

# Appendix

For online publication only. To accompany

James Andreoni, Michael A. Kuhn and Larry Samuelson,  
“Starting Small: Endogenous Stakes and Rational Cooperation.”

## **Subjects’ Instructions: Random Condition**

# Welcome to the Economics Study

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## Welcome

Thank you for participating in this study. We expect this study to last about 90 minutes. Your earnings in this study will be paid to you in cash at the end of the session.

Throughout the experiment your identity will be kept totally private. Neither the experimenter nor the other participants will ever be able to tie you to your decisions.

## The Experiment

In this experiment you will play a series of 20 **games**. In each of the 20 games you will be randomly paired with one other person for that game. Your partner in each game will change randomly throughout the study. You will never be able to predict which of the other participants in the room you are paired with for any game. Also, you will *never* play anyone more than one time.

In each game, you and your partner will make choices in two **rounds**. When the two rounds are over, your game will be complete. Then you will be randomly assigned a new partner and start a new game, again with two rounds.

You will repeat this process until you have completed a total of 20 games. Since each game will have two rounds, you will be in a total of 40 rounds over the course of the experiment.

In each game you will earn **tokens**. The tokens you earn in each game will be deposited in your Earnings Account. At the end of the study you will be paid \$0.06 for every chip in your Earnings Account.

## Each Round

Each game has two rounds. In each round you will decide between one of two options. You can either **pull** an amount  $X$  to yourself, or you can **push** an amount  $Y$  to your partner. In every decision, the amount you can push is three times the amount you can pull, that is,  $Y=3X$ . However, the values of  $X$  and  $Y$  will be changing from round to round.

Here is an example of a decision:

<p>I choose to:</p> <p><input type="radio"/> pull 10 tokens to myself, or</p> <p><input type="radio"/> push 30 tokens to the other player</p> <p><input type="button" value="Submit"/></p>	<p>My partner chooses to:</p> <p><input type="radio"/> pull 10 tokens to him/herself, or</p> <p><input type="radio"/> push 30 tokens to the other player</p>
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There are four possible outcomes:

*Possible Outcome 1:* If you decide to pull 10 tokens to yourself and your partner decides to push 30 tokens to

you, then your payoff is 40 tokens and your partner's payoff is 0 tokens.

*Possible Outcome 2:* If you decide to pull 10 tokens to yourself but instead your partner decides to pull 10 tokens for himself, then your payoff is 10 tokens and your partner's payoff is 10 tokens.

*Possible Outcome 3:* If you decide to push 30 tokens to your partner and your partner decides to push 30 tokens to you, then your payoff is 30 tokens and your partner's payoff is 30 tokens.

*Possible Outcome 4:* If you decide to push 30 tokens to your partner but instead your partner decides to pull 10 tokens to himself, then your payoff is 0 tokens and your partner's payoff is 40 tokens.

As you can see, your partner will be faced with the same decision as you. You will both make your decisions at the same time. That is, you must make your decision without knowing what your partner is deciding.

## Each Game

Each time you are paired with a new partner you will play a 2-round game with that person. In each round you will make a decision like that above.

Here is an example of what a game could look like:

Round 1 Decision:

Round 1 - Make a Choice	
I choose to: <input type="radio"/> pull 3 tokens to myself, or <input type="radio"/> push 9 tokens to the other player  <input type="button" value="Submit"/>	My partner chooses to: <input type="radio"/> pull 3 tokens to him/herself, or <input type="radio"/> push 9 tokens to the other player
Round 2 - Next Round	
I choose to: <input type="radio"/> pull 7 tokens to myself, or <input type="radio"/> push 21 tokens to the other player	My partner chooses to: <input type="radio"/> pull 7 tokens to him/herself, or <input type="radio"/> push 21 tokens to the other player

Notice that when you are asked to make your decision in the first round, you will also be able to see the decision to be made in the second round. This is shown in the grayed-out portion of the decision screen.

So, for example, suppose that in Round 1, you decide to push 9 tokens to your partner and your partner also decides to push 9 tokens to you. Then your payoff for the round would be 9 tokens and your partner's payoff would also be 9 tokens.

You will be able to see the results of your decision and your partner's decision before you make your decision for the second round. The screen you will see for your second-round decision looks like this:

Round 1 - Results	
I choose to: <ul style="list-style-type: none"> <li><input type="radio"/> pull 3 tokens to myself, or</li> <li><input checked="" type="radio"/> push 9 tokens to the other player</li> </ul>	My partner chooses to: <ul style="list-style-type: none"> <li><input type="radio"/> pull 3 tokens to him/herself, or</li> <li><input checked="" type="radio"/> push 9 tokens to the other player</li> </ul>
Round 1 - Earnings	
You: $0 + 9 = 9$	Your Partner: $0 + 9 = 9$
<b>Round 2 - Make A Choice</b>	
I choose to: <ul style="list-style-type: none"> <li><input type="radio"/> pull 7 tokens to myself, or</li> <li><input type="radio"/> push 21 tokens to the other player</li> </ul> <input type="button" value="Submit"/>	My partner chooses to: <ul style="list-style-type: none"> <li><input type="radio"/> pull 7 tokens to him/herself, or</li> <li><input type="radio"/> push 21 tokens to the other player</li> </ul>

After seeing these results, you can go on to make a choice for Round 2. Suppose in this Round 2 you chose to push 21 tokens while your partner chose to pull 7. Then for this decision you will earn nothing while your partner earns  $7 + 21 = 28$  tokens.

This makes your total earnings for the game  $9 + 0 = 9$ , while your partner's total earnings are  $9 + 28 = 37$ . The results of this game will be reported to you like this:

Round 1 - Results	
I choose to: <ul style="list-style-type: none"> <li><input type="radio"/> pull 3 tokens to myself, or</li> <li><input checked="" type="radio"/> push 9 tokens to the other player</li> </ul>	My partner chooses to: <ul style="list-style-type: none"> <li><input type="radio"/> pull 3 tokens to him/herself, or</li> <li><input checked="" type="radio"/> push 9 tokens to the other player</li> </ul>
Round 1 - Earnings	
You: $0 + 9 = 9$	Your Partner: $0 + 9 = 9$
Round 2 - Make A Choice	
I choose to: <ul style="list-style-type: none"> <li><input type="radio"/> pull 7 tokens to myself, or</li> <li><input checked="" type="radio"/> push 21 tokens to the other player</li> </ul>	My partner chooses to: <ul style="list-style-type: none"> <li><input checked="" type="radio"/> pull 7 tokens to him/herself, or</li> <li><input type="radio"/> push 21 tokens to the other player</li> </ul>
Round 2 - Earnings	
You: $0 + 0 = 0$	Your Partner: $7 + 21 = 28$

That was the end of game 1.

Total Game Earnings

**You: 9 tokens**

Your Partner: 37 tokens

When you finish viewing the results of the game, you can click [Next Game](#). Then you will be randomly assigned a new partner from the others in the room and begin a new 2-round game.

## How the Amounts to Pull and Push will Change

The amounts available to pull and push will change from round-to-round and from game-to-game. Here we explain how these values will be set.

For each decision, the number of tokens available to push will always be 3 times the number available to pull. For example, if you can pull 2 then you can push 6. Or, if you can pull 8, then you can push 24. If you can pull 10 then you can push 30.

In any decision the tokens you can pull will always be between 0 and 10. Since the push amounts are three times the pull amounts, the amount you can push will always be between 0 and 30.

There will also be a special way the pull and push amounts are determined within a game. In particular, the number of tokens you can pull in Round 1 plus the number you can pull in Round 2 will always equal 10. For example, if you can pull 4 in Round 1 then you can pull 6 in Round 2. Or, if you can pull 1 in Round 1 then you can pull 9 in Round 2. If you can pull 10 in Round 1, then you can pull 0 in Round 2.

Note that since the pull amounts in Round 1 and Round 2 always sum to 10, this means that the push amounts in the two rounds will always sum to 30. In other words, all games will have the same feature that the total amount to pull across the two rounds is 10 and the total amount to push is 30. How games will differ is in how many push and pull tokens are allocated to Round 1 and how many to Round 2.

Finally, the push and pull amounts you see in any game will be drawn at random from all the possible pull and push amounts that meet these rules above. You will never know what values you will see in future games, but all possible values are equally likely.

So there are three things to remember about how the pull and push amounts are set:

1. The push amounts are always 3 times the pull amounts.
2. In each game the pull amount in Round 1 and the pull amount in Round 2 always sum to 10. As a result, the push amount in Round 1 and the push amount in Round 2 sum to 30.
3. The values in each game are determined at random from all the values that meet rules (1) and (2)

## Your History

If you want to look back at the history of play you have seen over the experiment, you can do this from any screen by hitting the button [View My History](#). This will show you your decisions, your partner's decision, and your earnings in each game.

## Overview of the Experiment

As we are about to begin, keep these things in mind:

- You will play a total of 20 2-round games.
- For each 2-round game, you will play with the same partner for both of the rounds.
- When you start a new game, you will get a new partner, chosen at random from everyone here today.
- You will never play the same person more than once.
- In each 2-round game the total amount to pull across the two rounds is 10 and the total amount to push is 30. The games will differ in how much of this is allocated to Round 1 and how much to Round 2.
- You will be paid your total earnings across all 20 of the 2-round games.
- Each token you earn is worth \$0.06.
- The experiment will last about 90 minutes.

**Thanks for participating. Good luck!**

Begin!

## **Subjects' Instructions: Endogenous Condition**

# Welcome to the Economics Study

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## Welcome

Thank you for participating in this study. We expect this study to last about 90 minutes. Your earnings in this study will be paid to you in cash at the end of the session.

Throughout the experiment your identity will be kept totally private. Neither the experimenter nor the other participants will ever be able to tie you to your decisions.

## The Experiment

In this experiment you will play a series of 3 **games**. In each of the 3 games you will be randomly paired with one other person for that game. Your partner in each game will change randomly throughout the study. You will never be able to predict which of the other participants in the room you are paired with for any game. Also, you will *never* play anyone more than one time.

In each game, you and your partner will make choices in two **rounds**. When the two rounds are over, your game will be complete. Then you will be randomly assigned a new partner and start a new game, again with two rounds.

You will repeat this process until you have completed a total of 3 games. Since each game will have two rounds, you will be in a total of 6 rounds over the course of the experiment.

In each game you will earn **tokens**. The tokens you earn in each game will be deposited in your Earnings Account. At the end of the study you will be paid \$0.04 for every chip in your Earnings Account.

## Each Round

Each game has two rounds. In each round you will decide between one of two options. You can either **pull** an amount  $X$  to yourself, or you can **push** an amount  $Y$  to your partner. In every decision, the amount you can push is three times the amount you can pull, that is,  $Y=3X$ . However, the values of  $X$  and  $Y$  will be changing from round to round.

Here is an example of a decision:

I choose to: <input type="radio"/> pull 10 tokens to myself, or <input type="radio"/> push 30 tokens to the other player	My partner chooses to: <input type="radio"/> pull 10 tokens to him/herself, or <input type="radio"/> push 30 tokens to the other player
<input type="button" value="Submit"/>	

There are four possible outcomes:

*Possible Outcome 1:* If you decide to pull 10 tokens to yourself and your partner decides to push 30 tokens to you, then your payoff is 40 tokens and your partner's payoff is 0 tokens.

*Possible Outcome 2:* If you decide to pull 10 tokens to yourself but instead your partner decides to pull 10 tokens for himself, then your payoff is 10 tokens and your partner's payoff is 10 tokens.

*Possible Outcome 3:* If you decide to push 30 tokens to your partner and your partner decides to push 30 tokens to you, then your payoff is 30 tokens and your partner's payoff is 30 tokens.

*Possible Outcome 4:* If you decide to push 30 tokens to your partner but instead your partner decides to pull 10 tokens to himself, then your payoff is 0 tokens and your partner's payoff is 40 tokens.



As you can see, your partner will be faced with the same decision as you. You will both make your decisions at the same time. That is, you must make your decision without knowing what your partner is deciding.

## Each Game

Each time you are paired with a new partner you will play a 2-round game with that person. In each round you will make a decision like that above.

Here is an example of what a game could look like:

Round 1 Decision:

<b>Round 1 - Make a Choice</b>	
I choose to: <input type="radio"/> pull 3 tokens to myself, or <input type="radio"/> push 9 tokens to the other player	My partner chooses to: <input type="radio"/> pull 3 tokens to him/herself, or <input type="radio"/> push 9 tokens to the other player
<input type="button" value="Submit"/>	
Round 2 - Next Round	
I choose to: <input type="radio"/> pull 7 tokens to myself, or <input type="radio"/> push 21 tokens to the other player	My partner chooses to: <input type="radio"/> pull 7 tokens to him/herself, or <input type="radio"/> push 21 tokens to the other player

Notice that when you are asked to make your decision in the first round, you will also be able to see the decision to be made in the second round. This is shown in the grayed-out portion of the decision screen.

So, for example, suppose that in Round 1, you decide to push 9 tokens to your partner and your partner also decides to push 9 tokens to you. Then your payoff for the round would be 9 tokens and your partner's payoff would also be 9 tokens.

You will be able to see the results of your decision and your partner's decision before you make your decision for the second round. The screen you will see for your second-round decision looks like this:

Round 1 - Results	
I choose to: <input type="radio"/> pull 3 tokens to myself, or <input checked="" type="radio"/> push 9 tokens to the other player	My partner chooses to: <input type="radio"/> pull 3 tokens to him/herself, or <input checked="" type="radio"/> push 9 tokens to the other player
Round 1 - Earnings	
You: $0 + 9 = 9$	Your Partner: $0 + 9 = 9$
<b>Round 2 - Make A Choice</b>	
I choose to: <input type="radio"/> pull 7 tokens to myself, or <input type="radio"/> push 21 tokens to the other player	My partner chooses to: <input type="radio"/> pull 7 tokens to him/herself, or <input type="radio"/> push 21 tokens to the other player
<input type="button" value="Submit"/>	

After seeing these results, you can go on to make a choice for Round 2. Suppose in this Round 2 you chose to push 21 tokens while your partner chose to pull 7. Then for this decision you will be earning nothing while your partner earns  $7 + 21 = 28$  tokens.

This makes your total earnings for the game  $9 + 0 = 9$ , while your partner's total earnings are  $9 + 28 = 37$ . The results of this game will be reported to you like this:

Round 1 - Results	
I choose to: <input type="radio"/> pull 3 tokens to myself, or <input checked="" type="radio"/> push 9 tokens to the other player	My partner chooses to: <input type="radio"/> pull 3 tokens to him/herself, or <input checked="" type="radio"/> push 9 tokens to the other player
Round 1 - Earnings	
You: $0 + 9 = 9$	Your Partner: $0 + 9 = 9$
Round 2 - Make A Choice	
I choose to: <input type="radio"/> pull 7 tokens to myself, or <input checked="" type="radio"/> push 21 tokens to the other player	My partner chooses to: <input checked="" type="radio"/> pull 7 tokens to him/herself, or <input type="radio"/> push 21 tokens to the other player
Round 2 - Earnings	
You: $0 + 0 = 0$	Your Partner: $7 + 21 = 28$
That was the end of game 1.	
Total Game Earnings	
<b>You: 9 tokens</b>	<b>Your Partner: 37 tokens</b>

When you finish viewing the results of the game, you can click . Then you will be randomly assigned a new partner from the others in the room and begin a new 2-round game.

## How the Amounts to Pull and Push will Change

The amounts available to pull and push will change from round-to-round and from game-to-game. Here we explain how these values will be set.

For each decision, the number of tokens available to push will always be 3 times the number available to pull. For example, if you can pull 2 then you can push 6. Or, if you can pull 8, then you can push 24. If you can pull 10 then you can push 30.

In any decision the tokens you can pull will always be between 0 and 10. Since the push amounts are three times the pull amounts, the amount you can push will always be between 0 and 30.

There will also be a special way the pull and push amounts are determined within a game. In particular, the number of tokens you can pull in Round 1 plus the number you can pull in Round 2 will always equal 10. For example, if you can pull 4 in Round 1 then you can pull 6 in Round 2. Or, if you can pull 1 in Round 1 then you can pull 9 in Round 2. If you can pull 10 in Round 1, then you can pull 0 in Round 2.

Note that since the pull amounts in Round 1 and Round 2 always sum to 10, this means that the push amounts in the two rounds will always sum to 30. In other words, all games will have the same feature that the total amount to pull across the two rounds is 10 and the total amount to push is 30. How games will differ is in how many push and pull tokens are allocated to Round 1 and how many to Round 2.

In each round the push and pull values will be set by *one of* the two players. Before any round, all players will choose which of the 11 possible push and pull values they would like to play. Then after you are paired with another player, the computer will randomly select either the push and pull values that you chose, or the push and pull values that the other player chose.

You will choose the push and pull values that you wish to play by filling out a form like this below. Try it to see how it works.

**Preliminary Round:** Select the game to be played next round. Your partner will also be selecting a game to play. Which game you actually play will be determined at random to be either the game you chose or the game your partner chose. You and your partner must always play the same game.

Select a number below in order to set the pull and push values in the game you will play next:

- 0 1 2 3 4 5 6 7 8 9 10

Submit your decision when you have selected the game below that you wish to play next:

Round 1

I choose to:  pull 3 tokens to myself, or  
 push 9 tokens to the other player

My partner chooses to:  pull 3 tokens to him/herself, or  
 push 9 tokens to the other player

Round 2

I choose to:  pull 7 tokens to myself, or  
 push 21 tokens to the other player

My partner chooses to:  pull 7 tokens to him/herself, or  
 push 21 tokens to the other player

**Results from the Preliminary Stage:**

You Chose: 0 1 2 3 4 5 6 7 8 9 10

The computer chose randomly between your choice and the choice of your partner. The result is that both you and your partner will play this game:

- 0 1 2 3 4 5 6 7 8 9 10

**Begin Round 1:**

**Round 1 - Make a Choice**

I choose to:  **pull 6 tokens** to myself, or  
 **push 18 tokens** to the other player

My partner chooses to:  pull 6 tokens to him/herself, or  
 push 18 tokens to the other player

Round 2 - Next Round

I choose to:  pull 4 tokens to myself, or  
 push 12 tokens to the other player

My partner chooses to:  pull 4 tokens to him/herself, or  
 push 12 tokens to the other player

**Results from the Preliminary Stage:**

You Chose: 0 1 2 3 4 5 6 7 8 9 10

The computer chose randomly between your choice and the choice of your partner. The result is that both you and your partner will play this game:

- 0 1 2 3 4 5 6 7 8 9 10

## **Begin Round 2:**

Round 1 - Results	
I choose to: <input type="radio"/> pull 6 tokens to myself, or <input checked="" type="radio"/> push 18 tokens to the other player	My partner chooses to: <input type="radio"/> pull 6 tokens to him/herself, or <input checked="" type="radio"/> push 18 tokens to the other player
Round 1 - Earnings	
You: $0 + 18 = 18$	Your Partner: $0 + 18 = 18$
<b>Round 2 - Make A Choice</b>	
I choose to: <input checked="" type="radio"/> pull 4 tokens to myself, or <input type="radio"/> push 12 tokens to the other player	My partner chooses to: <input type="radio"/> pull 4 tokens to him/herself, or <input type="radio"/> push 12 tokens to the other player
<input type="button" value="Submit"/>	

## **Results from the Preliminary Stage:**

You Chose:  0  1  2  3  4  5  6  7  8  9  10

The computer chose randomly between your choice and the choice of your partner. The result is that both you and your partner will play this game:

0  1  2  3  4  5  6  7  8  9  10

Round 1 - Results	
I choose to: <input type="radio"/> pull 6 tokens to myself, or <input checked="" type="radio"/> push 18 tokens to the other player	My partner chooses to: <input type="radio"/> pull 6 tokens to him/herself, or <input checked="" type="radio"/> push 18 tokens to the other player
Round 1 - Earnings	
You: $0 + 18 = 18$	Your Partner: $0 + 18 = 18$
<b>Round 2 - Make A Choice</b>	
I choose to: <input type="radio"/> pull 4 tokens to myself, or <input checked="" type="radio"/> push 12 tokens to the other player	My partner chooses to: <input checked="" type="radio"/> pull 4 tokens to him/herself, or <input type="radio"/> push 12 tokens to the other player
Round 2 - Earnings	
You: $0 + 0 = 0$	Your Partner: $4 + 12 = 16$
That was the end of game 1.	
Total Game Earnings	
<b>You: 18 tokens</b>	Your Partner: 34 tokens

So there are three things to remember about how the pull and push amounts are set:

1. The push amounts are always 3 times the pull amounts.
2. In each game the pull amount in Round 1 and the pull amount in Round 2 always sum to 10. As a result, the push amount in Round 1 and the push amount in Round 2 sum to 30.
3. Before any game, both players will play a Preliminary round where they choose the push and pull values for the game they wish to play. Which push and pull values you actually play will be determined at random to be either the those you chose or the those your partner chose.

## **Your History**

If you want to look back at the history of play you have seen over the experiment, you can do this from any screen by hitting the button [View My History](#). This will show you your decisions, your partner's decision, and your earnings in each game.

## **Overview of the Experiment**

As we are about to begin, keep these things in mind:

- You will play a total of 20 2-round games.
- For each 2-round game, you will play with the same partner for both of the rounds.
- When you start a new game, you will get a new partner, chosen at random from everyone here today.
- You will never play the same person more than once.
- In each 2-round game the total amount to pull across the two rounds is 10 and the total amount to push is 30. The games will differ in how much of this is allocated to Round 1 and how much to Round 2.
- You will be paid your total earnings across all 20 of the 2-round games.
- Each token you earn is worth \$0.06.
- The experiment will last about 90 minutes.

**Thanks for participating. Good luck!**