Online Appendix B: Instructions Leniency Profound

Decision-making in a market

You are going to participate in an experiment on decision-making in a market. The experiment lasts for at least 20 periods.

You will play with one other person, chosen at random. Together, you and that other player form a group. You will never learn who the other player is. In each period, you will play with the same player. The other player will always face the exact same decisions with the exact same consequences as you do.

In this experiment you can earn points. The number of points you earn depends on the decisions made by you and those made by the other player. At the beginning of the experiment, you receive 70 points in your account. At the end of each period, the points that you earned in that period will be added to your account. At the end of the experiment the number of points in your account will be converted to euros, at a rate of €0.10 per point.

We will first read the instructions aloud. Then you will have time to read them on your own. After that, there is the possibility to ask questions individually. Please refrain from talking during the entire experiment.

Instructions
In this market you and the other player choose prices in a number of periods. In each period you can earn points. However, based on your decisions and those of the other player, you may also lose points.

Step 1: communication decision
Every period starts with the question whether you want to communicate with the other player. Communication entails a computer chat with the other player. If you want to communicate press "YES", if you do not want to communicate press "NO". Only if both players press "YES", communication takes place and you proceed to step 2. Otherwise, you proceed to step 3.

Step 2: communication
If both players have chosen to communicate in step 1, a chat box will appear on your screen. You can discuss anything you want with the other player. However, you are not allowed to identify yourself by name, number, gender, appearance, or in any other way. If you do, you will not receive any payment after the experiment. You are only allowed to communicate in English. A timer in the top right corner of the screen will inform you of the amount of time you have left.

Step 3: pricing decision

Both players must choose one of the following prices:

$$1, 2, 3, 4, 5, 6, 7, 8, 9, 10.$$

You receive the following number of points:

$$\text{points received} = \begin{cases} \text{your price} & \text{if your price is lower than the} \\ & \quad \text{price chosen by the other player;} \\ \text{your price / 2} & \text{if your price is the same as the price chosen by} \\ & \quad \text{the other player;} \\ 0 & \text{if your price is higher than the} \\ & \quad \text{price chosen by the other player.} \end{cases}$$

After both players have made their decision, you learn the price chosen by the other player. The number of points you have received will also be displayed.

Step 4: reporting decision

There is an outside party that may take points from you if he discovers that you have communicated. With some probability he detects this by himself, but he will also discover this if the communication is reported to him, either by you or by the other player. This applies to communication that took place in this period, but also to communication that took place in a previous period and that has not yet been discovered. We will refer to this as *undiscovered communication*. If communication is discovered, past communication can no longer lead to a future loss of points: there is no longer any undiscovered communication.

Examples

- Suppose you are in period 2. You did not communicate in period 1, and you also do not communicate in period 2. Hence, there is no undiscovered communication.

- Suppose you are in period 2. You did communicate in period 1, this communication was discovered, and you do not communicate in period 2. Hence, there is no undiscovered communication.

- Suppose you are in period 2. You did not communicate in period 1, but you do communicate in period 2. Hence, there is undiscovered communication.

- Suppose you are in period 2. You did communicate in period 1, this communication was not discovered, and you do not communicate in period 2. Hence, there is undiscovered communication.

If there is **no** undiscovered communication, you move to step 5. If there **is** undiscovered communication, there are two possibilities. With a probability of 20%, the outside party starts an investigation, and you move to step 4a. With a probability of 80%, the outside party does not start an investigation and you move to step 4b. You will be informed about this. In both cases, you must decide whether or not you want to report communication. You report by pushing the "REPORT" button, otherwise you push the "NOT REPORT" button. After both players have made their decision, you learn the decision made by the other player.

Step 4a (probability: 20%)

In this case, the outside party **has** started an investigation. Reporting will cost you 0.5 points. In addition to this:

- If you press "REPORT" and the other player presses "NOT REPORT", you lose **1** point and the other player loses **9** points.

- If you press "NOT REPORT" and the other player presses "REPORT", you lose **9** points and the other player loses **1** point.

- If both you and the other player press "REPORT", you both lose **5** points.

- If both you and the other player press "NOT REPORT", the outside party will nevertheless detect your communication with a probability of 75%. In that case you both lose **9** points. With a probability of 25% the outside party will not detect your communication and you both lose **no** points.

Step 4b (probability: 80%)

In this case, the outside party **has not** started an investigation. Reporting will cost you 0.5 points. In addition to this:

- If you press "REPORT" and the other player presses "NOT REPORT", you lose **0** points and the other player loses **9** points.

- If you press "NOT REPORT" and the other player presses "REPORT", you lose **9** points and the other player loses **0** points.

- If both you and the other player press "REPORT", you both lose **4.5** points.

- If both you and the other player press "NOT REPORT", the outside party will not detect your communication and you both lose **no** points.

Please note that if there is undiscovered communication already, then communicating again has no effect on the probability of investigation, and it also has no effect on the number of points that will be deducted if communication is discovered. In other words: it is only important *whether* there is undiscovered communication, **not** *how much* undiscovered communication there is.

Figure 1 gives a schematic representation of when you lose points. Please make sure that you understand this figure and also make sure that it is in line with the instructions above.

Example 1. Suppose that there is undiscovered communication. You choose a price of 6, and the other player chooses a price of 7. You thus receive 6 points, while the other player receives 0 points. In step 4, it turns out that the outside party does not start an investigation, so you move to step 4b. There, you press the "NOT REPORT" button, while the other player presses "REPORT". Hence, you lose 9 points. The other player loses 0 points, but has to incur the 0.5 points in reporting cost. After this period, your account will change by 6 − 9 = −3 points. The account of the other player will change by 0 − 0 −0.5 = −0.5 points.

Example 2. Suppose that there is no undiscovered communication. You choose a price of 6, and the other player chooses a price of 6. You thus receive 3 points, while the other player receives 3 points. As there is no undiscovered communication, you move directly to step 5, and both players lose no points. After this period, your account will change by

$3 - 0 = 3$ points. The account of the other player will also change by $3 - 0 = 3$ points.

Step 5: summary
In this step you receive an overview of how you have fared in this period: how many points you received, how many points were deducted, and the current state of your account. Throughout the experiment, there will also be a box on your screen where you can observe the decisions made by you and the other player in each previous period.

End of experiment
In the first 19 periods, step 5 is always followed by step 1 of the next period. From period 20 onwards, the experiment ends with a 20% probability at the end of each period. With a probability of 80%, step 1 of a next period starts.

You receive a message on your screen if no further period will take place. At the end of the experiment, the number of points in your account will be converted at a rate of €0.10 per point. Before being paid in private, you have to hand in the instructions.

After the experiment, please do not discuss the exact content with anyone, including people who did not participate.

Please refrain from talking throughout the experiment.

THANK YOU VERY MUCH FOR PARTICIPATING AND GOOD LUCK!

Figure 1

Will you lose points in this period?