## Instructions

Thank you for participating in this experiment. The purpose of this experiment is to study how people make decisions in certain situations. If you have questions at any time, please raise your hand. Please do not speak to other participants during the experiment. Depending on the decisions made by you and other participants, you may earn money as described below. The money that you make from this experiment will be added to the $\$ 5$ show-up fee and the money you will earn from completing a post-experiment survey and the total will be paid to you individually and privately at the end of the experiment.

This session consists of 2 practice rounds and 8 paying rounds in which you may earn money. In each round, you will interact with another randomly chosen participant. Under no circumstances will you interact with the same participant twice in a paying round; that is, in every paying round you will be paired with a participant that you have not been paired with before. No participant will learn the identity of the persons with whom he or she interacted during any of the rounds.

At the end of the experiment, one of the 8 paying rounds in each session will be randomly chosen for payment (every round is equally likely to be chosen). The amount that you will receive at the end of the experiment will depend on the decisions made in that round.

Overview. You will be randomly assigned one of two roles: Player A or Player B. At the end of the game, Player A gets to decide whether or not to send money to Player B. Before roles are assigned, both participants can decide whether or not to make a promise to send money to Player B if they are assigned the role of Player A. Once roles are assigned, Player B makes an investment decision that may affect his own payoff. Finally, Player A decides whether or not to send money to Player B.

Each round consists of four steps, which are described below.
Step 1: Communication Phase. At the beginning of each round, you will be anonymously and randomly matched with an interaction partner. You will then have the opportunity to exchange messages with one another sequentially. The order in which you make these communication decisions will be determined randomly. The participant who is selected to make the first communication decision (Participant 1) must decide whether or not to send Message 1 to the other participant (Participant 2):

Message 1: "I promise to send you money if I am chosen to be Player A so long as you make me a return promise."

After learning of Participant 1's decision, Participant 2 must decide whether or not to send Message 2 to Participant 1 :

Message 2: "I promise to send you money if I am chosen to be Player A."

Table 1 describes the consequences of the decisions that the participants may make during this communication phase. Notice that Participant 1 only ends up promising to send Participant 2 money if Participant 2 makes a promise in return.

Table 1: The consequences of the Communication Phase

|  | Participant 1 sends <br> Message 1 | Participant 1 doesn't send <br> Message 1 |
| :--- | :---: | :---: |
| Participant 2 sends <br> Message 2 | Both participants have <br> promised | Only Participant 2 has <br> promised |
| Participant 2 doesn't send <br> Message 2 | Neither participant has <br> promised | Neither participant has <br> promised |

Step 2: Role Assignment. Once the Communication Phase is over, you and your interaction partner will learn whether you have been chosen to be Player A or Player B (you will learn more about the meaning of these roles below). Your role will be randomly assigned anew in each round. It is always equally likely that you will be Player A or Player B (regardless of the messages you send or the actions you take in any of the rounds).

Step 3: Player B’s Investment Decision. Once roles have been assigned, Player B must make an investment decision, which may influence his own payoff. Exactly how the investment decision affects his payoff depends on the action Player A chooses at the next step (you will learn more about how payoffs are determined below).

Step 3a: Player B's Guessing. Player B has the opportunity to earn bonus money by indicating how likely he thinks it is that Player A will decide to send him money at the next stage of the experiment for each level of investment that he might choose. Thus, prior to making his investment decision, Player B should indicate the likelihood with which he believes that Player A will send him money if he invests 0 , if he invests 1 , if he invests 2, and so on.

More specifically, for each possible investment level that Player B may choose, Player B must indicate which of the following best approximates his level of confidence that Player A will send him money: Player A will certainly send him money; Player A will probably send him money; there is a 50-50 chance that Player A will send him money; Player A probably won't send him money; Player A certainly won't send him money.

One round that is not chosen for payment based on the participants' actual decisions will be randomly selected for payment based on Player B's guesses in that round. Thus, if you were Player B in the randomly selected round, you will be paid for your guesses in that round.

Table 2 shows how Player B's payoff from guessing is determined. For example, if Player B states that he believes that Player A will certainly send him money for a particular investment level, and Player A decides to send him money if he chooses that investment level, then Player B gets a payoff of $\$ 0.65$. But if Player A decides not send Player B money for that investment level, then Player B gets a payoff of \$0.15.

Table 2: How Player B's earnings depend on B's stated beliefs about Player A's action.

|  | Player A will <br> certainly <br> send Player <br> B money | Player A will <br> probably <br> send Player <br> B money | There is a <br> 50-50 <br> chance that <br> Player A <br> sends <br> Player B <br> money | Player A <br> probably <br> will not <br> send Player <br> B money | Player A <br> certainly will <br> not send <br> Player B <br> money |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Player B's earnings if Player A decides to <br> send him/her money | $\$ 0.65$ | $\$ 0.60$ | $\$ 0.50$ | $\$ 0.35$ | $\$ 0.15$ |
| Player B's earnings if Player A decides not <br> send Player B money | $\$ 0.15$ | $\$ 0.35$ | $\$ 0.50$ | $\$ 0.60$ | $\$ 0.65$ |

Step 3b: Player B's Decision. After Player B has indicated his level of confidence that Player A will send him money for each possible investment level, Player B chooses his investment level.

Step 4: Player A's Decision. Once Player B has made his investment decision, Player A must decide whether or not to send Player B money. Player A must make this decision before she learns what investment decision Player B actually made.

Player A makes her decision by indicating what she would like to do for each level of investment that Player B could have chosen. That is, Player A must indicate whether or not she will send Player B money if his investment was 0 , whether or not she will send him money if his investment was 1 , and so on.

Player A's actual choice (and therefore the final payoffs of Player A and Player B) will depend on the investment level that Player B has chosen. So, for example, if Player B chose an investment level of 3 , Player A sends him money if she indicated that she would do so for that investment level.

Payoffs. Player A's decision whether or not to send Player B money in conjunction with Player B's investment decision determine both participants' payoffs.

Tables 3 and 4 illustrate how the players' payoffs depend on these decisions.

| Table 3: Player A |
| :--- | :---: | :---: | :---: |
| sends Player B |
| money |$\quad$ B's Investment $\quad$ A's Payoff $\quad$ B's Payoff


| Table 4: Player A |
| :--- | :---: | :---: | :---: |
| doesn't send |
| Player B money |$\quad$ B's Investment $\quad$ A's Payoff $\quad$ B's Payoff 9 \$6

Preliminary Questions. Before the experiment begins, you will be asked two questions to check that you understand how Player A's and Player B's decisions determine their payoffs.

Final Questions. At the end of the experiment, you will be asked to answer some further questions, and you will have the opportunity to make some additional money.

Do you have any questions?

## Preliminary Questions

1) What are the payoffs of Player A and Player B if Player A chooses not to send Player B money and Player B invests 4?

2) What are the payoffs of Player A and Player B if Player A chooses to send Player $B$ money and Player B invests 1 ?

| Player A's payoff |  |
| :--- | :--- |
| Player B's payoff |  |

## Instructions

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This session consists of 2 practice rounds and 8 paying rounds in which you may earn money. In each round, you will interact with another randomly chosen participant. Under no circumstances will you interact with the same participant twice in a paying round; that is, in every paying round you will be paired with a participant that you have not been paired with before. No participant will learn the identity of the persons with whom he or she interacted during any of the rounds.

At the end of the experiment, one of the 8 paying rounds in each session will be randomly chosen for payment (every round is equally likely to be chosen). The amount that you will receive at the end of the experiment will depend on the decisions made in that round.

Overview. You will be randomly assigned one of two roles: Player A or Player B. At the end of the game, Player A gets to decide whether or not to send money to Player B. Before roles are assigned, both participants can decide whether or not to make a promise to send money to Player B if they are assigned the role of Player A. Subsequently, Player B can make an investment that may affect the payoffs of both participants. Finally, Player A decides whether or not to send money to Player B.

Each round consists of four steps, which are described below.
Step 1: Communication Phase. At the beginning of each round, you will be anonymously and randomly matched with an interaction partner. You will then have the opportunity to exchange messages with one another sequentially. The order in which you make these communication decisions will be determined randomly. The participant who is selected to make the first communication decision (Participant 1) must decide whether or not to send Message 1 to the other participant (Participant 2):

Message 1: "I promise to send you money if I am chosen to be Player A so long as you make me a return promise."

After learning of Participant 1's decision, Participant 2 must decide whether or not to send Message 2 to Participant 1 :

Message 2: "I promise to send you money if I am chosen to be Player A."

Table 1 describes the consequences of the decisions that the participants may make during this communication phase. Notice that Participant 1 only ends up promising to send Participant 2 money if Participant 2 makes a promise in return.

Table 1: The consequences of the Communication Phase

|  | Participant 1 sends <br> Message 1 | Participant 1 doesn't send <br> Message 1 |
| :--- | :---: | :---: |
| Participant 2 sends <br> Message 2 | Both participants have <br> promised | Only Participant 2 has <br> promised |
| Participant 2 doesn't send <br> Message 2 | Neither participant has <br> promised | Neither participant has <br> promised |

Step 2: Role Assignment. Once the Communication Phase is over, you and your interaction partner will learn whether you have been chosen to be Player A or Player B (you will learn more about the meaning of these roles below). Your role will be randomly assigned anew in each round. It is always equally likely that you will be Player A or Player B (regardless of the messages you send or the actions you take in any of the rounds).

Step 3: Player B’s Investment Decision. Once roles have been assigned, Player B must make an investment decision, which may influence both players' payoff. Exactly how the investment decision affects the players' payoffs depends on the action Player A chooses at the next step (you will learn more about how payoffs are determined below).

Step 3a: Player B's Guessing. Player B has the opportunity to earn bonus money by indicating how likely he thinks it is that Player A will decide to send him money at the next stage of the experiment for each level of investment that he might choose. Thus, prior to making his investment decision, Player B should indicate the likelihood with which he believes that Player A will send him money if he invests 0 , if he invests 1 , if he invests 2, and so on.

More specifically, for each possible investment level that Player B may choose, Player B must indicate which of the following best approximates his level of confidence that Player A will send him money: Player A will certainly send him money; Player A will probably send him money; there is a 50-50 chance that Player A will send him money; Player A probably won't send him money; Player A certainly won't send him money.

One round that is not chosen for payment based on the participants' actual decisions will be randomly selected for payment based on Player B's guesses in that round. Thus, if you were Player B in the randomly selected round, you will be paid for your guesses in that round.

Table 2 shows how Player B's payoff from guessing is determined. For example, if Player B states that he believes that Player A will certainly send him money for a particular investment level, and Player A decides to send him money if he chooses that investment level, then Player B gets a payoff of \$0.65. But if Player A decides not send Player B money for that investment level, then Player B gets a payoff of \$0.15.

Table 2: How Player B's earnings depend on B's stated beliefs about Player A's action.

|  | Player A will <br> certainly <br> send Player <br> B money | Player A will <br> probably <br> send Player <br> B money | There is a <br> 50-50 <br> chance that <br> Player A <br> sends <br> Player B <br> money | Player A <br> probably <br> will not <br> send Player <br> B money | Player A <br> certainly will <br> not send <br> Player B <br> money |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Player B's earnings if Player A decides to <br> send him/her money | $\$ 0.65$ | $\$ 0.60$ | $\$ 0.50$ | $\$ 0.35$ | $\$ 0.15$ |
| Player B's earnings if Player A decides not <br> send Player B money | $\$ 0.15$ | $\$ 0.35$ | $\$ 0.50$ | $\$ 0.60$ | $\$ 0.65$ |

Step 3b: Player B's Decision. After Player B has indicated his level of confidence that Player A will send him money for each possible investment level, Player B chooses his investment level.

Step 4: Player A's Decision. Once Player B has made his investment decision, Player A must decide whether or not to send Player B money. Player A must make this decision before she learns what investment decision Player B actually made.

Player A makes her decision by indicating what she would like to do for each level of investment that Player B could have chosen. That is, Player A must indicate whether or not she will send Player B money if his investment was 0 , whether or not she will send him money if his investment was 1 , and so on.

Player A's actual choice (and therefore the final payoffs of Player A and Player B) will depend on the investment level that Player $B$ has chosen. So, for example, if Player B chose an investment level of 3, Player A sends him money if she indicated that she would do so for that investment level.

Legal regime. There is a legal regime in place that protects Player B if Player A made a promise and Player B made an investment of at least 1. This legal regime forces Player A to compensate Player B if she breaks a promise to send Player B money (unless Player B made a zero investment decision, in which case Player A is not forced to compensate Player B). That is, if Player A made a promise to send money to Player B, and Player $B$ invested at least 1, then the legal regime forces Player $A$ to pay some money to Player B if Player A breaks her promise. Under this particular legal regime, Player A must pay Player B compensation that gives Player B the payoff he would have received had Player A kept her promise.

Payoffs. Player A's decision whether or not to send Player B money in conjunction with Player B's investment decision determine both participants' payoffs. Because the legal regime only forces Player A to compensate Player B if Player A breaks a promise to send Player B money, payoffs differ depending on whether or not Player A made such a promise. Tables 3 through 6 illustrate how the Players' payoffs depend on their decisions.

Payoffs if Player A did not promise to send Player B money

| Table 3: Player A |
| :--- | :---: | :---: | :---: |
| sends Player B |
| money |$\quad$ B's Investment $\quad$ A's Payoff $\quad$ B's Payoff 9 \$12.00


| Table 4: Player A |
| :--- | :---: | :---: | :---: |
| doesn't send |
| Player B money |$\quad$ B's Investment $\quad$ A's Payoff $\quad$ B's Payoff

Payoffs if Player A promised to send Player B money

| Table 5: Player A |
| :--- | :---: | :---: | :---: |
| sends Player B |
| money |$\quad$ B's Investment $\quad$ A's Payoff $\quad$ B's Payoff


| Table 6: Player A doesn't send Player B money | B's Investment | A's Payoff | B's Payoff |
| :---: | :---: | :---: | :---: |
|  | 0 | \$15.00 | \$6.00 |
|  | 1 | \$7.75 | \$12.25 |
|  | 2 | \$7.00 | \$12.00 |
|  | 3 | \$6.25 | \$11.75 |
|  | 4 | \$5.50 | \$11.50 |
|  | 5 | \$4.75 | \$11.25 |
|  | 6 | \$4.00 | \$11.00 |

Preliminary Questions. Before the experiment begins, you will be asked two questions to check that you understand how Player A's and Player B's decisions determine their payoffs.

Final Questions. At the end of the experiment, you will be asked to answer some further questions, and you will have the opportunity to make some additional money.

Do you have any questions?

## Preliminary Questions

1) Player A sent Message 1. Player $B$ sent Message 2 and invested 4. What is the payoff of Player A and Player B if Player A chooses not to send Player B money?

| Player A's payoff |  |
| :--- | :--- |
| Player B's payoff |  |

2) Player A sent Message 1. Player B did not send Message 2 and invested 1. What is the payoff of Player A and Player B if Player A chooses not to send Player B money?

| Player A's payoff |  |
| :--- | :--- |
| Player B's payoff |  |

Now the main experiment will begin. You will be randomly matched with a different participant in this round and each successive round of the main experiment.

Do you want to send the following message to the other player?
"I promise to send you money if I am chosen to be Player A so long as you make me a return promise."

The other player did not make you a promise.

Do you want to send the following message to the other player?
"I promise to send you money if I am chosen to be Player A."

The other player has promised to send you money if he/she is chosen to be Player A so long as you make a return promise.

Do you want to send the following message to the other player?
"I promise to send you money if I am chosen to be Player A."

You were selected to be Player A.

You made no promise to Player B.

Player B made no promise to you.

You were selected to be Player A.

You made no promise to Player B.

Player B made a promise to you.

You were selected to be Player A.

You made a promise to Player B.

Player B made no promise to you.

You were selected to be Player A.

You made a promise to Player B.

Player B made a promise to you.

You were selected to be Player B.

You made no promise to Player A.

Player A made no promise to you.

You were selected to be Player B.

You made no promise to Player A.

Player A made a promise to you.

You were selected to be Player B.

You made a promise to Player A.

Player A made no promise to you.

You were selected to be Player B.

You made a promise to Player A.

Player A made a promise to you.

You must decide whether or not to send Player B money for each of the possible investment levels that Player B might choose.

Your actual choice and therefore final payoffs will depend on the investment level that Player B chooses. So, for example, if Player B chooses an investment level of 3 , your choice is whatever you decided to do for that investment level.

You will now be asked what you want to do for each investment level that
Player B might choose.

## You must now make an investment decision.

Before you make your decision, please indicate your level of confidence that Player A will send you money for each possible investment level you may choose.

You will be paid depending on what Player $A$ actually does in accordance with the table below.

|  | Player A will certainly <br> send you money | Player A will probably <br> send you money | Unsure what Player A <br> will do | Player A probably <br> wont send you money | Player A certainly won't <br> send you money |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Your earnings if Player <br> A sends you money | $\$ 0.65$ | $\$ 0.60$ | $\$ 0.50$ | $\$ 0.35$ | $\$ 0.15$ |
| Your earnings if Player <br> A doesn't send you <br> money | $\$ 0.15$ | $\$ 0.35$ | $\$ 0.50$ | $\$ 0.60$ | $\$ 0.65$ |

Player B made no promise to send you money.

Suppose Player B invests 0 .
Would you like to send money to Player B if Player B invests 0 ?

| $\qquad$Send Money  <br> Payoff to you 12.00 <br> Payoff to Player B 12.00 |
| :--- |



Player B made no promise to send you money.

## Suppose Player B invests 1.

Would you like to send money to Player B if Player B invests 1

| $\qquad$Send Money  <br> Payoff to you 12.00 <br> Payoff to Player B 12.25 |
| :--- |


| Don't Send Money  <br> Payoffto you 15.00 <br> Payoff to Player B 5.00 |
| :--- |

Player B made no promise to send you money.

## Suppose Player B invests 2.

Would you like to send money to Player B if Player B invests $2 ?$


Player B made no promise to send you money

## Suppose Player B invests 3.

Would you like to send money to Player B if Player B invests 3 ?


Player B made no promise to send you money.

Suppose Player B invests 4.
Would you like to send money to Player B if Player B invests $4 ?$


Player B made no promise to send you money

## Suppose Player B invests 5.

Would you like to send money to Player B if Player B invests 5 ?


Player B made no promise to send you money.

## Suppose Player B invests 6.

Would you like to send money to Player B if Player B invests 6 ?


You made a promise to send Player B money.

Player B made a promise to send you money

Suppose Player B invests 0 .
Would you like to send money to Player B if Player B invests 0 ?

| $\qquad$Send Money  <br> Payoff to you 12.00 <br> Payoff to Player B 12.00 |
| :--- |



You made a promise to send Player B money.

Player B made a promise to send you money

Suppose Player B invests 1.
Would you like to send money to Player B if Player B invests 1 ?


You made a promise to send Player B money.

Player B made a promise to send you money

## Suppose Player B invests 2.

Would you like to send money to Player B if Player B invests $2 ?$


You made a promise to send Player B money.

Player B made a promise to send you money

## Suppose Player B invests 3.

Would you like to send money to Player B if Player B invests $3 ?$


You made a promise to send Player B money.

Player B made a promise to send you money

Suppose Player B invests 4.
Would you like to send money to Player B if Player B invests $4 ?$


## You made a promise to send Player B money

Player B made a promise to send you money

## Suppose Player B invests 5.

Would you like to send money to Player B if Player B invests 5 ?


You made a promise to send Player B money.

Player B made a promise to send you money

Suppose Player B invests 6.
Would you like to send money to Player B if Player B invests 6

## ?

## You made a promise to Player A.

Player A made a promise to you.

|  | Player A will certainly <br> send you money | Player A will probably <br> send you money | Unsure what Player A <br> will do | Player A probably <br> won't send you money | Player A certainly wontt <br> send you money |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Your earnings if Player <br> A sends you money | $\$ 0.65$ | $\$ 0.60$ | $\$ 0.50$ | $\$ 0.35$ | $\$ 0.15$ |
| Your earnings if Player <br> A doesnt send you <br> money | $\$ 0.15$ | $\$ 0.35$ | $\$ 0.50$ | $\$ 0.60$ | $\$ 0.65$ |


| Investment is 0 | Player A will certainly send <br> you money | Player A will probably send <br> you money | Unsure what Player A will <br> do | Player A probably won't <br> send you money | Player A certainly won't <br> send you money |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Investment is 1 | $C$ | $C$ | $C$ | $C$ |  |

## You made no promise to Player $A$

Player A made no promise to you

You must now make an investment decision.
0 . . . . . . . .
Simulate

Effect of your investment on payoff
if Player A chooses


## to send you money


not to send you money


You made no promise to Player A.

Player A made no promise to you

You must now make an investment decision.
0 ——. . . . .
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made no promise to Player $A$.

Player A made no promise to you

You must now make an investment decision.
0 . . . . . . .
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


## You made no promise to Player $A$

Player A made no promise to you

You must now make an investment decision.
0 —. . . . . . . .
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made no promise to Player A.

Player A made no promise to you

You must now make an investment decision.
$0, \quad, \quad 6$
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


## You made no promise to Player $A$

Player A made no promise to you

You must now make an investment decision.
$0, \quad, \quad 6$
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made no promise to Player A.

Player A made no promise to you

You must now make an investment decision.
$0,1, \quad, \quad 1 \quad 6$
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You must now make an investment decision.
0 . . . . . . . . .
Simulate

Effect of your investment on payoff
if Player A chooses


## to send you money


not to send you money


You made a promise to Player $A$.

Player A made a promise to you

You must now make an investment decision.
0 - . . . . . .
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made a promise to Player $A$.

Player A made a promise to you

You must now make an investment decision.
0 . . . . . . . .
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made a promise to Player A.

Player A made a promise to you

You must now make an investment decision.
0 —. . . . . . .
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made a promise to Player A.

Player A made a promise to you

You must now make an investment decision.
$0, \quad, \quad 6$
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made a promise to Player A.

Player A made a promise to you

You must now make an investment decision.
$0, \quad, \quad 6$
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


You made a promise to Player A.

Player A made a promise to you

You must now make an investment decision.
$0,1, \quad, \quad 1 \quad 6$
Simulate

Effect of your investment on payoff
if Player A chooses

## to send you money


not to send you money


Your payoff is $\$ 12.00$.

Your payoff is $\$ 11.00$.
Your additional payoff from guessing is $\$ 3.50$.

You are now progressing to a new round in which you will be randomly matched with a different participant.

Round 2 was chosen for payment based on both players' actions.
Round 1 was chosen for payment based on Player B's guesses.
You earned a total of $\$ 4.00$.

