A Simple Theory of Harassment and Corruption

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Abstract

This paper introduces 'harassment' in a simple model of bribery and corruption. With fixed costs of 'harassment', people belonging to the higher income group enjoy more benefit relative to the poorer section of the society. An equilibrium is likely where the poor favor a system without 'harassment' but the affluent ones do not.

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1 Introduction

Recent literature on the theory of bribery and corruption has focused on the inefficiency and incentive problems in a corrupt organization. The tradition of the literature dates back to Becker (1968) which was followed by several papers[1] highlighting crime and punishment in a non-strategic environment. The strategic approach towards the theory of corruption has been introduced in an elegant paper by Basu, Bhattacharya and Mishra (1992) which explicitly brings in 'bribery' as a means of avoiding punishments. Marjit and Shi (1994) have shown that if the 'policemen' could choose their effort levels in apprehending criminals, even a very high penalty rate would fail to deter crime. The problem of enforcement of law has been analysed by Mookherjee and Png (1992, 1994), but not in the context of bribery and corruption. Very recently Marcouiller and Young (1995) take a novel approach in modeling the behaviour of a state which in a way dictates the size of and 'order' in the parallel economy.

This paper is more in the tradition of the strategic theory of bribery and corruption. We try to bring in the notion of 'harassment' in a model of corruption. It is fairly easy to understand why a public official and a private agent would collude to share an illegal benefit. The ability of the public official to harass, say, a tax-payer, would dictate the bargaining position of involved agents in the determination of a bribe. A fundamental question that faces a member of a society is whether they would like to live in a corrupt system. In other words, if people had an option between choosing a corrupt state over an honest state, which one they should go for ? We tried to argue that in a society characterized by inhabitants with varying levels of income, the answer to the question may differ between the 'rich' and the 'poor'. In our framework punishments are impossible to enforce. Hence, no one is afraid of punishment for giving or accepting the bribe. But there are legal and other costs of proving one's innocence in case of a harassment. The nature of such costs is important in creating a divided stand on corruption. We visualise a situation where a public official can collude with a private agent offering some favor and accepting a bribe in return. In case the agent does not want to participate in the collusive arrangement, the official can inflict significant harassment costs. In our example such harassment costs may affect high and low income-groups in a different way which leads to our result.

The model and results are laid out in section 2. Section 3 concludes the paper.

2 Model and Results

We develop a simple model to capture the notion of harassment and corruption. We argue that with significant harassment costs (to be defined later), the poorer section of the society tends to suffer more than the richer ones relative to the first-best where public agents are honest. The example we work with describes a situation where the tax assessor reports a 'valuation' to the tax-collecting authority which in turn actually collects the tax. All the action is in the tax-assessing stage. Here we consider a proportional tax rate, t. We assume that the tax-payer cannot misreport the true valuation. But the tax-assessing agent, henceforth coined as the public agent, can misreport the valuation to the tax collecting authority. In a sense the rules are not transparent, so that interpretation of a particular clause lies with the public agent. We assume that the reported valuation can take a value $\bar{x} > x$ or $\underline{x} < x$, where x denotes the true valuation. However, this overvaluation or undervaluation depends on the true valuation.

Let $\bar{x}$ and $\underline{x}$ be given by,

$$\bar{x}(x) = \lambda x \tag{2.1}$$

where, $\lambda > 1$, and

$$\underline{x}(x) = \gamma x \tag{2.2}$$

where, $0 < \gamma < 1$. We suppose that higher values of x reflect more affluent tax-payers.

In case the assessor reports $\bar{x}$, the tax-payer has the right to approach a court of law and appeal against the assessment. But there is a cost of doing so. The costs of proving that the right valuation is x instead of $\bar{x}$ is given by

$$C(x) = \alpha + \beta x \tag{2.3}$$

$C(x)$ contains a fixed part α which suggests that no matter what the value of x is, one has to run-around and make certain number of trips to the appelate authorities. βx says that depending on x, certain fees need to be paid to the legal expert fighting for the plaintiff. Even if some costs are reimbursed, there is always a net cost of harassment.

Note that in case $\bar{x}$ is reported, an individual would go to the court iff the following holds,

$$x - tx - \alpha - \beta x > x - t\lambda x \tag{2.4}$$

or,

$$x > \frac{\alpha}{t(\lambda - 1) - \beta} \tag{2.5}$$

(2.4) says that the benifit of getting a court-verdict must outweigh the cost of doing so. Let

$$\tilde{x} = \frac{\alpha}{t(\lambda - 1) - \beta} > 0 \tag{2.6}$$

Therefore, it is obvious that $\forall x > \tilde{x}$, the tax-payer will go to the court and its pay-off would be $[x(1-t) - (\alpha + \beta x)]$. Similarly $\forall x \leq \tilde{x}$, the tax-payer will not go to the court and its pay-off would be $(x - t\lambda x)$. We have implicitly assumed that if someone is indifferent between the two, he chooses not to go to the court.

Public agents know these reservation pay-offs for these two groups of tax-payers. Let us define these pay-offs as R_A and R_B respectively. Therefore,

$$R_A \equiv x - t\lambda x, \;\; \forall x \leq \tilde{x},$$

(call this group A)
and

$$R_B \equiv x(1-t) - (\alpha + \beta x), \;\; \forall x > \tilde{x},$$

(call this group B)

The public agent behaves in the following way. He would like a bribe for announcing $\underline{x}$. But if the tax-payer insists on x instead, $\bar{x}$ will be assessed. Basically the public agent wants a share of S_A from group A and of S_B from B as bribe, where S_A and S_B are defined as :

$$S_A = x - t\gamma x - R_A \tag{2.7}$$

and

$$S_B = x - t\gamma x - R_B \tag{2.8}$$

Assume that some bargaining power yields θS_A and θS_B to the public agent, $0 < \theta < 1$. Therefore, the net pay-off to A and B (Π_A and Π_B respectively) are,

$$\Pi_A = x - t\gamma x - \theta S_A \tag{2.9}$$

and

$$\Pi_B = x - t\gamma x - \theta S_B \tag{2.10}$$

We are now in a position to compare Π_A and Π_B with $x(1-t)$, the net pay-off in a 'honest' system which we define as the 'first-best' :

$$\Pi_A - x(1-t) = tx(1-\gamma) - \theta tx(\lambda - \gamma)$$

Therefore,

$$\Pi_A > x(1-t) \quad iff \quad \theta < \frac{1-\gamma}{\lambda-\gamma} \tag{2.11}$$

And

$$\Pi_B - x(1-t) = tx(1-\gamma) - \theta[tx(1-\gamma) + (\alpha + \beta x)]$$

Therefore,

$$\Pi_B > x(1-t) \quad iff \quad \theta < \frac{tx(1-\gamma)}{tx(1-\gamma) + (\alpha + \beta x)} \tag{2.12}$$

Note that for $x = \tilde{x}$, RHS of (2.11) and (2.12) are the same. What (2.11) and (2.12) do, is to indicate how people with varying levels of income (or imputed income), threatened by harassment, compare their position vis-a-vis the first-best. We define the situation with harassment and corruption as the 'corrupt-state'.

Proposition 2.1 *(a) For $\theta \leq \frac{(1-\gamma)}{(\lambda-\gamma)}$, everyone prefers the corrupt state to the first-best.*
(b) For $\theta \in (\frac{(1-\gamma)}{(\lambda-\gamma)}, \frac{t(1-\gamma)}{t(1-\gamma)+\beta})$, $\exists\ \hat{x} > \tilde{x}$ such that people with $x \leq \hat{x}$ prefer the first-best to the corrupt state and people with $x > \hat{x}$, prefer the corrupt state to the first-best.
(c) For $\theta \in [\frac{t(1-\gamma)}{t(1-\gamma)+\beta}, 1]$, everyone prefers the first-best.

Proof :

(a) If $\theta \leq \frac{(1-\gamma)}{(\lambda-\gamma)}$, from condition (2.11) it is obvious that $\forall x \leq \tilde{x}$, corrupt state will be preferred. Since $\frac{t(1-\gamma)}{t(1-\gamma)+\alpha/x+\beta} > \frac{(1-\gamma)}{(\lambda-\gamma)}, \forall x > \tilde{x}$, everyone will prefer the corrupt state.

(b) Note that as $x \to \infty$, the RHS of (2.12), i.e., $\frac{t(1-\gamma)}{t(1-\gamma)+\alpha/x+\beta}$, tends to $\frac{t(1-\gamma)}{t(1-\gamma)+\beta}$. If $\frac{(1-\gamma)}{(\lambda-\gamma)} < \theta < \frac{t(1-\gamma)}{t(1-\gamma)+\beta}$ $\exists\ \hat{x}$ such that $\frac{t(1-\gamma)}{t(1-\gamma)+\alpha/\hat{x}+\beta} = \theta$, where $\hat{x} > \tilde{x}$. Hence $\forall x \leq \hat{x}$, people will prefer the first-best, whereas for $x > \hat{x}$, people will prefer the corrupt state.

(c) Here, along with (2.11), (2.12) is reversed for all possible x. Therefore, everyone prefers the first-best. ■

Figure - 1

The Proposition is picturised in figure 1. The RHS of (2.11) and (2.12) is represented by ABA'. Let θ take a value $\hat{\theta}$. Then $\forall x > \hat{x}$ people will not prefer the first-best. However, for $\hat{\theta} < OA$, everyone prefers the corrupt state. For $\hat{\theta} > OB'$, everyone prefers the first-best.

Note that $\beta = 0$ implies that $OB' = 1$. Hence for any $0 < \hat{\theta} < 1$, there would always exists some $\hat{x}$ such that $\forall x > \hat{x}$, people would prefer the corrupt state to the first-best.

With $\alpha = 0$, there would be corner solution. With $\alpha = 0$, (2.5) implies everyone will go to the court and therefore people will prefer the corrupt state iff $\theta < \frac{t(1-\gamma)}{t(1-\gamma)+\beta}$. Since $\frac{t(1-\gamma)}{t(1-\gamma)+\beta}$ is constant, either everyone prefers the corrupt state or they prefer the first-best situation.

The intuition behind the result is straightforword. In the general case with given $\alpha > 0$, $\beta > 0$, people with very high x, if harassed, will go to the court and gets $x(1-t) - (\alpha + \beta x)$. But he can share a surplus $tx(1-\gamma) + (\alpha + \beta x)$ with corrupt official. So, unless θ is high enough, his net pay-off is greater than $x(1-t)$ which he gets in the 'honest' state. So he prefers the corrupt state. However, this depends on the magnitude of β and θ. If $\beta = 0$, there is no $\theta < 1$ for which everyone prefers the first-best. Moreover, for the same $\theta > \frac{(1-\gamma)}{(\lambda-\gamma)}$, critical $\hat{x}$ will go down.

3 Conclusion

Relative preference for a corrupt state crucially depends on the cost of harassment. For richer people harassment costs are relatively low and the average harassment cost goes down with the level of income as there is a fixed cost. Hence, the richer section has a stronger bargaining power while sharing the benefit of underreported income relative to those who are poor and face relatively high harassment costs. Thus the richer section may prefer a corrupt state to the one where the public official behaves honestly. This is the message of the paper. One should note that an interesting implication of our framework is that with $\alpha = \beta = 0$, everyone likes a corrupt state. The poor who previously preffered an honest society in the presence of harassment cost, would like to share the benefit of corruption. The model does not have any other mechanism to prevent this. It suggests that, ceteris paribus, zero harassment costs do not imply a clean system. One could try to reexplore this and related issues when 'honesty' is perceived as a virtue by attaching positive weight to 'honesty' in an utility function.

NOTE

1. For example see papers by Rose-Ackerman (1975), Lui (1985, 1986), Cadot (1987), Becker(1993).

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