

ANSWERS TO REFEREE I

“Indeed if the client knew he was dealing with a spurious middleman he would never pay him since a spurious middleman has no influence whatsoever on decisions. So the client must believe that the middleman is a real one. Those beliefs must be modelled. The author cannot mean that the Client is sure of something that is false i.e., that he puts zero probability on the event that the middleman is spurious. But if he does put some probability, we need to understand the behaviour of a true middleman i.e., an intermediary who has influence on decisions. The behaviour of the spurious middleman may then lead to the Client updating his beliefs about the type of the middleman he faces.

I think, the client’s belief about whether the middleman is a real one is modelled in the article. It is included in Bayesian updating process. Client, after observing the claims of spurious middleman, updates her beliefs about whether the bureaucrat is corrupt or not and whether his application is acceptable or not. In equation (1), client’s utility function was defined as such:

$$V_{CL}^{\sigma} = \left. \begin{array}{l} P(\text{honest \& acceptable} | \text{SM's claim})(\sigma Z) + P(\text{corrupt \& acceptable} | \text{SM's claim})(\sigma Z - \Phi) + \\ + P(\text{unacceptable} | \text{SM's claim})0 \\ \sigma Z - \beta \end{array} \right\} \begin{array}{l} \text{if } s_{cL} = R \\ \text{if } s_{cL} = A \end{array}$$

Updated probabilities in fact includes the event that client does not believe that the middleman is a genuine one and the event that client thinks SM does not have enough knowledge about acceptability and/or honesty of the bureaucrat. If client thinks that, SM is not genuine, he rejects it and does not change her initial beliefs about the probability of honest officers and that her application’s acceptability. Even if the client attaches some probability between zero and one to SM being genuine, it can be included in updated probabilities and can be used in the reject case; there is no need to change the utility from accepting in any case, the client will expect $\sigma Z - \beta$, since she will pay SM ex-post.

As mentioned in page 8, last paragraph “After listening to the SM’s claim that the incumbent bureaucrat is corrupt, the client adjusts her belief of facing an honest officer to some probability different to her initial beliefs; i.e she calculates $P(\text{IB is honest} | \text{SM says IB is corrupt}) = \delta < p$ where δ decreases with the increasing persuasiveness of SM. The client also updates her initial belief (t) about whether her application is acceptable or not after hearing the SM’s claims to calculate $P(\text{application is acceptable} | \text{SM says unacceptable}) = m < t$ and $P(\text{application is acceptable} | \text{SM says acceptable}) = k > t$.”

So, in fact, the client is not sure of something that is false (namely that SM is a genuine intermediary), otherwise the probabilities represented by δ and k would have assumed to be

equal to one and m would have assumed to equal to zero. Instead, they are given probabilities and modelled explicitly. In the article I made this more explicit.

Behaviour of true middleman can be included in the model but at that time the model would get too big and involved. In fact, in my two previous articles (Bayar (2005) and Bayar (2009)) and in some other articles, behavior of the true middlemen are modelled in different aspects. I referred to previous articles in the explanations.

My assumption in this article is that the client is not in search of genuine middlemen, maybe he does not know how to search or search costs are very high. If he were searching, he should compare claims and prices of different intermediaries, there can be an intermediary market with some assumption about the characteristics of competition. For example if there are many middlemen in the market perfect competition between them can occur and prices are set so as to make economic profits of all intermediaries equal to zero. Then, SM must be price taker of this equilibrium price. Imperfect competition case between a few intermediaries can also be modelled. But this is a whole different model which can be subject of another article. Thank you for giving me this idea.

In equilibrium the middleman demands different bribes depending on whether the bureaucrat is corrupt or not – what are the bribes demanded by a true middleman? If those are different, the Client will never pay since that reveals the spuriousness of the current middleman.

Except for the case of perfect competition between intermediaries, anyway there will be differences between the prices charged by the real intermediaries; thus, it would not be possible for the client learning about the type of the intermediary by just looking at the prices he charged.

In this article it is assumed that the client is applying directly to the public office, without knowing anything about or searching for intermediaries, the SM approaches him and makes his claims, client decides to whether believe and accept or reject. If he does not believe the SM and rejects he can search for a genuine intermediary and then process may go on with real middlemen; as in the processes I modelled in my articles Bayar (2005) and Bayar (2009). That is, the case of true middlemen can be modelled as a different game that begins after the game with SM ends.

I know, it seems as if there is too much of asymmetric information; nevertheless in real life such events are observed, as examples of it is given in the introduction part. I extended the introduction part to include real life examples of genuine and spurious intermediary usage. Some clients apply to a public office, to get a service, without knowing anything about neither bureaucratic procedures, nor characteristics of public officers nor the middlemen. They can be very pliable. Only after repeated application they may learn something about the process, which I modelled in part 3.

“What does it mean that the “SM lies to the Client and tries to change his expectations” about the type of the official. This is not rigorous at all. Either he provides some hard information upon which updating is warranted or the Client should ignore him since he very well understands that whatever the type of the official the SM will claim that he is corrupt (see lemma 2”). To put it differently the SM is not credible neither about the official nor about the application”.

I agree that I did not model the persuasion process of the SM. In order not to make the already long article longer, I think I can take the persuasion abilities of the SM as given and changes on it influence the model by changing updated probabilities of the client. SM can have persuasion methods of his own, he can show evidence about his previous “clients” he successfully served (it seems to these clients that the SM intervened and they have gotten the service they wanted! Even if the client makes a search among the clients that SM has given as reference, what he would find out is their client satisfaction!). Some SM may be so skillful in persuasion that even without showing hard evidence they can impress naive people. For the client, search cost may be greater than the bribe demanded, so he either believes the SM or not but he does not bother to get more information to be able to form more sophisticated updated probabilities. Or, client can go, search for whether the claims of SM is true and can reflect the results of his search on updated probabilities. Modelling also this process explicitly will make the game very big and complicated. I think taking persuasion abilities as given will not change our results in a significant way. I added all these explanations to the article.

Thank you for your comments.

ANSWERS TO REFEREE II

Relevance and Originality-1st paragraph : Thank you for indicating this. I included some more relevant articles and empirical evidences, including the ones you have suggested.

Soundness of the analysis:

I have checked the maths.

There seems to be an inconsistency in the assumptions: A bribe transaction will rarely happen after the desired decision has been made (when the bribe is no longer needed/not necessarily decisive for the outcome). And when it happens, I would assume that it is a result of trust between those involved, and thus, associated with repeated games. However, when it comes to the middleman's deception of clients, it will easily be revealed if repeated – which would perhaps presuppose a one-shot game. These issues should be better defended, for example by explaining why they will not affect the final result.

In the cases with a genuine intermediary, ex-post payment increase renege possibility of the client and ex-ante payment increase renege possibility of intermediary. In our case, SM has no renege possibility; since he has no influence on the job, the client will get the service anyway. But, since client does not know this, we can include renege possibility of SM in the utility function of the client, if he accepts demand of SM, in equation (1) his expected utility becomes $V_{CL}=(1-\gamma)(\sigma Z)-\beta$, thus γ =renege probability of SM, becomes as a factor decreasing utility of the client, which in turn decreases the bribe he can pay. In such a situation SM may have incentive to take the bribe ex-post, both removing renege probability from the client's utility function, thus increasing his bribe level and giving a more credible impression to the client. However, this time, SM should include in his utility function probability of renege by the client. Thus, in equation (2) the utility SM gets when the client accepts his bribe demand is discounted by renege probability to become $V_{SM}=(1-\xi-\gamma)\beta-\xi F$. Notice that, this will not change the amount of bribe demanded by the SM and most of the other results. So, for simplicity, we remove renege probability and refer to articles we mentioned in the introduction part for a detailed analysis of renege possibility.

The paper assumes that the spurious and genuine middlemen are different individuals. It is not clear to me why not one and the same middleman (who both are individuals with a dubious character) can operate in different 'markets'.

Usually genuine intermediaries are established around the public services with the legal appearance of helping the clients to deal with bureaucratic rules and procedures, making them gain time. However, some of them also become facilitators of corrupt transactions.

In my model, I assumed that SM is a low level civil servant within the public office, so, legally, he cannot open an intermediary firm outside the public office with legal appearance. If he have connections with some of the corrupt officers, he can be genuine intermediary of them, but this time that become a case of genuine intermediaries and it is out of scope of

my model. In my two previous articles, Bayar (2005) and Bayar (2005), I explored the case of genuine intermediaries.

On the other hand, genuine intermediaries can do what SM does, if they have sufficient knowledge about the type of the officers and the applications but SM would always have an informational advantage over them, for being within the public office. Thus, would seem more credible to the clients.

Moreover, what is more consequential – in terms of damaging impact on the public sector service delivery is not part of the analysis.

I have put some comments on it in the results and conclusions part.

The result that increasing penalties and increasing probabilities are main factors for deterrence, follows too much from the assumptions (ex ante assumption: criminal proceedings are main cost; analysis: ex post - criminal proceedings are main cost...). This is a very common conclusion – and stems from our law & economics habit of oversimplifying the decision to commit a crime. The normative implication is far from obvious.

I admit, this result is trivial. But, in all models, at least some of the results inevitably turns out to be trivial.

Implications:

Thank you for reminding this to me. I added a paragraph about empirical research possibilities to the article.

The case of spurious middlemen is newly began to be searched in the corruption literature. This article is the first theoretical analysis of the issue. Survey studies can be done among the users of public services to see whether there are such events detected by the clients and the mechanism how they noticed the deception. Laboratory experiments can be designed where one of the players act as a SM to a group of “clients” and behavior of the parties can be observed. These can increase our insight on the subject much.

I also improved upon the policy recommendations part; a referenced to some articles about effects of increasing transparency and certification of intermediaries.

Thank you for your comments.