

Public versus Private Negotiations with Differentially Informed Buyers

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Abstract

This paper studies a bargaining model where a seller has an item whose value is common for two differentially informed buyers: an informed and uninformed buyer. In each period the seller chooses a buyer and makes an offer exclusive to the selected buyer. It looks quite common in reality that an item is sold to the buyer who knows the best about it, but a less knowledgeable buyer can be an attractive target for the seller to exploit. In this model, if offers are publicly observable, the seller immediately sells to the uninformed buyer and fully extracts the surplus as a unique equilibrium. If offers are just privately observable, in any equilibrium that meets certain regularity conditions, the seller negotiates only with the informed buyer. In this case the Coase conjecture holds: as the discount factor goes to 1, the seller's payoff decreases to 0 and all the surplus ultimately goes to the informed buyer. In addition to direct consequences of these predictions, this theory provides an explanation why negotiations are often bilateral even when multiple parties are available to negotiate.

Extended Abstract

This paper studies a bargaining model where a seller has an item whose value is common for two differentially informed buyers: an informed and uninformed buyer. The seller does not value the item anymore. The seller does not know the value for the buyers either. An example is a firm that needs to sell an asset for liquidity shock. Some potential buyers can be more knowledgeable about the asset than the others and seller. A more familiar example might be arts and antiques: Should an amateur seller go to a professional antique shop or flea market?

The paper models such situations as repeated bargaining where the seller repeatedly makes an offer potentially infinitely many times. This model differs from standard models of repeated bargaining in that the seller must make an exclusive offer, a price, to a single buyer, which the seller can switch in every period. This bilateral nature of the negotiation process can be questionable, but this paper itself provides some justifications of this modeling. The selected buyer chooses whether to accept; the game ends if accepted and continues to the next period if rejected. The buyers cannot make a counteroffer.

In reality, there are a lot of examples where items are sold to buyers who have the best, or at least highly knowledgeable about the item—professional brokers are leading examples—but there are also a lot of examples where ignorant buyers are exploited. In the context of this model, in the total absence of the informed buyer, the seller fully extract the surplus from the uninformed buyer by charging the expected value of the item; the uninformed buyer accepts the offer because it cannot make a counteroffer. A question is what will change if both the informed and uninformed buyer are available.

In the case of public offers—offers are all observable to the both buyers—nothing changes: the seller immediately sells to the uninformed buyer by offering the price equal to the expected value of the item. The seller can potentially profitably deviate to the informed buyer, but if rejected, the uninformed buyer observes this unaccomplished attempt and thus reduces the expected valuations of the item. In expectation, the surplus the seller can extract is less than 100%, smaller than the full surplus extracted in the equilibrium.

In contrast, if offers are all private—offers are observable only to the selected buyer—the full surplus extraction cannot be supported as an equilibrium outcome unless the discount factor is very small. The seller basically communicate only with the informed buyer and never negotiates with the uninformed buyer, who believes that the seller comes only after the item turns out to be valueless. (Actually, to obtain this clean result, several additional assumptions on the model and restrictions on equilibrium are needed.) Therefore, in equilibrium this model becomes equivalent to the standard repeated bargaining model with incomplete information. In particular, the Coase conjecture holds; i.e., the equilibrium payoff of the seller ultimately decreases to 0 as the discount factor goes to 1.

In other words, the surplus is, asymptotically, fully extracted by the informed buyer, a sharp contrast with the case of public offers where it is the seller which extracts the full surplus.

These results provides several interesting implications. First of all, if possible, the seller wishes to commit to disclose negotiation history because the seller obtains the full surplus with public offers. In reality, however, sellers apparently often fail to commit and end up with very low revenues as predicted in the Coase conjecture.

Second, this paper provides an “informational Bertrand” theory: the informationally superior buyer dominates the market and wipe out the less knowledgeable buyers. This explains the *raison d’être* of professional middlemen. Especially, small, local brokers are often seemingly inefficient but abundant in the economy. They might be informationally superior enough to deter the entry of informationally inferior outsiders.

It is also noteworthy that with public offers, the informed buyer totally loses the chance of business just because of its superior knowledge. The seller wishes to exploit the ignorance of buyers and thus avoid buyer with better knowledge.

Finally, the results of this paper provides some justifications of the assumption of bilateral negotiation. If offers are public, the seller does not wish to open an auction or to negotiate with the both buyers in a multilateral way. The seller can maximally extract the surplus by totally ignoring the informed buyer. If offers are private, the informed buyer does not wish the seller to open an auction; even though the other buyer is uninformed, it bids aggressively and thus the informed buyer cannot fully extract the surplus. The seller clearly prefers an auction, but if the informed buyer commits not to participate in an auction, the seller needs to individually negotiate with the informed buyer because the uninformed buyer believes that the seller opens an auction only after the seller fails to sell to the informed buyer.