2. The Model

We assume an infinite sequence of independent private values auctions, in which $N > 2$ individuals participate choosing bids for a good to be sold by an auctioneer, and whether to offer them. The auctions are equally spaced over time, such that there is a discount rate of δ between an auction and the following. We therefore assume that one auction will occur at each time t.

At the beginning of each auction, the participants find out the good that is being offered, and learn their private valuations (v) for the object. These valuations follow a known cumulative distribution function F(v), and are independent between participants and between time periods. We assume this distribution function has density $f(v)$, support on $[0, v^H]$ and non conditional expected value equal to $E[v] = \bar{v}$.

The reserve price is supposed equal to zero, so that whenever there is at least one non negative offer, the good is sold to the highest bidder.

Participants are not allowed to make monetary transfers between themselves, but they can communicate at the end of each period. The auctioneer cannot observe whether such communications are being made (Punishing Communications will change this restriction).

Therefore, the only public information on this model is the communication between participants and the random mechanism. In other words, the auctioneer announces no information about the auction result, and the participants are not able to individually observe this result (except, of course, for the winner himself).

Here each period's structure is described:

1. Auctioneer starts the auction, and the good is revealed;

2. Participants learn their private valuations for the good;

3. Participants make their bids (if they choose to);

4. Auctioneer privately provides the good to the winner;

5. Participants exchange messages;

6. Participants observe a random mechanism[1];

7. End of the period.

[1]Barany (1992) and Forges (1990) show that this is unnecessary, whenever there are at least four players and a communication device. However, as in the extension found in subsection 4.1, this device will increase efficiency in the scheme, we shall adopt it in the main model too for simplicity