δ rises. So the result is the same: both c^* and ϵ^* rise. Inframarginal panhandlers become better off, and inframarginal donors become worse off. The number of panhandlers rises, but the effect on the fraction of donors is ambiguous. Because there are more panhandlers, potential donors are more skeptical and so the marginal donor is a more generous person (ϵ^* rises); but because of the change in the distribution of generosity there are more potential donors who are more generous than any given ϵ .

Changes in the distribution of opportunity costs operate first on $F(c)$, the expected value of $f(\gamma)$ conditional on $\gamma \leq c$, and there is no simple relationship between changes in the distribution and changes in the conditional expected value. Consider, for instance, a jobs program that raised opportunity cost for the most able panhandlers, those in the neighborhood of the marginal panhandler,

but did not affect the panhandlers with the lowest opportunity cost—say, those who are disabled and receiving SSI. For c in the neighborhood of the margin, this raises $F(c)$ —the average panhandler below c is more deserving—, and so lowers the donor demand curve $\epsilon(c)$, as shown in figure 11.

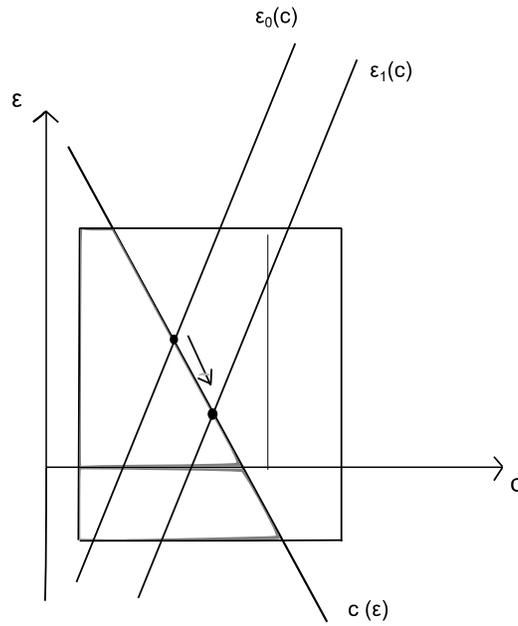


Figure 11

Hence ϵ^* falls and c^* rises. More donors give and the marginal opportunity cost is greater. Because the distribution of opportunity costs changes, the effect on the number of panhandlers $P(c^*)$ is ambiguous. Inframarginal panhandlers become better off—more potential donors give—and so do inframarginal donors—the expected opportunity cost of recipients falls. The actions of police, when they clear Vesey Street of more able-bodied panhandlers but let Eli return, may have a similar effect, raising the surplus of both inframarginal donors and of Eli.

An influx of potential panhandlers with opportunity costs in the neighborhood of the margin has the opposite effect: it reduces the number of donors, and makes both inframarginal donors and inframarginal panhandlers worse off. Occupy Wall Street might be an example of such an influx; we would expect veteran panhandlers to be unhappy with it.

d. Full-information optimality

With full information, the marginal donor would regret giving to the marginal panhandler, but this does not imply that the donation is welfare-reducing, since the dollar the donor loses is gained by the panhandler. Full-information optimality, however, is somewhat difficult to think about because there is no natural interpretation of panhandling cost c when a panhandler can identify which potential donors will give.

Somewhat arbitrarily, then, we will say that the “transaction cost” to the panhandler of securing a dollar donation is c/δ . Then the next benefit of a donation to a panhandler is $(1 - c/\delta)$. The net benefit to the donor is $(f(c) + \varepsilon - 1)$. Hence a donation is welfare-enhancing if and only if

$$1 - c/\delta + f(c) + \varepsilon - 1 \geq 0$$

or

$$\varepsilon \geq c/\delta - f(c) \equiv \eta(c).$$

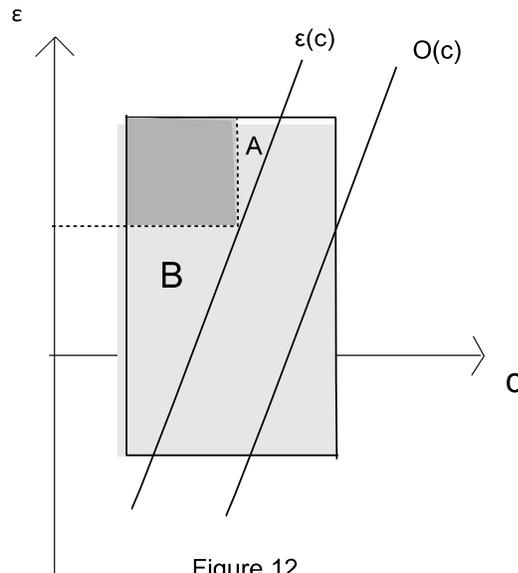
The encounters that should result in donations are given by $\varepsilon \geq \eta(c)$. Note that $\eta(c)$ is increasing in c .

A useful result is

Proposition 4: *Let c^* be the marginal opportunity cost. The equilibrium set of donations is a proper subset of the optimal set of donations if and only if*

$$(3) \quad F(c^*) - f(c^*) \leq 1 - c^*/\delta.$$

Figure 12 illustrates the case in which (3) holds.



In downtown Manhattan it seems plausible to us that (3) holds. Notice that (3) always holds for c^* sufficiently close to zero. Take an hour as the unit of time. Then c^* is probably in the range of \$5-\$10, and δ is around 1000-2000. So the right-hand side is close to one. The left-hand side of (4) is the difference for a donor between the value to her of a dollar in the hands of the average panhandler and a dollar in the hands of the marginal panhandler. This difference is likely to be well less than a dollar.

So socially optimal donations are probably not being made in lower Manhattan. Where this is most obvious (and depends least on our interpretation of transaction costs) is in regions A and B of figure 12. Region A includes panhandlers with opportunity cost slightly greater than the marginal panhandlers meeting potential donors considerably more generous than the marginal donor, but in equilibrium no giving occurs. Similarly region B includes donors slightly less innately generous than the marginal donor meeting panhandlers considerably more deserving than the marginal panhandler. In both cases, it is intuitive that some panhandlers would want to separate themselves from the others and do something to reveal their true opportunity cost to donors, even if that activity were costly.

5. Evidence on information and credibility

We know less about informational equilibrium than we do about location equilibrium. We can report on three implications.

a. Regular donors

A significant fraction of Eli's donors greet him and exchange words or looks as they place money in his cup, often leaning over in order to do so. It appears that they know him and he knows them—which would not be surprising since he is in the same spot every day. Not all donors think of panhandlers as an undifferentiated group.

Figure 13 can explain this phenomenon. Consider a panhandler who is more needy than the average active panhandler by a considerable margin. If this panhandler meets a donor slightly less generous than the marginal donor, as at point S in figure 13, no donation will occur in the pooling equilibrium of section 5. But a donation would occur if the donor knew how needy the panhandler was. Then panhandler has an incentive to differentiate himself.

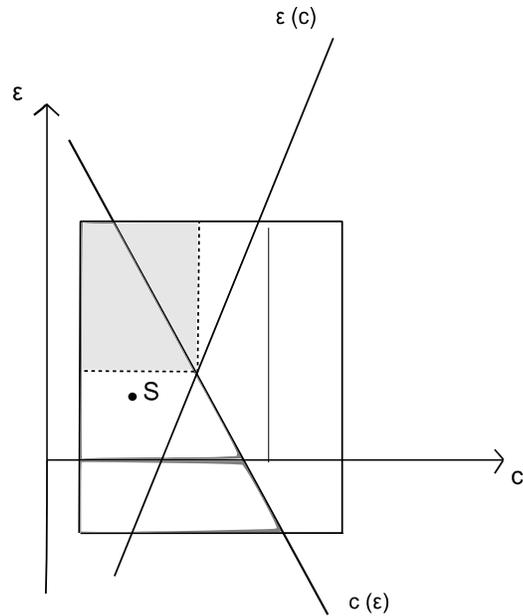


Figure 13

The presence of regular donors suggests that for some donors, Eli has differentiated himself from other panhandlers. We would have to know what fraction of Eli's donors do not give to other panhandlers or to random panhandlers to be sure.

If Eli has accomplished this, the question is how. The wheelchair by itself is insufficient; New York City abounds in urban legends about fake disabilities. Eli does not appear to be impoverished; he dresses well and can often be seen with high-quality headphones. He does not speak to potential donors.

Eli may have established his credibility by his persistence. It shows donors that he does not have good alternative uses for his time, that he is not dissolute, and that he has work habits that would serve him well were it not for his disability. Nobody would work as hard as Eli does if he had a decent alternative; nobody could work as hard as Eli does if he were seriously addicted.

But Eli can demonstrate his persistence and differentiate himself from other panhandlers only if he is in the same place at the same time just about every day. If he had to defer to other panhandlers

who showed up before him, his strategy would fail, or be extremely risky. Information issues cannot be fully understood without understanding location issues, too.

b. United Homeless Organization

The story of the United Homeless Organization (UHO), which played out in midtown rather than downtown, shows that information is important for panhandlers, and places a lower bound on its value.

UHO was a not-for-profit corporation founded by Stephen Riley and Myra Walker in 1993, and shut down by the New York State Attorney General in 2009 (*Cuomo vs United Homeless Organization*, 2009). UHO operated in the following manner: For \$15 per shift, it rented a card table, a hat, a plastic jug and various signs identifying the individual as a representative of UHO, and allowed the solicitor to keep all the proceeds above \$15. About 750 shifts a week occurred. Riley and Walker essentially pocketed the \$15 after minimal overhead expenses. The attorney general filed a complaint against UHO, Riley, and Walker in 2009 claiming that it was not a legitimate charity, and the complaint was not contested.

Since any of the solicitors could have panhandled on his own (the attorney general alleged no attempts to enforce a monopoly on panhandling locations), and a card table can be acquired for less than \$15 a shift, the important question is why the solicitors were willing to pay \$15 a shift to UHO. The obvious answer is that the UHO allowed them to collect at least \$15 a shift more. Why? The obvious answer is credibility. Even though UHO operated no programs to help the homeless, it sounded to some potential donors like a legitimate charity, and those potential donors were more willing to give to a charity that claimed to help people like the solicitors themselves. Exactly why some potential donors

would think that way is not clear and a subject for further investigation. Long before the attorney general shut UHO down, many New Yorkers thought it was suspicious, if not fraudulent.

(An alternative interpretation is that the UHO label reduced hassle by police. Panhandling is legal almost everywhere on New York City sidewalks. This interpretation is not contradictory to the idea that the UHO label signaled credibility, but makes individual police officers rather than potential donors the target of that signal⁷.)

UHO demonstrates that even questionable organizations are more credible with some donors (and possibly some police officers) than the average panhandler, and that the value of this credibility is at least \$15 per shift. If a shift is 5-7 hours, then UHO-type credibility is worth at least \$2-\$3 an hour. If average panhandling revenue is in the range of \$5-\$10 an hour, even this weak credibility is worth a large proportion of normal revenue.

c. Street News

Street News was the first of many not-for-profit national street papers launched in the late 1980s. Hutchinson Persons and Wendy Oxenhorn (then Koltun), the founders, were able to get the New York's Metropolitan Transportation Authority (MTA) to donate advertising space on buses and subways and allowed Street News vendors to sell on public transportation, even when panhandling was illegal on public transportation. The paper sold for 75 cents, with vendors getting 45 cents for each copy as well as ten free papers. Vendors were required to purchase the papers upfront, as well as wear some form of identification, such as a badge.

In 1991 New York's MTA banned the sale of newspapers on the subways, which had been the vendors' most lucrative locations. Media and public support eventually began to fade in the early

⁷ We thank Patrick Markee for this interpretation

1990's. In 1992, in response from decreased media and public interest, Expedite Printer re-launched *Street News* as for-profit venture, boasting celebrity writers among its staff. Circulation increased from less than the initial 100,000 to 200,000 papers, though the initial number of vendors, 2000, remained constant. However, *Street News*' sales dropped significantly, which altered its method of distribution. As of 2002 *Street News* printed approximately 3,000 copies of six issues per year. The number of vendors decreased to 15. They received 75 cents out of the \$1.25 selling price, As of 2004 a 40-page paper was produced and sold in the New York metro area for \$1.00 and also by mail subscription (Heinz 2004).

Street newspapers have been around since the late 19th century. *The Catholic Worker* and the Salvation Army's *The War Cry* were just a couple reputable, religiously affiliated non-profit organizations, used to generate income and attention for the poor and homeless through the sale of papers. *Street News* was able to garner funding from corporate sponsors, individual donors and advertising revenue. Even after the MTA pulled its advertising, the paper retained some legitimacy from its celebrity writers. *Street News* was unable to maintain its momentum partially due to negative media reports about the homeless, fear from donors that they were being scammed, staff turnover and unreliable funding.

Why donors initially gave to *Street News* vendors is not clear. Perhaps vendors were able to distinguish themselves from other homeless men and women who solicited funds on the subway. Initially, the MTA gave permission for the sale of newspapers, thus credentialing vendors -- they were not asking for a donation, but demonstrating their desire to work through the sale of papers. Even though potential donors/customers did not recognize *Street News* as a legitimate charity, they perceived vendors to be more credible because of their entrepreneurial activities. When the MTA banned the sale of newspapers on subways, vendors were no longer legitimately displaying their work ethic, but rather engaging in illegal activities.

d. Occupy Wall Street

The Occupy Wall Street (OWS) demonstrations occurred during late summer and fall of 2011, drew international attention (even a special edition of *The Economist's Voice*), and the major encampment in Zuccotti Park was dispersed on November 15, 2011. OWS, however, still maintains a presence in Zuccotti Park and some of its members regularly panhandle on Broadway, both near the park, and further away, especially by Trinity Church. It is hard for someone passing by to distinguish a panhandler connected with OWS from one who is not. For example we noticed a Latino man sleeping in front of Trinity Church. He had two signs. One sign resting near his head indicated that he was engaged in a peaceful protest against Citibank, whose presence is magnified with the launch of City Bikes. At his feet was a sign that informed passersby that he was homeless and needed help.

Panhandlers who work on Broadway and are not connected with OWS are unhappy with its presence and blame it for a diminution of contributions--in particular Jesse, Rose and Abel. This result is in accord with our model: an influx of panhandlers with above average reservation wages will raise the average reservation wage and lower the average neediness of active panhandlers, and so will reduce donations for all active panhandlers (even after some other panhandlers become inactive). The panhandlers whom we have talked to, however, put a different spin on this argument. [Jonny] makes a political argument: OWS people are attacking rich Wall Streeters, rich Wall Streeters are potential donors, potential donors do not want to give to people who are attacking them, potential donors cannot tell whether or not panhandlers are OWS or not, and therefore potential donors do not give to panhandlers. Jesse demonstrates his antipathy towards OWS, and willingness to support Rose, another active panhandler, when Rose was being physically harassed by members of OWS. We could argue that

he interceded in order to set himself and Rose [and perhaps other active panhandlers] apart from OWS, signaling to potential donors that they are not the one's attaching them.

We have not heard obviously disabled panhandlers like Eli and Freddy complain about OWS. In fact, when asked about OWS, Freddy shrugged his shoulders and indicated that they were not a problem. Perhaps it is because they work further from Broadway and are also less likely to be mistaken for part of OWS. It would be interesting to hear the opinions of black and obviously Hispanic panhandlers. But very few black and Hispanic panhandlers who are not disabled work downtown.

Jesse's argument points out a weakness to the model in section 4—donors might think of deservingness in than one dimension: for instance, friendliness as well as need (reservation wage). Similarly the effectiveness of UHO and *Street News* may have stemmed from the implicit promise as a charity or employer not to spend money on alcohol and drugs, a promise that individual panhandlers could not credibly make. The paucity of able-bodied minority panhandlers also indicates that more than one variable may matter to donors. More work needs to be done on this issue.

Interestingly, a fraudulent organization—UHO—probably helped panhandlers (since inframarginal solicitors saw their revenue increase by more than \$15) while an idealistic organization—OWS—probably hurt them.

6. Policies

There is good reason to believe that the optimal amount of panhandling is not zero. The dominant religions in the US tell believers that they have an obligation to give alms. The Old Testament Book of Proverbs says, "Whoever is kind to the poor lends to the Lord, and will be repaid in full" (19:17, and, "Treasures gained by hoarding provide no benefit, but generosity to the poor delivers from death"

(10:2). In Judaism, the Bible lays down the precise precepts outlining one's responsibility to the poor. "If there is a needy person among you, do not harden your heart and shut your hand... For there will never cease to be needy people in your land, which is why I command you; open your hand to the poor and needy kinsmen in your land" (Deuteronomy 15:7-11). "*Tzedekah*," the Hebrew work for charity, means that it is our "righteous obligation" to care for and give to the poor (Rabbi David Rosen). St. John Chrysostom, an early Christian church father, preached that, "Whenever you see a poor believer, imagine that you behold an altar. Whenever you meet a beggar, don't insult him, reverence him." (cited by Anderson 2013, p. 14). Almsgiving is also one of the five pillars of Islam, and is also described as part of worship. Believers would be unable to carry out some of their religious obligations if no one begged. Peter Maurin's statement is well-known: "People who are in need and not afraid to beg give to people not in need the occasion to do good for goodness sake."

Panhandling also provides income to panhandlers. Panhandling has a number of advantages over the two better known methods of redistribution in developed countries, governments and charities. Relative to both forms of organization, panhandling requires no intermediary apparatus of tax collectors, development directors, lawyers, financial managers, and office buildings; it cuts out the middlemen and removes all the agency problems. Relative to governments, panhandling avoids the deadweight losses of taxation, the deadweight losses of eligibility formulas and payment rules, and the errors that arise from rigid rules.

Relative to charities, panhandling mitigates free-rider problems. The free-rider problem for charities is that while many people may support a charity's goal, they would all prefer that someone else finance its attainment, and one individual's donation is unlikely to alter the probability of its attainment. Panhandling mitigates this problem because only the people who pass a panhandler on a given day can donate to him or her, and a rational potential donor knows that almost all other passersby will ignore

the panhandler, and that his or her donation will be unknown to other passersby, since panhandlers empty the cup often. A dollar I give to Jesse will have a bigger impact on Jesse's well-being tonight than the impact that a dollar I give to the Sierra Club will have on the Keystone Pipeline or than a dollar I give to the International Rescue Committee will have on conditions in refugee camps in Rwanda.

Relative to organized charities also, panhandling may impose lower solicitation costs on donors. An uninterested donor may merely pass a panhandler by; uninterested donors have much harder times avoiding mailings and telephone calls.

Panhandling, of course, is not without serious inefficiencies, and we cannot think of any reasonable argument that it should replace government and charities. But the existence of governments and charities does not imply that panhandling should be banned, and generosity diversion programs that urge people to give to charities instead of panhandlers are not a priori welfare-improving.

One problem with panhandling could be that it imposes external costs on passersby who are not looking for an opportunity to donate. Some people may find the sight of panhandlers unpleasant, just as some people find advertisements for luxury cars unpleasant. We do not know the size of these costs. Panhandlers might also contribute to sidewalk congestion, although most of those we have observed try hard not to impede pedestrian traffic.

The major inefficiencies arise from the information problems we describe in sections 5 and 6. A number of policies to mitigate these costs should be studied.

Some version of property rights might be explored for panhandlers who use a location for a sufficiently long period of time—a weak version of adverse possession that would keep other panhandlers from using the location. Possibly this assurance would encourage panhandlers, especially

those more needy than average, to invest in reputations and credibility. Donors would gain and give more, but it is unclear whether the number of active panhandlers would rise or fall.

Credentialing could also be a promising innovation. Many occupations—personal trainers, for instance—are certified by private groups set up for that purpose; they devise their own standards and procedures and let consumers judge the value of their certification (bond rating agencies might be another example, but government involvement is greater). Certified panhandlers could receive a visible sign that they were certified; a unique identifying number should be visible on this sign. An app could allow potential donors to access the certifying group’s website and see a photograph of the person to whom the identifying number was issued; this would reduce counterfeiting. Several different certifying bodies might coexist; for instance, certain churches or mosques might certify panhandlers who abstained from alcohol or drugs, while other groups might certify panhandlers who were truly impoverished or disabled. The certification would be valid for only a fixed period of months.

If a certifying group is such a good idea, why haven’t panhandlers or churches established one already, as personal trainers have? The free-rider problems for panhandlers are large, because most work independently, they have few common meeting places, and, unlike personal trainers, they do not advertise on the web. In another sense, a certifying agency has already been tried in New York City; it was the UHO. The UHO acted as a certifying agency without in fact certifying anything. Perhaps what has been missing has been a group to certify the certifiers, and to do so with great visibility.

Street News in some sense also tried to act as a certifying agency. *Street News* vendors showed that they were at least responsible enough to pick up newspapers, that the managers of *Street News* thought they were sober enough to be trusted with the papers for a little while, and that they were self-controlled enough to save up money every day to buy the next day’s papers. The implicit trust that the

celebrities placed in the vendors might have been interpreted by potential donors as information about the trustworthiness of vendors.

The eventual disappearance of both UHO and *Street News* shows the pitfalls that any credentialing project would face. A panhandler bearing insignia of an organization faces two hurdles in inducing a potential donor to give: the potential donor must think well of both the organization and the panhandler. Even if the marginal donation goes fully to the panhandler in the short run (as was the case for both these organizations), donors may not be convinced (since they do not study the employment contracts) that the organization is not sharing in it in some way.

What would the effect of credible certifying agency be? It would almost certainly increase the volume of donations, and the expected utility of inframarginal donors. The revenue of certifiable donors would probably rise; how the revenue increase would be divided between more panhandler-hours and greater revenue per hour depends on the supply elasticity. Similarly, the revenue of non-certifiable panhandlers would probably fall, with the consequences again depending on the supply elasticity.

One of the drawbacks of an effective credentialing program is that it would make “emergency panhandling” harder; a person who suddenly needed a few dollars to pay the rent or buy a bus ticket home would not be able to turn to panhandling; or would find it harder. We have not yet talked to any panhandlers who fit this category, but ethnography is biased toward long-term panhandlers. We hope to learn more about short-term panhandling in the future.

Obviously, we do not know yet whether the costs of running a credentialing program are greater than the benefits, but the experience of UHO suggests that they may be.

7. Conclusion

Now we know something about panhandling. But there is much we do not know.

The result with the most interesting implications so far is the inelastic supply of panhandling labor. We should subject it to stronger tests. One implication, if it holds, is that panhandling, for most people, is a very unattractive way to make money. Another implication is that public policy and individual generosity have considerable scope. If you give a dollar to a panhandler today, Manhattan will not be overrun tomorrow.

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Appendix: Proofs

Proposition 1: *A matching M is efficient if and only if it is diagonal, convex, and of size n^* , where n^* is an intersection; or if it is congruent to such a matching.*

Proof: Lemma: Consider a set of matchings that are all congruent to a particular matching M . If M' is in this set, then $R(M') = R(M)$.

Proof of lemma: From independence we can rewrite aggregate net gain as

$$(A1) \quad R(M) = \sum_{l \in M_\Lambda} x_l - \sum_{j \in M_\Pi} c_j.$$

Hence if M' is congruent to M , $R(M') = R(M)$.

Lemma: Consider the set $\mu(n)$ for arbitrary n . A matching M maximizes $R(\cdot)$ within $\mu(n)$ if and only if it is diagonal and convex, or congruent to a diagonal and convex matching.

Proof of lemma: Let M be a diagonal and convex matching of size n . Then M_Λ maximizes $\sum_{l \in M_\Lambda} x_l$ within $\mu(n)$, and M_Π minimizes $\sum_{j \in M_\Pi} c_j$ within $\mu(n)$. Hence M maximizes $R(M)$. The same is true for any matching congruent to M .

Proof of proposition: Let

$$\rho(n) = \sum_{i \leq n} (x_i - c_i) = \rho(n-1) + (x_n - c_n)$$

denote the maximal value of $R(M)$ in $\mu(n)$, since a diagonal and convex matching achieves the maximum. By construction $\langle x_i - c_i \rangle$ is a non-increasing sequence. Hence

$$\rho(n) > \rho(n - 1) \text{ if } x_n - c_n > 0;$$

$$\rho(n) = \rho(n - 1) \text{ if } x_n - c_n = 0;$$

$$\rho(n) < \rho(n - 1) \text{ if } x_n - c_n < 0.$$

Hence if n^* is an intersection, then for all n

$$\rho(n^*) \geq \rho(n) .$$

QED.

Lemma (non-exclusion): A matching M satisfies the non-exclusion condition if and only if

$$(A2) \quad \min_{l \in M_\Lambda} x_l \geq \max_{j \in M_\Pi} c_j.$$

Proof of lemma: Suppose M satisfies non-expulsion. Let (l, j) and (l', j') be any two elements of M . Then

$$r(l', j') = x_{l'} - c_{j'} \geq r(l', j) - r(l, j) = [x_{l'} - c_j] - [x_l - c_j] = x_{l'} - c_j.$$

Hence

$$(A3) \quad x_l \geq c_{j'}.$$

Inequality (A2) follows as an instance of (A3).

Suppose M satisfies (A2). Then for any $l \in M_\Lambda$ and $j' \in M_\Pi$, (A3) holds. Hence reversing the algebraic manipulation that led to (A3) implies $r(l', j') \geq r(l', j) - r(l, j)$ whenever $(l, j) \in M$ and $(l', j') \in M$. QED.

Proposition 2: A matching M is efficient if and only if it satisfies the four conditions (non-emptiness, no-person-improvement, no-location-improvement, and non-expulsion).

Proof. Suppose matching M satisfies the four conditions. We will show that it is congruent to a diagonal and convex matching of size n , where n is the intersection. That is, $M_\Lambda = M_\Pi = \{1, 2, \dots, n\}$.

Lemma: If M satisfies non-emptiness and no-person-improvement, then M is place-convex of size m , where $m \geq n$.

Proof of lemma: Suppose that for some $j \leq n, j \notin M_\Pi$ and for some $l \leq n, l \notin M_\Lambda$. Then $r(l, j) \geq 0$ and so non-emptiness is violated. Hence the size of M is at least n .

Suppose that M is not place-convex. Then there exists some $l \notin M_\Lambda$ and some $l' \in M_\Lambda$ with $l' > l$. Consider person j who is assigned to l' under M . Since $l' > l, r(l', j) < r(l, j)$ and no-person-improvement is violated. Hence M is place-convex. This is the end of the proof of the lemma.

By similar reasoning, we can show that if a matching satisfies no-location-improvement, it is person-convex. Hence a matching that satisfies the first three conditions is convex of size $m \geq n$.

Suppose $m > n$. Then $x_m < c_m$. Then condition (2) is violated and so the non-expulsion condition does not hold. So if the four conditions are met, M is congruent to a diagonal and convex matching of size n , and so by proposition 1 is efficient.

Conversely, suppose M is efficient. It satisfies non-emptiness because if $j \notin M_\Pi$ and $l \notin M_\Lambda$ then both $l > n$ and $j > n$, and so $r(l, j) \leq x_{n+1} - c_{n+1} < 0$.

Matching M satisfies no-person-improvement because if $l' \notin M_\Lambda$, and $(l, j) \in M$, then $l' > l$, and so $r(l, j) \geq r(l', j)$. Matching M satisfies no-location-improvement by similar reasoning.

Finally, if M is efficient, (2) is satisfied and so non-expulsion is satisfied. QED.

Proposition 3: If a matching M satisfies individual rationality, non-emptiness, and no-person-improvement, then M is place-convex and $n \leq |M| \leq N$, where n is the intersection and N is the upper bound.

Proof: By the lemma in proposition 2, if M satisfies non-emptiness and no-person-improvement, then M is place convex and $n \leq |M|$. Suppose $|M|$ were greater than the upper place bound. Then for some $j \in M_{\Pi}, c_j > x_1 \geq x_m$, where $(l, j) \in M$. Hence individual rationality is violated. Hence $|M| \leq N_{\Lambda}$.

Similarly, suppose $|M|$ were greater than the upper person bound. Then for some $l \in M_{\Lambda}, x_l < c_1 \leq c_j$, where $(l, j) \in M$. Hence individual rationality is violated. Hence $|M| \leq N_{\Pi}$. Since $|M|$ is no greater than either the upper person bound or the upper place bound, it is no larger than the upper bound. QED.

Proposition 4: Let c^* be the marginal opportunity cost. The equilibrium set of donations is a proper subset of the optimal set of donations if and only if

$$(A4) \quad F(c^*) - f(c^*) \leq 1 - c^*/\delta.$$

Proof: From algebra, (A4) holds if and only if $\varepsilon(c^*) \geq \eta(c^*)$.

Suppose (A4) does not hold. Then $\varepsilon(c^*) < \eta(c^*)$ and so (c^*, ε^*) is not a welfare-enhancing donation, although it is an equilibrium donation. So the equilibrium set is not a proper subset of the optimal set.

Suppose (A4) holds. Define $E(c)$ as the smallest ε such that (c, ε) is in the equilibrium set. Then $E(c) = \varepsilon^*$ for $c \leq c^*$, $= \infty$ for $c > c^*$. Since $\eta(c)$ is increasing, $[E(c) - \eta(c)]$ reaches a minimum at c^* , at

which it equals $[\varepsilon(c^*) - \eta(c^*)]$. By (4) and by algebra, $[\varepsilon(c^*) - \eta(c^*)]$ is positive. Hence $[E(c) - \eta(c)]$ is positive for all c , and so the equilibrium set is a proper subset of the optimal set. QED.